

# Importance of Statistical Data in the Process of Decision Making in Management

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## Abstract

Decisions on the administrative level are mostly taken by leaders. It can be said that even within those approaches which foresee the participation of lower levels; the final decisions are being made by the leaders themselves by analyzing all existing points of views. The experience and intuition of a leader plays the crucial role within the decision making process. Supporting the above mentioned process with right information would increase the possibility of making right decisions by a leader. The factor of statistical data gains its importance at this very level. No matter how developed the intuition of an individual may be, they may not make rational decisions in complex situations. The goal of the statistical method is categorizing individuals and groups according to certain characteristics and making specific assumptions regarding them. Accordingly, the statistical data regarding the decision making process would help leaders in making right decisions.

**Keywords:** Management, Decision-making, Statistical Data, Rational Decision.

**JEL Classification:** C10

## Introduction

The competition in 21st century barely offers to businesses the need of increasing their productivity for their survival. The decision process in adapting to this competition environment of the associations that are in service in public or private spheres has reached much more significance. The necessity of using effective methods in the decision mechanisms of the enterprises has also arisen.

The increase of the rate of information exchange has provided the organizations to increase their pace which are able to attain this change and have a management that turns the sustainable competition into an advantage. The decisions of leaders will sometimes have vital importance of being able to cause crucial results in this direction. Even if they act well intuitively and have high organizational skills, leaders will be in need of power of knowledge to be able to provide their companies with a competitive edge. In some cases, the leader will have to take decisions in the environment of uncertainty with the effect of rapid changes in technology and knowledge. Those decisions taken in such uncertain atmospheres may either positively or negatively cause extraordinary results for the future of the enterprise. The control over the process in taking decisions of the leaders is getting difficult and the information flow system which enables employees to sharing the decision making process and is based on secure data will give the leaders an opportunity to take right decisions at some turning points.

## 1. The Notion and Process of Decision

The most significant element of management science is decision. Taking good decision is the key for success of management. Enterprises are able to take decisions in every respect related to management such as strategy formulation, price control, cost, advertising, profit rate etc. (McGuigan, Mayer and Harris, 1996) and these decisions may determine the future, change the direction, give acceleration or establish the ground for a financial collapse of the enterprise.

Decision is intrinsically related to future, and hence it contains risk and uncertainty. In the enterprises are in service in the the business world where information, marketplace, technology, briefly all aspects of change are rapidly had, among other factors, decisions are important elements for the sake of passing the competitors at the sharp bends. On the other hand, the wrong decisions taken at those bends could cause a kinetic effect and lead to a skidding. The uncertainties in the process of taking decision of business managements and possible risks will emerge as a consequence are in tendency to increase depending upon the change. In order to take rightest decision, the most effective way to decrease these uncertainties and risks is to include secure information coming from inside or outside of the enterprise in the process of taking decision.



### 1.1. Notion

Taking decision which is defined in the Turkish Language Agency General Turkish Dictionary, as “the final judgement given by considering on a matter or a job” is to adopt the most suitable one among the ideas put forward to solve a problem or reach a goal. Decisions, after obtaining information about alternatives, are the process of choosing among the alternatives in order to reach the most appropriate conclusion for the situation (Chatoupiş, 2007). The majority of choices will be a factor in increasing the efficiency of decision. A decision requires the existence of options; if options are not available, there is no question of talking about a decision (Plunkett and Attner, 1992). It is required to define the decision as “the essence of the organization’s activities (Harrison and Pelletier, 2000)” and certainly it is not an exaggeration. The analysis of decision deals with the use of a rational process to choose the best of the alternatives. The quality of the chosen alternative is related to the data used in definition the the decision status (Taha, 2000). Ultimately, the decision is the mechanism of the strategies that determines the go astray or the remain on the road.

## 2. Management

Management is the one of the most important tasks in the world, because it directs the future of a country or ruled establishments. Management is the process of continuation and creating an effective and efficient study order and environment by combining some people with the defined aims and targets (Koontz and Wehrich, 1988). According to Ducker who has given direction to management science, management is related to organize the economical sources systematically and it is an old art and new science brunch whose duty is to use those sources effectively (Drucker, 1994). Main principle in management is to give direction to group of people with new defined targets and transform the effort providing of this adaptation and cooperation between people into coordination (Şimşek, 2005). The secret of the success or failure is kept on the decision that were taken.

### 2.1. The Role of decision in Management

The continuation, end and move of the organisations are shaped due to the decisions that were taken during the management process. Sometimes decision is taken and this decision becomes the beginning of the end just like the first step on the edge of the cliff. Sometimes decision is taken and it consists of the beginning point of raising trend which will last for years.

Therefore deciding formulate main functions of the management and it is the most important duty of the all

managers (Cosgrave, 1996). Management function can be wholly seen as a deciding process (Laroche, 1995). In the 21 century where it is easy and cheap to access information via computer and internet, managements can not have a power by keeping the information. It is compulsory to accept the idea of management not only solves the problem but also gives the possibility of solving before the problem occurs, do the activities, combines all the factors that affect the decision making and all the topics related to management together with the influence with each other by completing it with the developing technological possibilities (Aydoğan, 2002).

When the factors are examined carefully that access the successful companies success, it is obviously seen that all principles which enable them to provide competition are based on decision. These companies take better and fast decisions from their competitors and apply those decisions in a more effective way (McLaughlin, 1995).

In every style that identifies the decision of the leader there are both strengths and weakness. This shows that there is not only one decision style which finds a solution and appropriate to all organisations. The ability to leader and management in responsibilities can be improved by application and decide effectively because decisions are the milestone of the actions (Rausch, 2003).

People who work in deciding organs in the management process have various ideas. While some prefer to follow their senses, some see it appropriate to analyse before deciding, have more knowledge related to topic and then identify the decision according to decision analyse. As some decision maker wait to be directed by the attendance or the other principles other decision makers prefer to be independent. While it is important to apply the optimum decision for some decision makers, others prefer to wait till the end for the best decision (Galotti, Ciner, Altenbaumer, Geerts, Rupp and Woulfe 2006).

### 2.2. Information in Decision-Making

Information, in terms of management, is cooked data which contributes making decision about the enterprise and the systems related to the it and produced by means of processing the data obtained from internal and external sources (Mudrick and Munson, 1986). Information must meaningfully be processed as for the decisions of managers and bear a real value for decisions (Boone, Kurtz, 1992). An economy where the only thing certain is uncertainty, the only reliable source of permanent competitive advantage is information (Eleren and Kurt, 2001). The rapid change in information has faced the organizations with a very tough sense of competition. Winners of the competition are those having strong reflexes. So, the organizations that have the ability to respond quickly to market demands (Taiichi, 1998).

Therefore, what is the potential of enterprises, the potential for business success in organizational and technological tools (information technology), how to be supported, the resources and their characteristics are the important managerial issues (Taşkın, Sezici and Oğuz, 2001).

Being accurate and effective of the election in the decision-making process is related to identifying all the alternatives and their assessment of whether all relevant information is obtained. Fulfillment of required information increases the effectiveness of the decision (Hornigern, 1972). The success of the managers depends on the information he will obtain in the decision-making process (Moore and Jaedicke, 1998). As information provides effective managerial decisions, it decreases the costs while increasing the effectiveness and efficiency of the business, the quality of goods and services produced, talent and expertise of employees (Özmen, Saatçioğlu and Özer, 2002). However, the managers should not remain under a flood of information with the introduction of all related and unrelated information. In such a case, the overloaded information reduces the effectiveness of managerial decisions (Hilton, 1999) and thus adversely affects the business operations and to achieve the objectives. Many businesses now recognize that ignorance is the basis of failure. It is only possible that information can provide power to managers as a competition tool when it is timely used in decisions and establish a values (Erkan, 1997).

If we consider that the ultimate goal of the manager is to make an accurate decision to survive and develop the business, it is required to be integrated by systematizing the messy information about internal and external environment of the business and must be submitted to the manager in the decision process. The manager is responsible for the implementation of information and performance (Yılmaz, 2000).

Even if it may seem extravagant to claim management is only related to making-decision, few managements remain outside of that process if it is defined as decision-making process, information collection, information development, making choice from different options, effectively transmitting the decisions taken to the other employees of the organization and the implementation of the decisions.

### ***2.3. Factors Affecting the Decision Process***

There are psychological, social, economic, mathematical and statistical factors which constantly affect the decision process positively or negatively. From these factors can be divided into two categories as personal factors and environmental factors, personal factors are directly related to the cultural, psychologic and social status of the manager. Such factors as knowledge level which has been obtained by the manager through trainings and experiences, policies of the organization, cultural values, employees, internal

and external environment can affect the decision process of them managers (Talas and Yılmaz, 2010).

There are two different ideas affecting each decision; looking backward to understand the past and looking forward to guess the future. Backward-thinking is largely intuitive and based on research and diagnostics. It requires to search models, establish connections among the events, make research on cause-effect relationship and develop theories that can help make predictions for the future. Forward-thinking is based on a kind of mathematical formulation rather than intuition. The decision-maker has to collect a set of variable, analyze those variables and finally make a prediction according to results he/she obtains. Thus he/she can reach a unique and integrated prediction within a framework of a decision-making strategy by assessing the accuracy of each factor and combining all information pieces (Einhorn and Hogarth, 1999).

Decision-making is first of all a rational and psychological process. As a matter of fact that it should be taken naturally that decision-making is one of the typical qualities of humankind who has been equipped by mind, thought, consciousness; because it is impossible to have the decision-making process for a creature lacks from these skills (Tosun, 1986).

Leader/ manager has right to make all decisions about the organization and employees and it is out of question questioning these decisions. The authority of creating all plans, policies and strategies is also the duty of the manager (Abdelnaser, 2009). Today's business environment where the time is rather limited and the level of uncertainty is high, leaders sometimes make decisions on their own by eliminating the other decision-makers (Max, Bazerman and Dolly 2007). This situation can be explained with the concept of limited rationality. Limited rationality, in this sense, is the managers' limitedness of gathering information, resolving and integrating information, briefly, capacity of processing information (Orbay, 2002). According to limited rationality theory first formulated by H. Simon; people's possibility of making-decision level, especially when facing with complicated ones, decreases (Hal, 2001).

Because the managers' psychological status are different and it affects the attitude of making decision, sometimes it is seen that in some situations where the same decisions should be taken, different decision can be taken. One of the most important reasons of this difference is psychological difference of the person. However, the decisions of the the managers who have taken the science and rationale into consideration are the same or close to the each other against similar situations.

### ***2.4. The Use of Statistical Data and Effect on Decision Making Process***

The spread of information, the low cost of obtaining,

the implementation of possessed information in different businesses has provided a priority in participating in the management. This development has not only caused information sharing creates values for the organization and also has started democratization process of the management (Türk, 2003).

The necessary information about the communication process and activities carried out is gathered, those data is assessed in many ways for specific purposes, and is also analyzed with mathematical and statistical methods when necessary and according the results obtained, appropriate decisions can be taken. In the success and development of organizations, the roles of the decisions taken by the managers are important. According to management science, the ability of taking appropriate and effective decisions of manager depends on receiving various and lots of information and making use of those information.

Information systems helps managers and employees in analysis of managerial problems, approaching complex issues and putting out new products. Information system is a formal information flow system that gathers from different sources, keeps, processes, and reports the required information for the decision making of managers (Emhan, 2007). Information systems provides great facilities in decision making, harmonization, and supervision while helping managers and employees identify the problems, put forward and solve the complex issues, make strategic and managerial plans related to management. Furthermore, it helps business increase its sales, decrease the costs, improve the product and service quality level, increase the productivity and develop the creativity in the organization (Turban, Ephraim and Wetherbe, 1996).

### **2.5. Management Information Systems**

Management Information System is a systematic approach which aims to increase the productivity and effectiveness in the process and use of information in the business. It is a system that collects data from the inside and outside environment of the organization and after turning it into information by, presents the managers and provides necessary tools for producing required information.

It is an integrated system that produces data in order to contribute functioning, management, analysis and decision making functions of an organization, and is based on the use of information technologies. Managers must have required information to fulfill planning and controlling activities. Working schedules, planning of resource allocation, accuracy and punctuality of the data which is transmitted to the managers for supervising the activities play a crucial role in the decision related to future of the organization. The information, a basic resource, is required to be obtained timely and accurately for the success of organizations. The main purpose of management information

systems is to convey processed data accurately and timely which helps managers to make a right decision (Bayındır, 2007).

In this system, information is collected, organized, processed and brought to the figure that will help managers in their daily work. Most of this information is formed as reports which are based on predetermined values. For instance, it includes weekly and monthly payroll and sales reports or monthly stock reports. The reports can be presented to different units as the administrative activities is jointly done in the business (Güneş, 2002).

The strategic role of information systems is to include the use of information systems and technology in the development of products, services and qualifications which will provide businesses to gain superiority over their competitors. This emerges the notion of strategic information systems which supports the strategies and place of the business against its competitors (O'brein, 1997); it is defined as the tools which use the information, the transformation of information and communication of information during the implementation and development of business strategies.

### **2.6. Decision Support Systems**

Decision Support Systems is a computer based information system which aims to support the decision-makers with the information during the decision making period and is interested in the problems that no algorithm or procedure can be developed for their solutions. Such problems can only be solved by the result of human co-operation with computers. A computer system is presented to the use of decision maker who uses data and models for the purpose of understanding of the formulation of a problem and benefits from analytical methods for evaluating options. Because the number of the problems that should be decided but not programmable in them management is quite high (Tatlıdil and Özel, 2005).

Decision Support Systems are the interactive information systems which present models, data and data managing tools to the decision makers in semi-structured or unstructured cases or in the situations which it is not known how to decide what direction (ALTER, 1999). Managers spend their most of time by making decisions. Being able to make accurate and consistent decisions leads to need of required information to take these decisions. This is possible by the design of information systems. Decision Support Systems are the information systems and defined as systems which provide the decision maker with assist particularly for the decisions that have the level of uncertainty is high through using analytical models.

The decision makers who have these systems, can formulate solution options for all kinds of problems and send the computer. The computer evaluate these suggestions by comparing and resend it back to the decision maker. The

decision maker chooses the best option from these suggestions or according to new information prepares new solutions and presents the evaluation of the computer again (Ulgen, 2000).

Decision Support Systems help required information be chosen among thousand of information and be sent to the manager and develop models for him/ her . The model is continued to be developed until the required level is achieved (Erkiletlioğlu, 2000).

### 3. The Relationship Between the Systems Which Affects the Decision Process and Statistic

Statistic is the the collections of figures collected for a specific event (Yıldırım, 2006). Collecting the quantitative data includes analyzing, inferring, putting forth the reliability of the result of the information objectively and interpreting activities (Ünver, 1988). Aims of Statistical Process Control Graphics is to catch the error before occurring or as early as possible after it occurs. The reason of each measurement value which is out of control limits should be researched and activities should be carried out in order to prevent variability.

In the studies of Decision Support Systems, it is accepted that the quality of decision making can be improved. The next phase is how it can be done. At this point, it is benefited from the theory of judgement call. These are the theories based on mathematic and economy. Utility theory is the centre of these theories. Utility theory is an axiomatic definition of behaving rationally and consistently. Utility theory has been developed towards the studies of making decision under uncertainty and The study of the definition of the uncertainty is the theory of probability.

It should be benefited from statistical methods to dominate the underlying variability of quality problems. Another important issue as the rapid obtaining information, meaningful content and transmitting the information to related units is to be able to use the obtained information accurately, appropriately and timely (Sabuncuoğlu, 2000). The next phase after collecting data and identifying problems is to provide necessary support to convert existing information more understandable and useful information.

Statistical methods show how a process behave in the past and give opportunity to make predictions how the process will behave in the future (Özer, 1990). Because of the fact that scientific methods increase the productivity in problem solving, this advantage is wanted to be used, and the the most active way becomes “models” to design and evaluate the options because the issue is to be made decision on generally develops as the evaluation of options and measures. The methods have been developed in order to apply the decision theory. Karar teorisini karmaşık durumlarda uygulamak için yöntemler geliştirilmiştir. These methods include Statistical Decision Theory, Decision

Analysis School, Multi-criteria Decision Making and Option Modeling School.

### Conclusion

People make decisions to achieve objectives set in the all stages of organizational and individual life. The activity of choosing the best option to reach the objective set and eliminate the obstacle is defined as the decision making process. Decision is one of the most important factors that activates the activities in every stages of organizational activities.

Decision making process is a process in which developments are experienced that can greatly affect the future of organizations. Rightly or wrongly, the effect of all decisions taken will continue with circular distributions and sometimes, sometimes some decisions could cause extraordinary results. While the decisions can be called as the essence of them management is so important, how these decisions should be made is one of the most important elements of management must be identified.

Leaders often rarely on their intuition due to their superior characteristics and tend to make decisions intuitively. If there no other units to affect him/ her in the process of making decision, the decision of the leader will be the decision of the organization. The question is need to be answered will be the question that is a leader trusted in his/her intuition and experience or is a leader constantly following the changes and innovations in technology and involves them to his/her management process?

The increase of the level of knowledge of the managers will provide great supports to achieve the goals set by the business with the decisions taken effectively. The achievement of desired success in decisions depends especially on using appropriate information to their level of training and management. The interaction of the managers who use the information and the resources that these information will be provided is important.

Senior managers have strategic importance in taking, applying and controlling precautions for using information. Establishing required information systems to enable to convey the information in the the required format to themselves and middle and lower-level managers, will help the information starting from the source of the information, throughout the way it follows to be reached to upper stages as the appropriate forms that they can understand. It is an expensive and hard job to develop such information systems in the businesses, but in case of establishment such a system, it provides not only participations of everybody of lower and upper-stages throughout the process of making decision and also will transmit the decision of the management and the effects of these decisions from upper-stages to lower-stages.

Change occurs in much shorter interval of time than it

did in the past. Taking this reality into consideration, leaders must produce appropriate choices according to characteristic of change and encourage to production such options. The prior tasks of the leader are to overcome the resistance against the establishment based on information and create the structure that will enable to turn the risks of the change into advantage and give effect to this structure. Being able to do this depends on leader's perception, ability and anticipation in making decision. The effectiveness of the decision depends on its results. Leader should bring into force the feedback system which is related to measure the effectiveness and productivity of decisions.

Being able to make right decisions in management requires information about all factors than can affect the decision and have knowledge about all situations will possibly be encountered throughout the process in achieving the objectives that are desired to be reached by these decisions. The information centre managers should create appropriate communication channels which are based on precise data and correctly read the information obtained through this channels. The correct and necessary information is a requirement for making a right decision. However statistic is considered as the scientific way of lying, this actually give a signal to us. Information is power and this power will help the business reach its goals with the correct information and analysis whereas the information obtained wrongly and incompletely and assumed as the correct and complete information will cause the business to go away from its objectives and be start of the collapse of it.

The decision is made as a result of a complex process any more and it can not be left to the experience and intuition of the manager as it was done in the past. The leader who intends to make most effective decisions, have to benefit from the superior power of the knowledge. It should not be forgotten that the prominent prophet Nostradamus is not a mystic person who can predict the future, but a scientist has reached speak in various branches of science.

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# Predictability of Stock Returns: a Literature Survey on Theories and Evidence

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## Abstract

Predictability of stock returns has been shown by empirical studies over time. This article collects the most important theories on forecasting stock returns and investigates the factors that affecting behavior of the stocks' prices and the market as a whole. Estimation of the factors and the way of estimation are the key issues of predictability of stock returns.

**Keywords:** Stock Returns, Theories on Stock Returns, Beta in Finance, Empirical Studies  
**JEL Classification:** G10, G11

## Introduction

When Markowitz wrote the article Portfolio Selection in 1952 the arguments about possibility of forecasting stock returns and estimating risk factors have started. The article became a basis for many research papers and he won Nobel Prize after almost 40 years writing the article. Sharpe, Lintner, and Mossin independently developed a model which has come to be known CAPM (capital asset pricing model) in 1964, 1965, and 1966 respectively. CAPM was based on Markowitz and it was using the logic of him. The CAPM tried to explain the behavior of stock returns by only one factor which is called beta. However the CAPM was criticized by many economists since implementation of the theory requires lots of data to evaluate. Another point stated by economists that the predicting future by past data is not reasonable. In addition the assumptions in the CAPM like -all investors have the same information, information is costless, and there are no taxes transactions costs- are unrealistic. After the CAPM, the APT (arbitrage pricing theory) was developed which has less restrictive assumptions. There are n-factors that affecting the behavior of the stocks in the APT. These factors are not defined in the APT. Furthermore CAPM and APT are single-period models. Robert Merton claimed that the possibility of uncertain changes affect the investment opportunity set and the demand function which is derived in the CAPM or the APT is not a single-period model. Then he introduced the ICAPM (intertemporal capital asset pricing model) to get multi-period aspects of market. The CCAPM (consumption-oriented capital asset pricing model) was a model that tried to explain and predict the future by the aggregate consumption. It had the same formula with the CAPM and only it differed from introducing consumption

beta instead of beta in traditional CAPM.

## 1. Extended description of the Theories and Evidence

It has shown that the predictability of stock returns could be valid by empirical tests. Markowitz developed an idea on stock returns under some assumptions. The basic idea in Markowitz portfolio theory is to allocate optimum investments among different portfolios. His theory is a quantitative tool that allows measure risk and return. An investor wants to maximize returns for a given level of risk or wants to minimize risk for a given level of return.

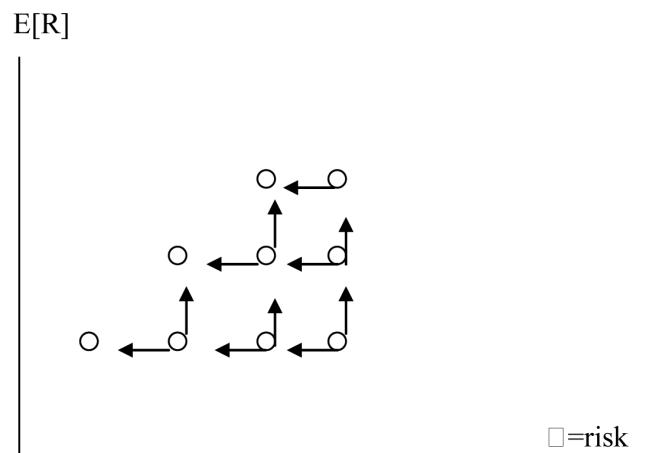


Figure 1: Illustration of investor's behavior under Markowitz's assumption



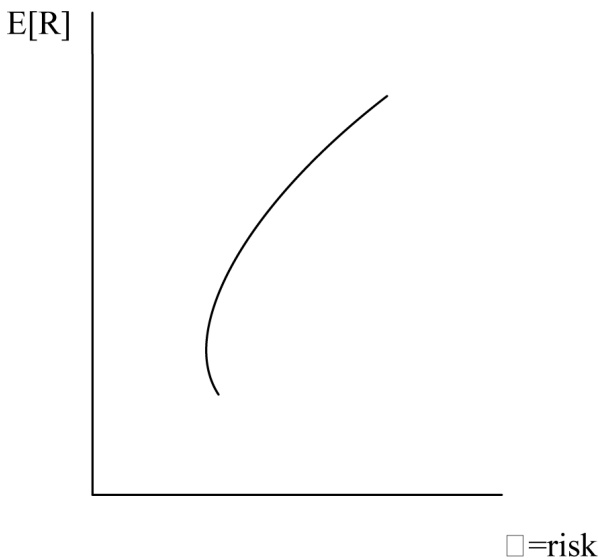


Figure 2: Markowitz efficient frontier

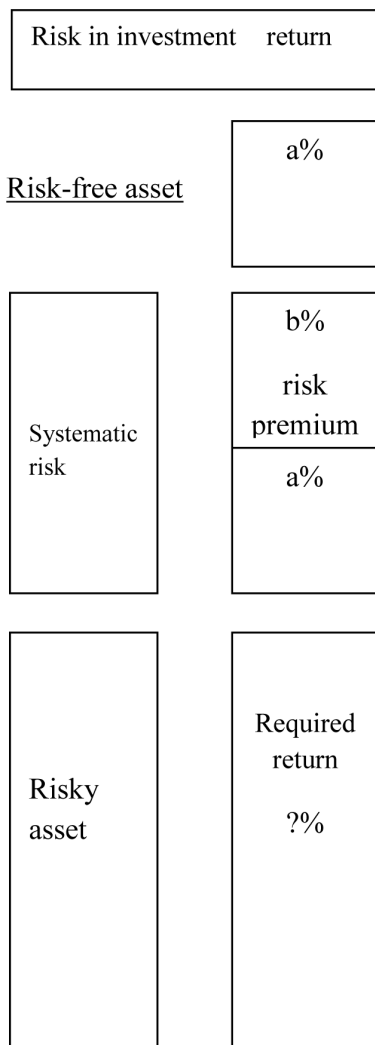


Figure 3: Finding required return in the CAPM as a basic idea

(E[R]= expected return of portfolio)

The curve in the Figure 2 is known as Markowitz efficient frontier and according to Markowitz investors choose the optimum portfolios which lie on this curve. An investor who can bear more risk choose portfolios that are on upper part of the curve and investor who is a risk-averse choose portfolios that are lower part of the curve. It was shown in Markowitz Portfolio selection that the variance of rate of returns is measure of risk of return under some assumptions. The formula developed by Markowitz proved that diversifying portfolio reduces the total risk.

Capital Asset Pricing Model (CAPM) tries to calculate investment risk and it describes the relationship between the risk and expected return of an investment.

The formula in CAPM is the equation of SML (Security Market Line).

R<sub>i</sub>: rate of a stock return

R<sub>m</sub>: rate of market return

β: cov(R<sub>i</sub>,R<sub>m</sub>) / var(R<sub>m</sub>)

R<sub>f</sub>: risk-free rate

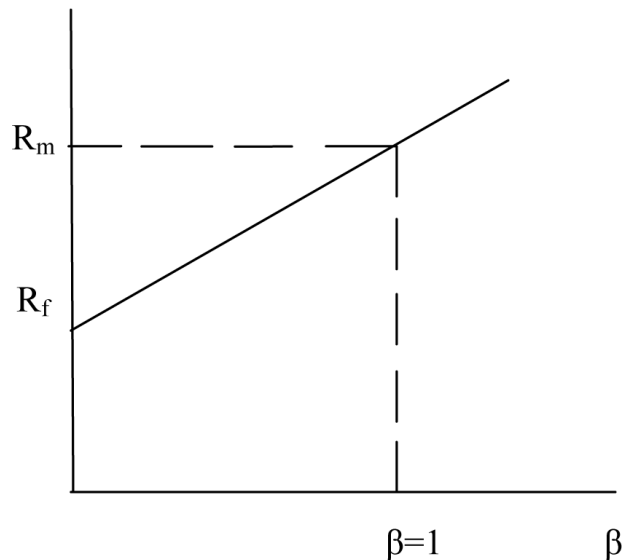


Figure 4: Security Market Line

By using simple math the equation of the line above is found as follow:

$$R_i = R_f + \beta(R_m - R_f)$$

So in CAPM the rate of a stock return is defined as risk-free rate plus product of beta and market risk premium (R<sub>m</sub>-R<sub>f</sub>). CAPM can be used for all stock after estimating beta.

Estimation of beta and market risk premium is the critical point in CAPM. Beta can be calculated as daily, monthly or yearly and all give different betas. Calculation of different time intervals gives also different betas and market risk premium also changes over time. The required

estimations can be found after collecting lots of historical data. Predicting future by calculating some past data is sometime not reliable.

The Arbitrage Pricing Theory (APT) takes multiple sources of systematic risks into account. The basic assumption of APT is based on the absence of arbitrage in the market. The returns can be calculated if there is no arbitrage opportunity. Capital markets are perfectly competitive and trend of investors always prefers more wealth to less wealth. APT is less restrictive than CAPM in its assumptions. There is only factor in CAPM but in APT there are n factors which affect the expected rate of return. The APT has advantages in flexibility over the CAPM. Expected rate of return is formulated as follow:

$$E[R] = R_f + b_1 f_1 + b_2 f_2 + \dots + b_n f_n$$

$b_k$ : the sensitivity of the stock to the factor  $b_k$

$f_k$ : the risk premium for factor k

It is stated in APT that there are n factors however these factors are not defined and even the number of factors are unknown. However it is reasonable because every stock can have specific effects that affect the return rate. APT does not rely on stock market and it does not deal with measure of the performance of market, instead of market it focuses on factors that affecting price of stock. The factors in APT can be adapted to changes that influence stock price and from this aspect it brings advantages to the user but determining these factors is not easy since it requires great research.

CAPM was one of the most important developments in finance when it was introduced. It became basis of many research papers. However it was started to criticize that it is a single-period model. The Intertemporal CAPM was an alternative for CAPM introduced by Robert Merton which is a multi-period model. Merton claimed that since real interest rate, stock market returns, inflation and therefore investment opportunity set can be changed after that investors may want to hedge risks which they exposure. The demand on hedging causes a change in the asset pricing equation. Merton stated in his model that since the model is based on consumer-investor behavior it must be intertemporal, ICAPM is a linear model to state the shifts of investments over time and predict investment opportunity set.

Consumption-Oriented Capital Asset Pricing Model (CCAPM) is an extension of traditional CAPM. CAPM is based on market portfolio's return and it used it to understand behavior of the return rate. In CAPM the prediction of future relies on market portfolio's return. Beta in CAPM measures sensitivity of stock return to the expected market return. CCAPM has the same formula with CAPM only it differs from CAPM by explanation of beta. Beta in CCAPM is defined as follow:

Consumption beta ( $\beta_c$ ) =

$$= \frac{\text{covariance of risky asset and consumption growth}}{\text{covariance of expected market return and consumption growth}}$$

And formula for CCAPM is restated as follow:

$$R_i = R_f + \beta_c (R_m - R_f)$$

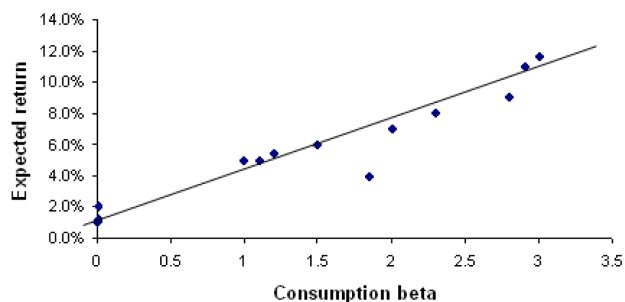
$R_i$  = expected return on risky asset i

$R_f$  = implied risk-free rate

$R_m$  = implied expected market return

$\beta_c$  = consumption beta of the risky asset i

The investors' consumption growth and risk aversion determines the expected return of risky asset and the risk premium. The consumption beta defined above provides the systematic risk in CCAPM world. In CCAPM, an asset is more risky if consumption is low or savings are high.



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Figure 5: Consumption beta in CCAPM

The consumption beta can be found by empirical works and statistical methods like finding beta in CAPM.

The CCAPM, like CAPM, is based on only one parameter and it has been criticized because of this issue. However the empirical works have shown that there are more than one affect that influence the stock prices and return rates. The empirical works also have shown that the CCAPM's predictions are not supported by those results.

The CAPM and CCAPM are trying to explain stock returns based on only one factor. The APT and ICAPM are adding many factors that affecting stock returns but these factors are not stated. Empirical works have shown that after testing CAPM, beta in CAPM can explain 70% of the return in the market. Eugene Fama and Kenneth French tried to explain the rest of 30% unexplained stock return by expanding capital asset pricing model. Fama and French expand CAPM by adding two more factors in the formula of traditional CAPM. In the empirical works Fama and French found that the two classes of stocks are better than the others. The value stocks have provided much better return than growth stocks that is stocks which have high book to market ratio and the small stocks have provided

much better than large stocks in the market as a whole. After adding these two factors in capital asset pricing model the new formula is as follow:

$$R_i = R_f + \beta(R_m - R_f) + b_s * SMB + b_v * HML$$

$R_i$  = expected return rate on risky asset  $i$

$\beta$ : the beta measure the sensitivity of stock return to the expected market return but this beta is not same as beta in capital asset pricing model since in Fama-French 3 factor model there are two more factors added into the formula.

$R_f$  = risk-free interest rate

$R_m$  = expected market return rate

SMB = small market capitalization minus big market capitalization

HML = high book to market ratio minus low

$b_s$  and  $b_v$  = the coefficients of SMB and HML respectively. These coefficients are determined by linear regression after defining SMB and HML.

It is seen that Fama and French 3 factor model explains 95% of the diversified portfolios returns after testing thousands of random stocks however when the same samples take into consideration the CAPM can explain 70% of the diversified portfolios return.

## Conclusion

In Fama and French 3 factor model there are two additional factors to beta SMB and HML. These two factors cannot be distinguished when they are tested in empirical tests to compare their effects in the behaviour of stock prices and expected returns. Even in Fama and French 3 factor model beta has more explanatory power. Beta in traditional CAPM is only explanatory term in the formula. In the APT and ICAPM there are many factors that affect the stock return and market as a whole however beta still exists in factors. Time interval and frequency of evaluating stock return and market return are affecting the beta. When beta is calculated according to monthly stocks the results are not same when stock returns annually are taken into consideration. The way of estimating beta is very important to get an accurate model in stock returns.

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## Effects of Informational Technologies on Career Planning Process On Example of Akdeniz University (Turkey)

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### Abstract

In the given work the effects of Informational Technologies on the career planning process is being studied. During our research the questionnaire entitled “Effects of Informational Technologies on career planning process” (Nigar Küçük) had been used. 142 students of the Faculty of Economics and Administration of Akdeniz University were chosen as the subjects for the research. Descriptive Statistical Method had been applied on the material obtained. According to the obtained statistical results students tend to show their compliances and attitudes in a positive way. Besides, use of Informational Technologies in Career Planning process is considered to be a rational way for this kind of planning in general. At the same time we made a conclusion that informational technologies have a certain effect on careerplanning but this type of effect is not of a big importance.

**Keywords:** Information technology, career planning, university, education, management.

**JEL Classification:** O33, O39

### Introduction

The development of informational technologies deeply affects nowadays organizations and societies. Individuals that are cornerstone of a society try to adapt themselves to these type of developments and plan their careers accordingly. Responsibility of career planning is passed from organizations to individuals as criteria like personal career success gains importance alongside with indicators like salary and promotion. Moreover, terms like multidimensional and unlimited career are being used in literature in the last years (Briscoe, Hall, & Demuth, 2006).

Informational technologies is the totality of software and equipment technologies used in order to provide, publish, transfer information and storing data (Karahan, 2003). Informational technologies are not limited only with computer equipment and software. We must keep in mind that informational technologies are technology type which “creates value and enriches it”. In this respect, it is important to possess abilities of effective organizing and strategies in order to determine and thus, develop right solutions (Aydın, 2012). Nowadays informational technologies, consisting from distinct types of technological equipments, play the most important role in success of companies. Nevertheless, companies must be able to benefit from these very technologies in order to become successful. The most important factor of this notion is of course the human resources within this frame.

### 1. The Concept of Informational Technologies

Changes that took place in the second part of the twentieth century have effected societies from the economic, technological and cultural sides. The epoch which we live in is generally defined as the epoch of space explorations, cyber epoch, electronic epoch... No matter what the definition of current epoch is, the information and communication are being at the top of their development (Demiralp, 1995). Together with being a system, technology provides the control in coordination and administration within the mechanism of decision making, problem solving and problem defining processes (Aydın, 2012). Besides, informational technologies made it possible to ease the form of management and turn it to a more systematic entity as a whole (Kazan, Karadal & Uygun, 2002).

According to the general definition of informational technologies is an entity of registration, preservation, production of meaningful information through a certain processes, access to the produced information and data (Bengshir, 1996). Just like informational technologies created a new epoch in various fields of human activities like the sphere of business, it formed a main source and tool of competition as well. Especially, it is considered that informational technologies changed the whole range of factors like competition rules within a market economies, methods and approaches of competition in general (Rastogy, 1995).

## 2. Career Planning

French term “Carriere” is used in Turkish as well which designates the concept of 1970’s explaining changes in technological domain as well as in environment in general (Ma & Taylor, 2003). Career can be defined as the knowledge gained from the workin experiences, skills, competences and totality of interrelations (Bird, 1994).

The most important approaches within the career planning issue are organizational career planning and individual career planning approaches. Organizational career approach is more of a traditional understanding of the planning process whereas individual approach to the issue constitutes a modern one (De Vos, Dewettinck & Buyens, 2008). From the organizational point of view career planning is the process of planning career goals for top managers (Taştan, 2007). Within this framework managers increase the awareness of their employees and coworkers regarding their careers and help them in setting goals, providing them with the necessary education and facilities.

Özer (2009) describes the process of career planning in four phases:

- defining the human resources that will be used within the framework of career planning
- drawing the way of career development
- appointment of career consultants
- developing individual plans

From the point of view of an individual, career carries more importance than just an ordinary job. Advancement in career means more income, responsibility, high degree of professional and social prestige (Seçer & Çınar, 2011).

From the individual point of view career development is divided in four phases. The first phase is the beginning a particular work. Person who has entered the working life will try to acquire a certain position. The second phase is a development/promotion phase. A person may change his/her positions within the organization or other organization. This phase constitutes an important phase in a persons life. During this phase of professional development promotions occur and he/she tries to re-evaluate goals and also tries to be more productive. The third is the phase of maintaining ones career. On this phase a person understands that it is hard to progress physically and mentally and tries to stay on a position obtained. Retirements are observed in this phase (Eryiğit, 2000). The fourth phase is the “last phase of career” being the last level of his/her professional development. Some individuals reach the highest levels of a working experiences. In this particular phase an individual endeavours to stay on the achieved level of a career developmnet (Mathis & Jakson, 1994). The last one is a “decrease phase”. Another name of this phase is a retirement phase. When approaching this very phase, persons

individual influence/power, responsibilities and the career itself tends to decrease. On the retirement phase a persons career ends and he/she starts for searching and developing new career possibilities (Aytaç, 1998).

## 3. The Purpose of a Research

The primary purpose of this research is to clearly define the issues of informational technologies and career planning, defining the importance of informational technologies in the process of career planning in general.

## 4. Research Method

The method of questionnaire developed by Nigar Küçük entitled “The effects of informational technologies on the career planning/managment process” is being applied to the education sector. 142 students of the Faculty of Economics and Administration of Akdeniz University were chosen as the subjects for the research. The method of a simple sampling had been used. It consists of three parts. In the first part demographic data is being examined. The second chapter focuses on factors like perceived benefits of informational technologies, adaptation, attitudes, easiness of usage and effectiveness. In the last chapter we examine issues like the role of education and development in the process of a career planning, evaluation and consulting. The number of questiones is 56. Questionaries have been filled on-line by the university students. Grading for questionnaire has been made by the Likert type method of 5 grade system. Program of SPSS 17.0 Statistical Analysis has been applied for data analysis. Descriptive statistical calculation was used in analysing of obtained data.

## 5. Findings and Comments

### *Analysis of demographic data*

In this part we show the frequency and percentage of demographic data obtained from the questionaries.

*Table1. Gender dispersion*

	Frequency	Percentage (%)
Female	74	52,1
Male	68	47,9
Total	142	100,0

According to Table 1 the percentage of female participants is 52,1% while the percentage of male participants is 47,9%.

As it can be seen on the Table 2 (Page 28), according to the department dispersion the following departments have the highest rates: Management: 21 %, Econometrics:

12,7% and Labor Economics: 12%.30 % of subjects are Sophomore students, 22,5 % are Juniors, 20,4 % are Seniors and 16 % of students are Freshmen. 10,6 % of subjects were on their fifth year of study.70 % of students (N=100) who continued on their study said that they chose their departments by themselves while 29 % of them (N=42) said it was not their personal choice.

### Analysing Factors

Questionary used within this research consists of two different parts. The first part concerns the issue of informational systems, the second part is of a career management. We have applied Kaiser-Meyer-Olkin test in order to figure out the relevance of questionnaire items to the factor analysis. According to the (KMO) test results 0,789, the first part is relevant to the factor analysis.

In the results of factor analysis of the first chapter factor items have been examined and those of a low intensity have been deleted. These are the items which had been taken out from the questionnaire: perceived benefit item 1. Attitudes items 3. Technology items 1. and 2. Items. These items are given later in the Table 3 (Page29) of factor dispersion.

For different factors have been detected within the framework of a factor analysis. We have shown their titles and Cronbach Alfa values in the Table 4 (Page 29).

There are no any meaningful differences between factors of gender according to the Independent T test given in the Table 4 (Page 29).

In the second part of a questionnaire (Career Management) KMO values has been calculated as 0,903 being relevant to the factor analysis in the second part. In the factor analysis results of the second part the intensity of factor related items has been examined and those with a low factor intensity had been taken out from the questionnaire. The following items have been taken out: career planning: 9 and 10, education and development: 5, career evaluation: 3. Factor dispersion that emerged after the above mentioned items had been taken out is shown on the Table 5 (Page 30).

Three different factors had been detected within the factor analysis, the titles and Cronbach Alfa values of which are given in the Table 6 (Page 31).

### Regression Analysis

For the dependent variable of consulting factor the Stepwise method had been applied in order to figure out factors of skills and perceived benefits with the help of regression analysis and as it turned out, the above mentioned factors have an influence on the consulting factor. As a result of an analysis it can be seen on the Table 7 (Page 31), that 2 models have been developed. In the first model

perceived benefits are shown while the second table shows both, perceived benefits and ability factors. The instruction value of models, which is  $r^2$ , is 0,81 for the first one and 0,21 for the second one (Table 7 (Page 31)).

For the factor of career planning, which is a dependant variable, we used the Stepwise method for regression analysis and we can see that the sub dimension of informational technologies which is the compliance factor, effects the factor of career planning. As the result of the above mentioned analysis (shown in the Table 8 (Page 31)), 1 model has been developed. The compliance factor is shown in the model. The instruction value of models, which is  $r^2$ , is 0,87 (Table 8 (Page 31)).

For the factor of learning and development, which is a dependant variable, we used the Stepwise method for regression analysis and we can see that the sub dimensions of informational technologies which are the compliance factor and perceived benefit factor, effects the factors of learning and developing. As the result of the above mentioned analysis (shown in the Table 9 (Page 31)), 2 models have been developed. The compliance factor is shown in the model while in the second model we have perceived benefits and compliance factors. The instruction value of models, which is  $r^2$ , is 0,132 for the first model and 0,168 for the second one (Table 9 (Page 31)).

### Conclusion and Discussion

In the given work we tried to measure the effects of informational systems on career performances of students of Akdeniz University (Turkey). Informational systems gain more importance each year. Accordingly, we focused on students as they constitute the future working and managerial staff and the ways they perceive informational systems, how they use them and how do these factors influence their career planning strategies.

While examining the relation of informational systems with the career management we also discussed concepts like informational technologies, career and career management. We examined the data obtained from the questionnaires by means of factor analysis, independent t- test and regression analysis. In the first questionnaire we have examined/obtained perceived benefits, ability, compliance and easiness of usage. We tried to measure how do students perceive the benefits and informational systems. Compliance measures the level of adjustment to the informational technologies. While measuring abilities and informational systems usage, we also tried to measure the easiness of usage and contribution of informational systems to the learning process as well as its difficulties. These factors had been used as an independent variables during analysis. In the second part of a questionnaire we have given 3 factors entitled career planning, learning-developing and consulting. These factors are classified as dependant variables.

Having analysed the consulting factor, which is a dependant variable, we were able to see that ability and perception factors effect the consulting factor. While analysing the last factors of the dependant variables which are learning and development factors we were able to determine that low dimensions of informational systems, which are compliance and perceived benefits, effect the factor of learning and development. Taking the obtained results of our research into a consideration, we can state that compliance and perceived benefits are the most important factors of informational systems while abilities can be defined as

secondary ones. Students state that informational systems are useful, they can be applied and used in career management and that informational technologies suit their working styles. Besides, an independent variable which is easiness of usage, has no any kind of relation to non of the dependant variables and thus, is considered as having no potential effect on career management.

As we can conclude on our research, informational systems have a certain degree of importance for university students in planning their careers but its effect is not of a high level.

*Table2. Departments*

	Frekans	Yüzde (%)
Business	31	21,8
Econometrics	18	12,7
International Relationa	9	6,3
Labor Economics	17	12,0
Economics	12	8,5
Public Administration	5	3,5
International Trade	11	7,7
Economics and Finance	9	6,3
Finance	9	6,3
Management Informatics	6	4,2
Tourism Management	8	5,6
Human Resouces Management	7	4,9
Total	142	100,0

*Table 3. Informational Systems and Dispersion of Factors*

	Component			
	1	2	3	4
If I wish I can useany type of equipment about informationtechnologies by myself.	,889			
I am very comfortable with using information technologies by my own.	,885			
I can easily use informational technologies even when there is no one to help me with it.	,871			
It is a "good" idea to use Information technologies.		,820		
There are more advantages of using informational technologies than disadvantages.		,811		
Using information technologies increased my performance.		,722		
Informational technologies are beneficial when taken as a whole		,713		
Installation and operation of informational technologies is suitable for my studying method.			,814	
Using informational technologies is suitable for my studying method.			,754	
Using informational technologies is suitable for my studying style.			,624	
It is highly difficult to learn how to use infrmational technologies.				,515
Information systems are extremely easy to use.				546
I experiance difficulties in using CD in university				,797
Documents which explane informational technologies are highly complicated.				,729

*Table 4. Reliability of Informational Systems Factors (a)*

<b>Factors</b>	<b>Numbers of questions</b>	<b>Cronbach Alfa (<math>\alpha</math>)</b>
Percieved Benefit	4	,795
Consistence	3	,817
Ability	3	,925
Ease of Use	4	,724

*Table 5. Factor Dispersion of Career Management*

	Component		
	1	2	3
Teacher encourages students to develop their strengths.	,904		
Teachers assist students to identify realistic career goals.	,864		
Teachers give students tips about how to improve themselves and how to progress.	,839		
Teachers prepare students for future jobs.	,836		
Teachers help students in making reviews about business opportunities	,828		
Teachers give students consultation about career planning.	,818		
Teachers guide the students and support them.	,727		
Teachers give employees consultation about career planning.	,672		
Encourage students to evaluate capabilities, strengths, weaknesses and areas of interest.	,624		
The information database including the education, teaching, learning and career of the teaching personel that can be available for the management.		,827	
Development of career and career planning between departments.		,801	
Information systems, observed by students careers development.		,801	
Education demands and skills for future jops.		,773	
Career planning make for defining future job opportunities.		,764	
Career Planning as a part of evaluating students performance.		,707	
Individual development plans for students		,691	
Development programs prepared for the high level of students.		,680	
Professional courses intended for student`s professional skills.			,798
Motivation, planning and problem solving issues in internal management skills for universities.			,761
Directing studetnts to the seminars or technical courses outside the university.			,732
Courses like time management, interpersonal negotiation techniques and writing raports.			,601
Career evaluation courses and seminars.			,510
Ability tests for particular jobs and positions.			,548



*Table 6. Reliability of Career Management Factors ( $\alpha$ )*

Factors	Number of questions	Cronbach Alfa ( $\alpha$ )
Career Planning-evaluation	8	,901
Learning and development	6	,897
Consulting	9	,968

*Table 7. Regression Analysis of Consulting Factor*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	R Square
	B	Std. Error	Beta				
1	(Constant)	39,017	5,367		7,270	,000	,081
	f2	-1,063	,332	-,285	-3,201	,002	
2	(Constant)	33,336	5,119		6,512	,000	
	f2	-1,465	,320	-,393	-4,583	,000	,221
	f1	1,288	,284	,389	4,539	,000	

*Table 8. Regression Analysis of Career Planning Factor*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	R Square
	B	Std. Error	Beta				
1	(Constant)	7,380	3,864		1,910	,059	,087
	f3	1,157	,349	,294	3,319	,001	

*Table 9. Regression Analysis of Learning and Developing*

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	R Square
	B	Std. Error	Beta				
1	(Constant)	2,720	2,896		,939	,350	
	f3	1,073	,261	,363	4,107	,000	,132
2	(Constant)	8,236	3,807		2,164	,033	
	f3	1,354	,287	,458	4,712	,000	,168
	f2	-,537	,246	-,212	-2,184	,031	

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## Alternative Development Strategies for Azerbaijan Economy and Sectoral Analysis

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### Abstract

The paper outlines aspects of economic growth after oil exports in Azerbaijan, and allocation of oil income to develop main sectors of economy: agriculture, tourism, power engineering, machine building industry, food industry and energy security. From oil contracts during 2008-2015 years the income is expected to be 35-42 billion USD. If one barrel of oil is 30-60 dollar till the last period of the project, exactly till 2029-2030 years, the total income amount taking from this area is expected to be in the amount of 120-140 billion USD. So there is great chance and obligation of developing non-oil sector. During this development main questions are how much of the oil income spend now and how much to keep for future generations; how and where to spend the oil income; how to control spending of oil money. Paper provides suggestions for those questions. In sectoral analysis, paper describes current situation in the above mentioned sectors of economy, lists problems in those sectors, and provide suggestions help making a decision about managing profits from oil industry to develop the other sectors and economy of the country as a whole.

**Keywords:** Oil income, direct investment, rural development, sectoral development.

**JEL Classification:** O11, O13, O14, O18

### 1. General Economic Outlook

Lately the dynamic development speed observing in all areas of economy: social and social – cultural life of Azerbaijan Republic is stricken frankly. There is no doubt that, this is the result of large internal and external investments directing to the development of the oil and non – oil sectors and large oil projects realizing in the Republic.

Increasing obsin the amount of the investments directing to the development of the oil and non – oil sectors of republic by the government for the development of this area, and useful economy atmosphere creating in our republic. This increasing shows itself not only in theoretically and also in practical statistical indicators.

Paying attention to the last prognosis indicators, we'll see that, in its payment period in the result of exploitation of the pipe pump BTC forming a part of “Agreement of the Century” signed on September 20, in 1994, in 2008-2015 years the incomes is expected to be 35-42 billion USD. If one barrel of oil is 30-60 dollar till the last period of the project, exactly till 2029-2030 years, the total income amount taking from this area is expected to be in the amount of 120-140 billion USD.

The use of oil incomes indicating with the big figures is more important and actual than getting them. Taking into consideration of the not finding of the new oil deposits in our republic in 1940-1960 years, and taking into con-

sideration of oil being the finishing riches that, our aim is to vivify the areas with development potential in correct and expedient form each oil manta entering to our budget nowadays.

The geographical situation and natural condition, surface and underground riches of our republic gives opportunity for the forming and development of any areas of agriculture. Nowadays taking into consideration of the development by the specialists and classifying of the areas of industry, trade and service, construction, transport, connection as antecedence areas is not accidental.

Generally, present and perspective development characters of the above mentioned main areas in the frame of area analysis are interesting. So that, machine building and metal-processing industry, Agriculture-Industry Complex, electro-energetic, light and food industry, tourism industry in the areas of non – oil industry with development potential of our republic and the development of the economy development speed. According to the importance row of Agriculture, Tourism, Energetic, Machine building and Metal processing industry, Light and Food industry will be discussed below.

Tourism has to be emphasized as another perspective development potential as the non – oil sector. The last statistical indicators in our republic show the existing of serious progress in this area. So that, the coming of foreign tourists appreciated in the amount of 1.2 mln to our republic.



lic only in 2005 that, the main part of this was the tourists coming from CIS, Turkey, Great Britain, USA, Pakistan and Germany. In current year this figure was nearly 2 mln people and in the next year this figure is expected to be more than this figure.

The other perceptual area is the activity directing to the development of human capital. Nowadays the position of the countries determined to the intellectual potential. Developed countries get 40% part of the growth of GNP (Gross National Product) according to the development of the effective education system. Investments for the development of the education are the main direction of the investments for human capital. Generally, investments for the development of the education justifies itself from the economy position. American scientists consider that, expense of 1 dollar for the education system gives opportunity to get the income in the amount of 3-6 dollar. That's why, durable development of education system grounding to the humans behavior and presence of the forming productive forces of society with the being of the subject of economy and social development with its essence is important. The educational factor, the numbers of special, secondary and high educated people, the number of students fitting to 10 thousand people, the number of teachers in Azerbaijan and other indicators certifies that our country is one of the most educated country. But, the social progress opportunities creating by the various education types begin to decrease. Disparity arises between youth's education and their work and character; education and abilities being out the necessity?

Science has a great role in the forming of the human capital with the education area. Nowadays total Gross Internal Income for the education in Azerbaijan consists of %0.65. But in other countries this indicator changes between 1-3%.

From this point of view, the minority of aids influences negatively to the human capital and to the preparing of high-educated personnel and to the increasing of the potential level of the personnel in foreign countries.

At last it will be considerable that, developed country according to the modern develop principles is the country that, achieving to maximum progress in its all economy social and cultural-social spheres. Taking this principle into consideration our country often meets serious political and economic obstacles in this way. But all these elements are the indicators of economic development. But in this hard situation is choosing the correct development strategy though any difficulties, it takes us to the developed and strong Azerbaijan with trust.

Indicators of the forecasted development realizes in the current year too. According to the information in 2007, the capacity of the allocation entering at the Oil Fund is 2.475 billion AZN, but the capacity of the general allocation was 5.810 billion AZN in 2001 -2006.

competition rules within a market economies, methods and approaches of competition in general (Rastogy, 1995).

Strategies:

- How much of the oil income spend now and how much to keep for future generations?
- How and where to spend the oil income?
- How to control spending of oil money?

## 2. How and where to spend the oil income

Suitable geographical position, natural condition, healthy underground and ground – based wealthy gives opportunity for formation and development of an area of national economy. So the investment being suppressed in 2007 in the amount of 6.8 milliard was directed to the development of non –oil sector. 59.6% of general investment formed in the calculation of inner source, so it 13.8% more than the previous year. In the case 51% of investment falls to the part of oil sector, 49% falls to the part of the non oil sector. The great part of the investment in the current year was directed for the development of transport (19%), treatment (7%) and communication (4,8%).

Generally, if the capacity of GDP was 25.6 milliard, the 44.1% (11,1 milliard) falls to the part of non–oil sector and 55,9 % (14.5 milliard) falls to the part of oil sector.

## 3. Potential development areas

Potential development areas can be listed as following:

- Agriculture
- Tourism
- Energetic
- Machine building and Metal processing industry
- Light industry
- Food industry

### 3.1 Agriculture

Current situation:

Azerbaijan suitable areas for healthy agriculture and regions in different climate gave opportunity to cultivate harvest in different type, quality and worthy for treatment. The difference of the climate change from subtropics till tundra. It gave opportunity to take the harvest more than once in one season. Differences of country climate give opportunity cultivation of different harvest. Main agriculture harvest: wheat, cotton, tobacco, tea, olive, fruit and vegetables.

Agriculture was spread to the large area of north–east, south, south–east and west areas. 40% of population works in this part. But its place in the economy diminishes gradually. There are yet problems in the agriculture, where different reforms are used.

Problems:

- Investments to the area;
- Delivering of the technology and agro technical rules in necessary level;
- Establishment of connection between harvest production and treatment areas;
- Ensure of farmer facilities with the seeds of high quality, agrochemical measures solution of supply of technique and mechanized storehouse;
- Keeping of requested Land-reclamation, main canal, collectors, water store house and hydro joint.

Solution suggests:

- Intensification of the area and raising of the productivity, for the purpose;

Fundamentally improve the usage of the lands;

1. Raise productivity;
2. Lowering of the cost price of products;
3. Prevention of the lands being erosion and become salted;
4. Diminish the separation of the non agriculture lands;
5. Secure the land from dirty and other poison.

- Establish cultural pastures by the aim to raise the productivity of the pastures improve the areas of irrigating natural forage; enlighten the land- reclamations of the lowland of Kura-Aras;
- To learn and apply the foreign experience for improvement of productivity, by the aim to reimburse the demand of the people for foods as eggs, meat and milk;
- Use the opportunity to develop the horticulture largely and speedily, improve the subtropical plants ( fig, olive, pomegranate, quince, date, peach, walnut and hazel), gather, treat and sold the wild berry ripening and grasses to the other countries;
- Improve the efficiency of the production of agriculture by renewing technical means and improving its exploitation, by raising the specialty the staffs of mechanization expert and by organizing its labor correctly;
- People get the 80% of meat, milk, egg, potatoes, vegetables, fruits and other products from its personal and assistant economy. It shows the advantage of the development of farms. Government has to buy tractors and agricultural techniques and to grant them to credit for its development.

### 3.2 Tourism area:

Current situation:

There is climate, natural grace, historical and archaeo-

logical potentials-shortly historical, natural and cultural resources necessary for the tourism sector in our country.9 climate from 11, Caucasus shore, forests and medical cultural waters in the regions of Khachmaz–Lankaran–Astara gave information about the great potentials of this area. Income level at the interior tourism is low. Less presentation of the country and the problems of Garabakh in foreign tourism prevent the development of this area. But finance means are raised for the development of this area. The means are directed for the establishment and organizations carrying out activity in this area.

Problems:

- Less of income-level at the interior tourism
- Less of the presentation of foreign tourism of the country
- The problem of Garabakh
- Involvement/ uninvovement of enough investment
- Lag of hotel economy
- Unservicing the beaches well
- Lower of service level
- Less of qualified cadres
- Having no concrete activity programs

Solution suggests:

- To pass from popular tourism to specialized tourism–sea walking, ecological tourism, unit of scientist, social organizations and other conferences, seminars, symposiums;
- To cooperate with foreign tourist firms;
- Acceptance and service of families at sanatoriums;
- Sanatoriums have to be specialized and be in hotel type as in foreign countries, cure for hotel complex has to be gathered at multidisciplinary medical centers, specialist in high quality is necessary for normal work at this field;
- Prepare the certain activity programs, base of legislations about tourism development politics of international and interior tourism deeply connected with the field serving the needs of tourism.

### 3.3 Power Engineering

Current situation:

Nowadays there are 8 thermal electric and 6 hydro-electric stations in Republic which use 85% of its power. This electric production centers constructed at Soviet period was not so effective after getting freedom. Especially in winters, old production establishment and little technical supervision is the main cause that country couldn't meet its needs. We get the energy from the source we receive from Russia, Turkey and Iran. There is no fuel problem which is necessary for productions of electric energy in the country.

Problems:

- Late of the construction of the module electric stations;
- Regions incapability in its electric energy needs;
- Continuous interval for people and economy not to be provided by electric energy without a break;
- Existence of technical lost and extremism;
- Management of nets by old systems;
- Less collection levels of consumers to electric energy;
- Delay of the subscribers to be provided by the abacus measuring the electric energy on Republic.

Solution suggests:

- Connections of the new generations strength, suitable tensions line and halts taking into account the needs;
- Use of alternative energy sources, especially the energy of wind and sun;
- Heat energy could be received cheaper 3.5 times, by using of repeated energy resources by the help of regenerator;
- Time for using the geothermic potentials for energetic aims has reached. Scientific researches must be done and concrete recommendations given;
- In order to provide the pass and distribution of electric energy, the distributive lines has to be put into operations and all official regions of the republic has to be provided by distributive lines band transformer halts.

- No production of competitive harvests.

Solution suggests:

- Firstly reduce the dependence of the republic for sending the manufactured productions on cooperation's from Russia;
- Taking measures for providing of the production of the interfiled products in the enterprises;
- Changing of the production principles of the production for increasing of the quality of the product, increasing of the export of the product;
- Guided by the world experience for the rising of the competitive ability, passing to the new technological base;
- Caring out of the changes in the modernization, restoration, structure and investment policy of the machine-building industry in the direction of the development of the little metal consuming, but very labor-consuming fields;
- Profiling of the existed machine-building enterprises with the purpose of the organization of the production of the technological equipment required for the processing of the cotton in the Republic;
- Azerbaijan has great experience on the metal consuming production of the oil-field machine building. It is easy and advisable to improve the quality of such products by the attracting of investments and the new technologies from the developed countries;
- Caring out of little, strong agricultural technique, vehicles and lorry, cooperation in the republic among the enterprises of the field for the food and light industry in the development of Republic machine building.

### 3.4 Industry of machine building

Current situation:

Machine building has an exceptional importance for our developing republic. The machine building has a great role for secure of the scientific - technical progress comparatively by electro energy and chemical industry. The development of national economy is not possible without machines and equipments. For the cost of the produced harvests and number of the worker machine building take the first places among heavy industrial areas. Machine building and metal treatment take the third place after the food and light industry in our republic for the cost of the produced harvests. Though suitable conditions in Azerbaijan some advanced branches of machine building was not developed. The main duties of the republic are liquidate defects on machine building and metal treatment, reestablish them, to organize new machines, equipments and instruments.

Problems:

- Dependence of the sector from one sale and supply markets;
- Less of little, strong, agriculture techniques;

### 3.5 Food industry:

Current situation:

The food industry producing the final product of the agrarian-industry complex has great role in the economy of the republic. 30% of the production of total industry product and tierce of the industry enterprises falls to the share of this field. Food industry has great role in the providing of the people with foods and work. Republic can get income from the sale of the products of the food industry (canned fruit and vegetable, tea, tobacco, fish and fish products, mineral waters, etc.) considered specializing field for Azerbaijan in the foreign countries. At present the most profitable field is wine-making.

Solution suggests:

- Modernization of the food industry enterprises giving importance for the creating of the proper condition for the production of the foods with competitive

- ability and putting investment for its restoration,
- Increasing the quality of animal-produces and its products in all rings of the technological chain, providing of the complex processing of meat and milk, increasing of the ready product,
  - Providing of the people with quick and efficient food on the account of the Caspian Sea,
  - Providing the development of the gardening, vine-growing and vegetable-growing on the regions,
  - Creating of the new olive complex and expanding of the olive oil production, providing of the people and industry with the vegetable oil,
  - Providing of the internal and external consumption market with the food products with competitive ability,
  - Rising of the quality and purity of the raw material and products to the world standard level and preparing of the proper normative-technical acts,
  - Organization of the production of the equipment required for the manufacturing industry in the republic,
  - Establishing the collaboration and cooperation relations with the producers of other food products.

### 3.6 Light industry:

Current situation:

Azerbaijan has enough raw material reserve, labor force and market for the production of goods of light industry. But such suitable offers have not been used of these. As a result of these products such as clothes, shoes and others are brought from abroad and for expensive prices. Light industry takes the second place between the industrial spheres after food industry. The share of light industry was 3.8% in the products of general industry product in 2007. Light industry is multi sectored itself. 80% of the products are of the weaving. Main part in this sphere is of the weaving of cotton, silk and wool.

Problems:

- Lower level of the production complex;
- Lower development level of the market of free competitiveness and ownership;
- Non-correspondence of the enterprises to the market principles;
- Decrepit of technical and technological equipments of the enterprises;
- Weak development of the scientific and technical potential;
- Lower level of the infrastructure supply.

Solution suggests:

- To make new offers on the processing of seedless raw cotton, silk, wool and delivery to the finished

- product in the regions of the republic,
- To establish joint ventures on the processing for obtaining of the chemical raw cotton,
- To establish the sewing production of cotton cleaning, spinning, weaving, decorating – the network of the small enterprises in each region dealing in the cotton growing,
- To widely use of the form of housing labor form by making free of the production of the simple products,
- To establish enterprises for the application of the waste less industry and full processing of the production wastes,
- To direct to the development of the fields of little capital capacity and more labor capacity on the production of the carpets and finished clothes.

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# Risk, Uncertainty, and Expectations: Forecasting Development in a Eurasian Economic Area

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## Abstract

Forecasting key economic variables for a nation with accuracy is, at best, a daunting enterprise. Forecasting economic development for a group of Eurasian countries is an exercise with a high degree of uncertainty. It is even more difficult to forecast an economic entity that does not yet exist! But forecast we must. Calculating some variables can be facilitated by the use of statistical models using historical data. Other variables are more uncertain, with a range of outcomes, and are better suited to judgmental methods. This study attempts to develop and apply a robust suite of models to forecast variables essential to balanced economic development in selected Eurasian nations and, by extension, to the region as a whole. Statistical methods, assuming that the near future will look somewhat like the recent past, provide a base case and a range of likely outcomes. Judgmental methods are used to make adjustments where appropriate. Scenario scripting is used to deal with the high degree of uncertainty by posing a set of “what if” questions. Forecasting where we can, envisioning possible scenarios where we cannot, may provide Eurasian decision makers with some insights to assess the effects of policy choices in the economic development of the region.

**Keywords:** Risk, uncertainty, expectations, Delphi technique, scenario scripting, rational expectations.

**JEL Classification:** F47, F53, O16, O19

The benefits of international trade are well documented, both in theory and in practice. (Smith, 1776; Ricardo, 1817; Stiglitz & Charlton, 2006). Negative consequences have also been studied (Amadeo, 2012; McMasters, et al., 2003; Reich, 2006; Salento, 2012). This study addresses the following primary research question: To what extent can a greater degree of cooperation increase the economic growth rate of a group of Eurasian nations? Secondary research questions include the following: What actions may be feasible to achieve a greater degree of economic cooperation among Eurasian states? And what might be the advantages and disadvantages of a NAFTA-type arrangement of Eurasian nations?

## 1. Background

The nations of the South Caucasus and Central Asia find themselves in transition from the closed economic system of the Soviet Union to what may seem to some a “free-for-all,” zero-sum game of free-market capitalism. Gone are the guarantees of the command economic system. A tightly woven arrangement of designated production sources and destinations is being replaced by an acephalous, amoral system that values profit at the expense of equity. Previously unthinkable, there is now unemployment among even skilled, well educated workers in the nations of the former Soviet Union. There is clearly a need to come to terms with these new realities, as the newly independent nations struggle to meet the needs of their peoples in an

open international economic system

This study attempts to develop an evidence-based model to forecast the effect of a greater degree of cooperation among the transitional nations, starting with Armenia, Azerbaijan, and Georgia. Recognizing the difficulty of forecasting under conditions of such a high degree of uncertainty, the model combines multiple methods. Delphi uses a panel of experts to assess the impact of a NAFTA-type arrangement. Statistical forecasting uses historical data to predict the future, the assumption being that the near future will look something like the recent past.

This is a long-term study, results of which will be of interest to and followed by government agencies, non-government organizations, academics, and others.

## 2. Literature Review

A review of the literature of national and regional economic development presents a variety of findings.

### 2.1. Classical and Modern Theories

Adam Smith (1776) articulated the benefits of international trade when one nation has an “absolute advantage” over other nations in terms of the production of a good with fewer resources. David Ricardo (1817) showed that even when one nation has an absolute advantage over all others in the production of a good, that nation may still benefit from its “comparative advantage,” a comparison of its own





opportunity costs, what it gives up in the production of one good in order to produce another.

While in the modern era, Porter (1990) builds a framework for the “competitive advantage” of nations, Krugman (1996) argues that, “International trade... is not a zero-sum game. Competitiveness is a meaningless word when applied to national economies. And the obsession with competitiveness is both wrong and dangerous.”

### Expectations

Coyne (2009) demonstrates the importance of expectations in developing and transitional economies. It is a cliché, not without a basis in fact, that if we believe the economy will improve, then it will improve. That is because when we think things are going to get better, we act in that belief: businesses invest to expand their operations, banks make more loans, and consumers are encouraged to buy. The consequence is that things do get better. Of course, the reverse is also true. If we believe things will get worse, they will get worse.

The University of Michigan initiated a consumer confidence index to track the attitudes in the United States toward the economy:

*Understand consumer attitudes and expectations about the US economy. The monthly Reuters/University of Michigan Surveys of Consumers gauge how consumers feel the economic environment will change. The survey's Index of Consumer Expectations is an official component of the US Index of Leading Economic Indicators. (Thomson-Reuters, 2012).*

Herein lies a serious role for national leaders, that of using the “bully pulpit” to buoy the morale of producers and consumers. The presidents and other leaders of the three South Caucasus nations included in this study can stimulate interest in common cause through their words and actions. An uncertainty, however, is the role that the government of the Russian Federation might play. Based on recent history, one might expect that to be a spoiler role for any initiative that does not fall within the embrace of the government of Russian dictator Vladimir Putin (Rolofs, 2007).

### Empirical evidence

Two high-profile efforts at increasing regional cooperation and reducing competition are the European Union (EU) and the North American Free Trade Agreement (NAFTA). Membership in these – and others around the world – does not preclude participation in other trade relationships, as is evidenced by the 153 members (as of 10 February 2011) of the World Trade Organization (WTO,

2012).

With a tighter focus on the three South Caucasus nations – Armenia, Azerbaijan, and Georgia – the literature on cooperation is sparse, particularly regarding the forecasting of the benefits and rewards of increased cooperation. In part, this may be attributed to the dispute – occasionally erupting into violence – between Armenia and Azerbaijan over the territory of Nagorno-Karabakh (Barry, 2011). Cooperation among former enemies in two world wars in the 20th century to form the European Union offers some evidence that economic interests – with enlightened leadership – can prevail over more narrow national political passions.

NAFTA may be a useful template against which to consider the benefits of regional economic cooperation, along with the risks of such an initiative. NAFTA consists of three nations, as does the South Caucasus grouping in this study. This contrasts with the EU with its 27 members (Europa, 2012). One NAFTA information web page offers the following:

*In 1994, the North American Free Trade Agreement (NAFTA) came into effect, creating one of the world's largest free trade zones and laying the foundations for strong economic growth and rising prosperity for Canada, the United States, and Mexico. Since then, NAFTA has demonstrated how free trade increases wealth and competitiveness, delivering real benefits to families, farmers, workers, manufacturers, and consumers. (NAFTAnow, 2012).*

One estimate is that, “Under NAFTA, merchandise trade between the U.S., Canada, and Mexico has tripled, reaching US\$946.1 billion in 2008” (NAFTAnow, 2012).

Amadeo (2012) lists some of the benefits of NAFTA as follows:

- eliminates tariffs,
- reduces inflation by decreasing the costs of imports,
- creates agreements on international rights for business investors, reducing the cost of trade, which spurs investment and growth especially for small businesses.
- provides the ability for firms in member countries to bid on government contracts, and
- protects intellectual properties.

On the other hand, Amadeo (2012) lists some of the problems with NAFTA:

- U.S. jobs were lost.
- U.S. wages were suppressed.
- Mexico's farmers were put out of business.
- Maquiladora workers (Mexicans working on the border) were exploited.
- Mexico's environment deteriorated.
- There was also a question of reciprocity.

In applying the lessons of NAFTA to the South Caucasus, one would need to compare and contrast the two regions. There is, nevertheless, value in such an analysis so as to gain the benefits and reduce the risks of increased cooperation among the three nations.

### Forecasting in the Literature

The literature on forecasting under conditions of a high degree of uncertainty, though sparse, is persuasive: combinations of methods yield better results than single methods alone (Armstrong, 2001; Elliott, Granger, & Timmermann, 2006; Goodwin, 2009; and Timmermann, 2006).

### 2.2. Methods

The current investigation is an application of forecasting under a high degree of uncertainty. In such a study, it is more appropriate to use a combination of forecasting techniques than to rely on a single method. Timmermann (2006) notes, “Forecast combinations have frequently been found in empirical studies to produce better forecasts on average than methods based on the ex-ante best individual forecasting model.” Goodwin (2009) concludes, “One of the major findings of forecasting research over the last quarter century has been that greater predictive accuracy can often be achieved by combining forecasts from different methods or sources” (p. 33). Armstrong (2001) advises, based on 30 empirical comparisons, to improve forecasts, “When feasible, use five or more methods” (p. 417). This study uses three methods: Delphi, statistical forecasting, and scenario scripting. As a continuing study, with the objective of creating one or more time series, there may be additional methods, including prediction markets, a method gaining in popularity among scholars for forecasting under conditions of a high degree of uncertainty (see, e.g., Wolfers & Zitzewitz, 2004, 2006).

The study will use Forecast Pro software to create statistical forecasts based on historical macroeconomic data from Armenia, Azerbaijan, and Georgia. It will use the Delphi technique to capture expert opinion regarding the potential for increased growth and development owing to closer cooperation among the three South Caucasus nations. And it will use scenario scripting to account for a variety of potential outcomes.

### Delphi

The theory behind the Delphi technique is that a panel of informed participants can produce better results than the individuals alone.

Over a number of months and years, monthly results may be used to create a time series.

Rowe & Wright (2001) note that,

*Expert opinion is often necessary in forecasting tasks because of a lack of appropriate or available information for using statistical procedures (p. 125) . ... Since its design at the RAND Corporation during the 1950s, the Delphi technique has been widely used for aiding judgmental forecasting and decision making in a variety of domains and disciplines (p. 126).*

### Statistical Forecasting

The study will use published and readily available historical data for GDP in the three countries to forecast growth independent of any new plan of cooperation. Forecast Pro, the leading statistical application, will be used to generate forecasts under both the independent and cooperative scenarios.

### Scenario Scripting

The “limits to forecasting” were noted by van der Heijden (1996) and brought into the popular consciousness by Taleb (2007). The former argues for “structured uncertainty” (pp. 85-86), while the latter concludes that “We just can’t predict” (p. 135). By writing multiple alternative scenarios, the forecaster abandons spurious precision and makes a simple statement: We don’t know what will happen, but these are the likely outcomes. Then one can begin to make plans based on those outcomes.

## 3. Results

### Delphi

The name of the survey was Caucasus Cooperation. The stated purpose was, “Forecast the effect of greater economic cooperation among Georgia, Armenia, and Azerbaijan.” A panel of experts was asked the following: “GDP for Georgia, Armenia, and Azerbaijan is growing at 3-4 percent. Could a NAFTA-type arrangement increase the rate of growth? Please provide your estimate in percentage points, e.g., 0 percentage points, 1 point, 2 points, 3 points, etc.” Results are shown in Table 1 (Page 43).

As might be expected from the theory underlying the Delphi technique, the standard deviation declined from the first round (1.90) to the second round (1.14), suggesting that panel members made adjustments in their own estimates based on the feedback they received from the first round.

Interpreting the results of the Delphi process, one might expect an increment of 2-to-3 percentage points above the current growth rate. Given a current growth rate of about 4 percent, the panel suggests that closer coopera-

tion could raise the composite growth rate to about 6-to-7 percent.

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### Statistical Forecasting

For this section, the study used CIA (2012) data for 2011 and Penn World Table (CIC, 2012) for earlier data. Basic data are GDP in billions of United States dollars at purchasing power parity.

**Armenia.** Armenia's GDP was about \$18 billion in 2011. Figure 1 (Page 43) shows historical data and a 10-year forecast generated by Forecast Pro using Holt exponential smoothing (linear trend, no seasonality). Adjusted  $R^2$  is 0.96; mean average percentage error (MAPE) is 6.88. By 2021, GDP rises from about \$18 billion to just over \$25 billion.

**Azerbaijan.** Azerbaijan's GDP was about \$93 billion in 2011. Figure 2 (Page 43) shows historical data and a 10-year forecast generated by Forecast Pro using Holt exponential smoothing (linear trend, no seasonality). Adjusted  $R^2$  is 0.99; mean average percentage error (MAPE) is 7.88. By 2021, GDP rises from about \$93 billion to just over \$114 billion.

**Georgia.** Georgia's GDP was about \$25 billion in 2011. Figure 3 (Page 44) shows historical data and a 10-year forecast generated by Forecast Pro using Holt exponential smoothing (linear trend, no seasonality). Adjusted  $R^2$  is 0.98; mean average percentage error (MAPE) is 4.39. By 2021, GDP rises from about \$24 billion to just over \$37 billion.

**Combined.** Figure 4 (Page 44) shows the relative sizes of 2011 GDP of the three nations in the study in United States dollars at purchasing power parity. Azerbaijan's GDP was about 3.7 times that of Georgia; 5.2 times that of Armenia; and about 2.2 times that of the other two combined.

**Forecasts of growth for three nations combined.** Table 2 (Page 43) shows the result of two alternative growth rates. Starting with a base of \$135.5 billion, the table shows the levels of GDP for the three nations in the study under two assumptions. First, the total grows at about the same rate as is now the case, 4 percent. The sec-

ond assumption is 2 percentage points higher, at 6 percent. The increase of 2 percentage points is based largely on the results of the Delphi panel of experts noted above. Over the course of the next 10 years, the difference would amount to \$200 billion.

Figure 6 (Page 45) is a graphical representation of the data in Table 2 (Page 43). The top line shows a growth rate of 6 percent; the middle line shows a growth rate of 4 percent; and the bottom line shows the difference. From a base of \$135.5 billion, the region's GDP is estimated to reach \$201 billion using the current rate of growth, or \$243 billion with a boost of two percentage points. Summing the increase in each of the coming 10 years produces an increment of about \$200 billion attributed to a percentage increase of just two percentage points.

Of the cumulative \$200 billion over 10 years, Azerbaijan would get about \$135 billion, Georgia \$37 billion, and Armenia \$28 billion.

### Scenario Scripting

The study looked at three scenarios based on: Leadership, Globalization, and Russia.

**Leadership.** Regional, as well as national, economic development is in large part dependent on the vision and skills of top leaders. This aspect of scenario scripting is part of the internal scan.

**Globalization.** On the global scale, the economies of the South Caucasus are quite small. Total "Gross World Product" (GWP) in 2011 is estimated at about \$80 trillion (PPP). "South Caucasus Product" SCP, at \$136 million, is less than two-tenths of one percent. Therefore, what happens in the rest of the world is critical to the development of the region.

**Russia.** The Russian Federation, under the dictatorship of Vladimir Putin, has been aggressive in pursuing its hegemonic objectives among the nations of the former Soviet Union. How Putin behaves toward the three nations attempting closer economic cooperation is highly uncertain.

**Full scenario scripting is in process.** Meanwhile, Table 3 (Page 43) provides a framework for adding values as they are developed.

The approach, in its initial stage, is to envision a set of alternative scenarios with interacting criteria. The most optimistic case would be reflected in a sum of the "Favorable" vector. We might imagine the sum of the "Neutral" vector being the "base case." The most pessimistic case would be the sum of the "Unfavorable" vector. Values will have to be assigned.

### Conclusion

The risks associated with increased economic cooperation among the nations of the South Caucasus appear low. There are some uncertainties involving the abilities of

the parties to reach the kind of accord represented by the North American Free Trade Agreement. A Caucasus Area Free Trade Agreement (CAFTA) holds the potential for an increment of economic growth above that of current policies. the parties to reach the kind of accord represented by

the North American Free Trade Agreement. A Caucasus Area Free Trade Agreement (CAFTA) holds the potential for an increment of economic growth above that of current policies.

**Table 1. Delphi results for Caucasus Cooperation**

Round	N	Mean	s.d.	Median
1	9	3.1	1.90	2.5
2	9	3.0	1.14	2.5

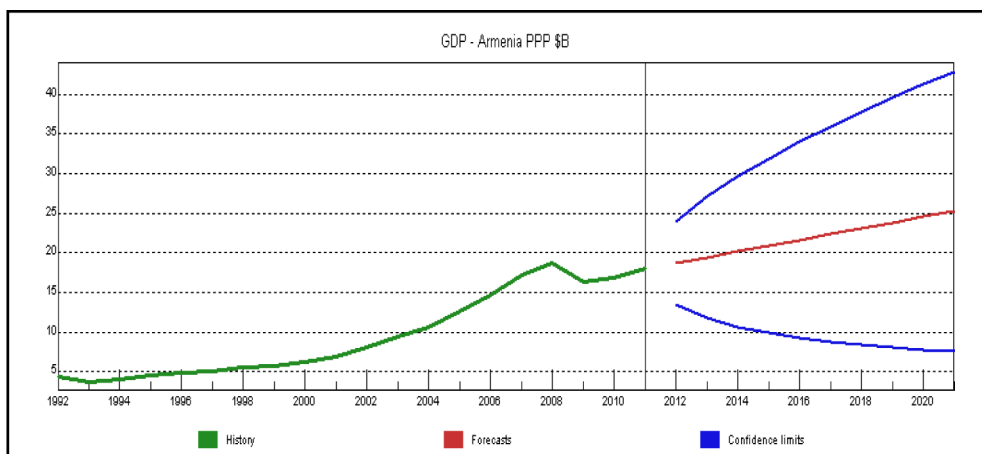
Note. Rounds 1 and 2 were conducted in November, 2011, and January, 2012, respectively.

**Table 3. Scenario value matrix**

Criterion	Favorable	Neutral	Unfavorable
Leadership	5	0	-5
Globalization	5	0	-5
Russia	5	0	-5

**Table 2. 10-year forecasts assuming growth rates of 2 and 4 percent for 3 nations combine**

Base	135.5		
	4%	6%	Difference
2012	141	144	3
2013	147	152	6
2014	152	161	9
2015	159	171	13
2016	165	181	16
2017	171	192	21
2018	178	204	25
2019	185	216	31
2020	193	229	36
2021	201	243	<u>42</u> 201



**Figure 1. Armenia GDP actual 1992-2011 and 10-year forecast 2012-2021.**

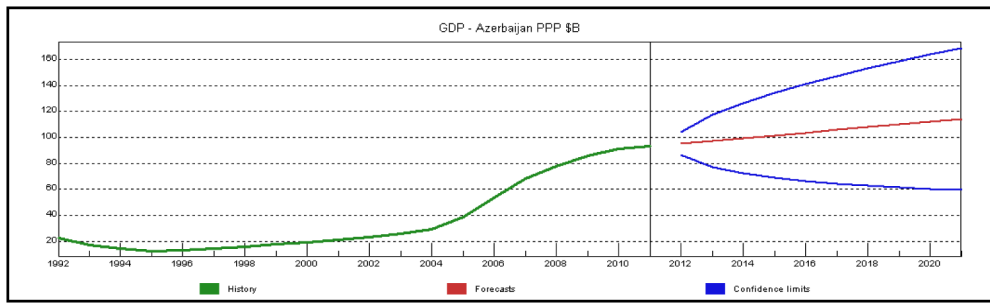


Figure 2. Azerbaijan GDP actual 1992-2011 and 10-year forecast 2012-2021.

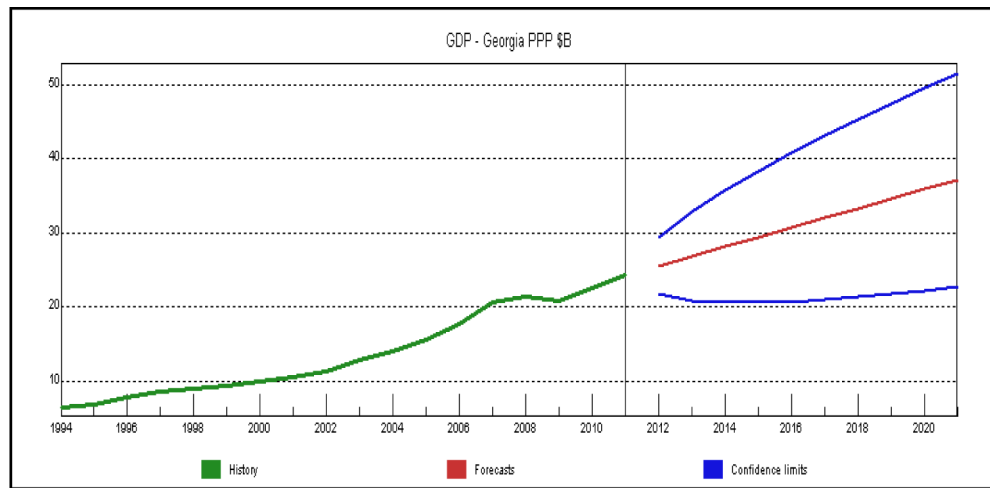


Figure 3. Georgia GDP actual 1992-2011 and 10-year forecast 2012-2021.

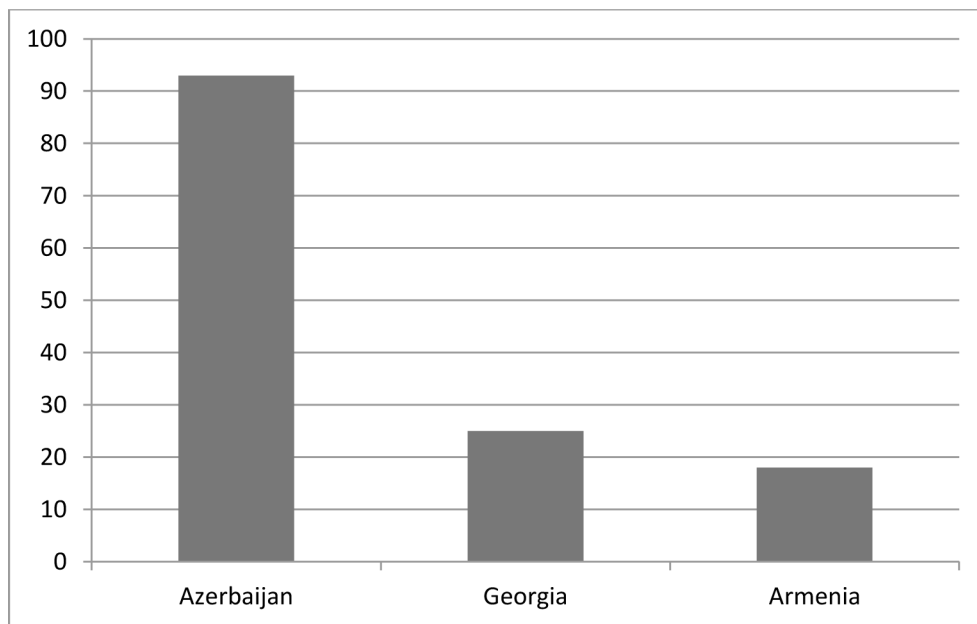


Figure 4. Relative sizes of 2011 GDP, Azerbaijan, Georgia, and Armenia (billions of United States dollars, purchasing power parity).



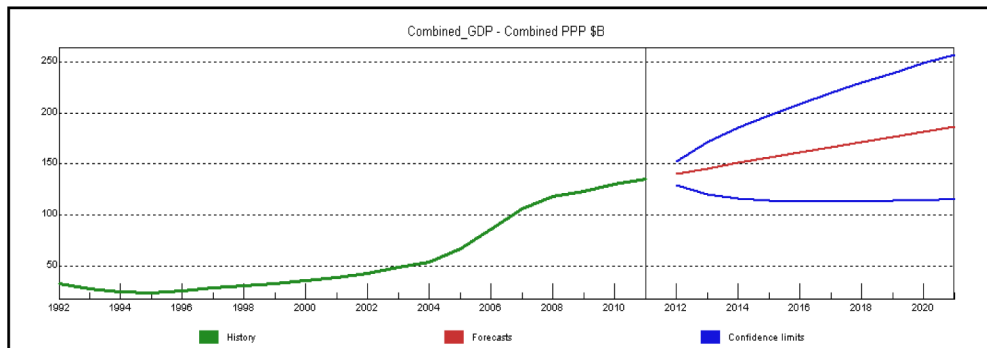


Figure 5. Three-nation combined GDP actual 1992-2011 and 10-year forecast 2012-2021.

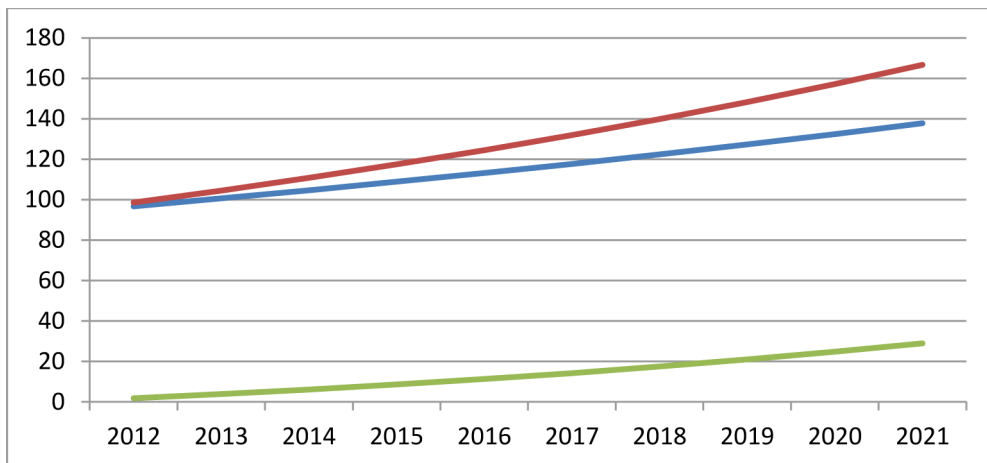


Figure 6. Three-nation combined GDP 10-year forecast 2012-2021, using 2 growth rates.

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# South Korea’s Innovative Human Resources Development Policies

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## Abstract

Since 1950’s South Korea achieved significant economic development. Korea has transformed itself from a foreign aid receiver economy into a newly industrialized, highly networked and well educated information society during the past 60 years. The government functioned as a developmental state till 1990’s. However with the arrival of the knowledge-based economy, government changed its role as a facilitator of innovation. During the early years of economic development main focus of government policies regarding human resources development was to decrease illiteracy, increase vocational training, developing skilled human resources in technical sciences, engineering and construction. Later the patterns of human resources development have also been changed. Previously, jobs were mainly created in the manufacturing industry. But today, the main sources of new jobs are innovation-related activities, such as investments on new technologies. This article will investigate the South Korea’s human resources development policies that can support sustainable innovative economic development.

**Keywords:** Human resource development, government policies, economic development, South Korea

**JEL Classification:** J24, J50

## Introduction

Korea has managed to become a developed, innovative country from a poor, agrarian country since the end of Korean War in 1953. Today, it has lots of multinational companies that are competitive in semiconductors, consumer electronics, automobiles, iron and steel production. Besides successful government policies, sophisticated human resources development strategies were an important element in industrialization process.

As well as physical resources, human resources are also very important for economic development. Nations that have oriented, trained and employed their human resources properly can gain competitive advantage and can retain power. Korea’s industrial structure was mainly based on agriculture and there were only few Japanese established factories and production facilities. There were neither underground resources nor qualified human resources in the country. It was destroyed, devastated, and has left most of its production facilities in the North Korea.

Korean government has followed import substitution and export oriented policies following the proclamation of the republic and the end of the Korean War. Korea had an advantage of having plenty of cheap and unskilled workforces ready to work for labor intensive simple industries like textile. Cheap manpower and basic industries had helped Korea to advance into industrialization (Chung, Lee and Jung, 1997).

However, as the structure of the country’s industrial production moved from simple labor intensive industries to capital and knowledge intensive industries, it was needed a well

educated, qualified workforce that have capable of understanding advanced technology. Tangible physical resources replaced with intangible resources like, technological knowledge, know-how and analyzing capacity that were directly related with human resources. Conditions for industrialization have been changed over time (Kim, 2005).

Evolution of human resources development policies and applications can be analyzed in three periods. Period 1 is characterized by high population growth, gradually increasing economic activity participation, high unemployment rates and unlimited cheap labor supply and covers the period 1950s to 1980. Period 2 characterized by manufacturing of capital and technology intensive products like cars, ships, electronics, computers, and semiconductors. Labor disputes and the organization of labor unions became the cause of rapid increases in wages during that period. As a result, there was a need for highly skilled and qualified workforce. Hence, this period is marked by the realization of labor shortages and the growing demands for highly skilled workers. Period 3 started with the end of the financial crisis in 1997. It was notable that high unemployment rates coexisted with labor shortages in 3D (difficult, dangerous, dirty) industries, and there was need for highly skilled research personnel, engineers and technicians for high tech industries (Kim & Rhee, 2007:132, Ho, 2005).

Recently increasing importance of newly developing nations like China and India began to restrict Korea’s competitiveness and price advantages. Globalization and important developments in information technologies, development processes of nations to industrial societies affected





*Table 1. Transformation of Korean Economy and Human Resources Development Policies*

<p>1960s to 1980s</p>	<p>*From Import Substitution to export driven economy</p> <p>*From simple production to automation</p> <p>*From labor intensive production to capital intensive production</p> <p>*From Agricultural products, textile and chemical industry and heavy industry</p>	<p>*Expansion of primary and secondary education</p> <p>*Focus on Vocational training in secondary grades</p> <p>*Abundant manpower with simple skills</p>
<p>1980s to 1990s</p>	<p>*From middle sized products to Steel and Shipbuilding</p> <p>*From imitation to innovation</p> <p>*Structural adjustments</p> <p>*Establishing infrastructure</p> <p>*Revising necessary legislations for industry</p>	<p>*Legislation for industrial vocational training</p> <p>*Establishment of vocational collages and technical schools</p> <p>*Expansion of university education</p>
<p>1990s through the present</p>	<p>*From OEM manufacturing to Technology production</p> <p>*From classical technological products to information technologies, biotechnology, environmental technology and nanotechnology</p>	<p>*Focus on education quality</p> <p>*High public investment in education</p> <p>*Spread of lifelong learning opportunities</p>

the quantitative approach of industry. Hence qualitative standards have become important. The importance of innovative human resources development policies and strategies has increased. Knowledge based new technologies play an important role in the new direction of economic growth for gaining competitive advantage over other nations (OECD, 2009).

Creative and capable experts are working to promote technological advancement through invention and innovation. Rather than quantity and unproductive long working hours, quality, creativeness and technological ability are gaining importance in the knowledge society (Hamel, 2005). As companies have begun to emphasize profitability over sales growth, fundamental changes have occurred in the economy, such as lay-offs, the increasing use of irregular workers, and the increased preference for experienced workers since Asian crisis in 1997. Korean economy has

transformed into a new managerial and economic system where the performance and quality of employees are more important than seniority or quantity (Kim and Bae, 2004). Understanding this fundamental change, the Korean government transformed the Ministry of Education into the Ministry of Education and Human Resources Development and upgraded its head to deputy prime minister.

Industrialization, development and productivity of nations come from different resources that they have like physical resources, financial resources, information and human resources. Performance or success of national industrialization efforts and innovation policies is a result of quality, quantity and management of these resources (Sarewitz, 2003:4). Especially human resources developments is more important than others because it has a decision making power on other resources.

If human resources have a chance of getting better

education and training, which focuses on skills improvement, competitiveness of organizations will be enhanced. In a similar way, HRD at the national level refers to the government’s efforts to increase level of the economic and social status of country by setting innovative policies that allow knowledge enhancement, strengthening of the linkage between the education institutions and the industry, providing vocational education opportunities, establishing lifelong learning centers and guiding and counseling for employment opportunities (Paik and Kim, 2005). In relation to Korea’s national HRD policy, formal education for development of human resources, vocational education and training for employees working in the industry, innovate higher education system helping employees to graduate from higher educational institutions are important issues that will be discussed in this paper.

### 1. General Education

The qualities of national human resources are mainly determined by compulsory education provided by schools, their curriculum. Lack of natural and financial resources has directed Korea to search for alternative solutions in order to reconstruct country and develop itself. Alternatives for gaining competitive advantage over other nations was to use its abundant cheap workforce in price sensitive, non-technology required, simple assembly production facilities and to educate nations human resources for future technology intensive industries.

Korea was dependent on foreign aids mainly from USA for reconstruction efforts and this caused insufficient allocation of budget for education from government side. For example, the share of education in the total government budget was 2.5 percent in 1951. According to statistics, total expenditures for education were estimated 8.8 percent of GNP, in 1968 and increased to 10.8 percent of GNP, in 1990. The most part of education expenses was financed by private sources or parents. For example, from the period of 1968 to 1990 more than 60 percent of total education expenditures were paid by private sources. Generally government expenditure accounted only one third of the total expenditures in education, the remainder being borne by parents (Kim, 1997). This can be explained by Korean’s zeal and respect for learning since early times of its history. Confucianism highly evaluated education and self-development through education. The only way for ordinary people to be respected as a gentleman and to promote to higher classes was becoming a government official. In order to pass bar exam and get admittance to high bureaucrats’ education academy was to look for education opportunities (Grayson, 2002).

There are also several factors other than Confucianism that might have helped development of modern education in Korea during the early years of development. Some

studies mentioned the contribution of Japanese colonial rule from 1910 to 1945. Others mentioned USA army military government from 1945 to 1948 and American aid after Korean War for the expansion of educational facilities. It has been estimated that about two-thirds of the operating costs of running the primary schools were financed by the U.S.A. Governmental education strategies for national economic development were the most important cause for later years (Kim, 1997, Yang 2004).

Education fewer continued after the Korean War and enrolment at the various levels of the compulsory education system has increased rapidly. Elementary school enrolment has grown more than 5 times and high growth rates can also be seen in secondary schools and high schools. For example, registered high school students increased from 160.000 in 1953 to nearly 2.000.000 in 1990s. 87 percent of adults had never received formal education in 1948. However, 56 percent of adults had obtained secondary education in 1960 (Kim, 1997). Adults’ rate with no formal schooling rate dropped to 8 percent in 1990. The average years of school attendance of the population aged 15 and above increased from 4.2 years in 1960 to 9.9 years in 1990, more than the average of the OECD countries as a whole (Lee, 1996).

The school system in Korea consists of six years of elementary school, three years of middle school and three years of high school. High education consists of two years of college education and four years of university. The higher education institutions are divided into general colleges, universities, education universities, technical and engineering universities cyber universities and Open University. Primary school to middle school education is compulsory for all Koreans. High schools are divided into general high schools, vocational high schools, science high schools, foreign language high schools, art high schools, physical high schools and alternative education high schools. There are 20.408 schools from kindergarten to universities, 11.337.372 students attending those schools and 551.358 teachers hired by public and private schools in Korea as of 2011.

Korean level of education is reached an important level just after industrialization attempts since 1960s. There are several international assessment tests that measure the scores of students in cognitive skills such as numeracy, literacy and scientific reasoning. International Association for the Evaluation of Educational Achievement (IEA) measured scores of participating 19 countries in 1991 and Korean students were the best performers in the science subjects and second in mathematics tests after Chinese students (Paik and Kim, 2005). A more recent test measured the reading, mathematics and science scores of OECD countries. Korean student’s scores were in between 1-2st level in reading and mathematics abilities and 2-4 levels in science abilities. There was a gradual increase in the scores of Korean pupils since 2000 (MEST, 2011)

**Table 2.** International comparisons on each subject for selected OECD Nations (Unit: ranking)

Nation	Average	OECD Ranking	Nation	Average	OECD Ranking	Nation	Average	OECD Ranking
Korea	539	1-2	Korea	546	1-2	Finland	554	1
Finland	536	1-2	Finland	541	1-3	Japan	539	2-3
New Zealand	524	3-4	Switzerland	534	2-4	Korea	538	2-4
Japan	521	3-5	Japan	529	3-6	New Zealand	532	3-6
Australia	520	3-6	Canada	527	4-6	Canada	529	4-7

Source: MEST (Ministry of Education Science and Technology), 2011

**Table 3.** Advancement Rates of Graduates (Unit: %)

Classification	2000	2007	2008	2009	2010	2011
Elementary to Middle	99.9	99.9	99.9	99.9	99.9	99.9
Middle to High	99.6	99.6	99.7	99.7	99.7	99.7
General High to University	83.9	87.1	87.9	84.6	81.5	75.2
Vocational High to University	42.0	71.0	72.9	73.5	71.1	63.7
Total	68.0	82.8	83.8	81.9	79.0	72.5

Source: MEST (Ministry of Education Science and Technology), 2011

### 1.1. Expanding Higher Education

Another indication of schooling is the advancement rate of graduates. As it can be seen from the table 3 advancement rate from elementary to middle school and from middle to high school is around 99 percent since 2000s. Korean government has also relaxed the regulations restricting the establishment of colleges and universities, loosened student admittance quotas for existing universities and allowed them to admit more students. Consequently, university admittance has become easier and has become more popular, even for vocational high school graduates, and general education level of the human resources has

increased. (Ho, 2005). For instance, advancement rate of high school students to universities was only 27.2 percent in 1980, but after regulations this rate grew to 82.8 percent in 2007. If we compare the university graduation rates among 25-34 years old persons in OECD countries, Korea has a rate of 98 percent which is more than all of OECD countries in 2011. Table 4 also shows the impact of education on wage differentials. If the wage level of high school graduates is set to 100 percent university graduates get approximately more than 50 percent wage than high school graduates. The rate was nearly 200 percent in 1980 and decreased gradually. That gradual decrease is also an indication of abundant university graduated workforce in Korean society.

**Table 4. Wage Differentials by Educational Level**

Year	Middle School	High School	College & University
1980	78.5	100	200.7
1985	81.8	100	198.4
1990	89.3	100	165.0
1995	92.5	100	142.0
2000	91.3	100	150.1
2003	84.2	100	151.7

**Source:**

- 1) Korean National Statistical Office, Annual Report on Economically Active Population
- 2) Ministry of Education & HRD, Statistical Yearbook of Education.

**Table 4. Rate (%) of University Graduates According to Ages in Selected OECD Countries**

Country	25-64	25-34	35-44	45-54	55-64
Korea	80	98	94	71	43
Canada	88	92	91	87	80
USA	89	88	88	89	89
France	70	84	77	64	55
England	74	82	76	72	64
Sweden	86	91	91	85	76

**Source:** OECD (2011), *Education at a Glance*, [www.oecd.org/edu/eag2011](http://www.oecd.org/edu/eag2011) (Accessed at 28 April 2011)

## 2. Occupational Composition

It is also worthwhile to look for the change in employment composition by occupation in Korea in order to understand the transformation of economy. According to Table 5, as the main sectors and occupations has drastically changed since 1960s. 66.7 percent of the total workforce was farmers and fisherman in 1960 and this rate decreased to 13.9 percent in 2000. Rapid increase in the share of white collar jobs like professionals, managers, clerks and services is not only the indication of economic development but also pointing out the advanced level of human resources. Increase in the rate of craftsmen and operators

is also showing the investment made on manufacturing sector since 1960s and impact of vocational education on workforce.

Global competition, rapidly changing technological environment increased the need for skilled, technologically competitive researchers and workers. Korean government set a policy named ‘the Next Generation Growth Engines of Korea’ to develop major high technology required areas, IT-Information Technology, BT-Bio Technology, NT-Nano Technology, ET- Environmental Technology, ST-Space Technology, CT-Cultural Technology, and implemented support policies to educate experts on those areas.

As of 2010, according to High tech products exporting

nation's index, Korea is in 5th place and in better position with respect to Japan (5th), France (9th), Nederland (9th), and England (10th). Another indication showing the level of quality of Human resources is the number of researchers working for government research institutes, universities and industries. As of 2010, there were 345.932 research personnel hired by above organizations and 81.442 (23.5%) of them has PhD degrees (MEST, 2010).

### 3. Vocational Training and Education

The export oriented government policies was the driving force Korean industrialization and this led to need for price competitive products in the early years of development. The high performance needs of labor and skill-intensive export industries caused the demand for skilled employee needs and increase in real wages of labors, which, in turn, led to focus on education enthusiasm in Korean society. The government followed various human resources development strategies to develop skilled workforce. At the early years of industrialization from 1950s to 1970s, the government focused on expanding vocational education and training in order to meet the needs of less skilled workers of industry, and to supply technician needs for operating and maintaining production facilities. However, more support was directed to two-year junior technical colleges, colleges and universities for a supply of skilled workers and technicians.

The development of vocational education institutes in Korea is significant. The government established 26 public vocational training institutes just after the legislation of vocational training law in 1967. Approximately 3 percent of workforce was trained in these institutes in 20 years. Government also allocated budget to private companies, that met vocational training standards, to train their own workers. Later, government made a law that enforced in plant training mandatory for all industrial facilities with 300 or more workers in 1974. Companies established their own vocational training system to train at least 10 percent of their skilled workforce every year. The vocational training system was an important tool that helped to development of qualified workforce needed for export oriented economic development and catching up global standards later years (Ho, 2005).

Existing technical high schools were also modified and operated as specialized schools. Vocational education curriculum was re-arranged and standardized. Schools are separated from academic high schools in late 1960s. During the 1970-1980s, the Korean government focused on establishment of capital intensive heavy and chemical industries and industrial structure of the country has evolved. In order to meet the new challenges in industry and need for technically skillful and experienced human resources government introduced a trial system known as 2+1 sys-

tem, offering students two years of theoretical education in school and an year of training at an production facility. As Korean industries began to develop into a high technology, Ministry of Education and Human Resources implemented a plan for reforming vocational education system with the aim of improving qualitative aspects, not for only supplier of industry. This reform plan proposed to transfer the vocational education system from a system of developing low-skilled workforce to a system of developing highly competitive workforce through new technology oriented curriculum diversification. Other goal was to transform from a system led only by the ministry to a system involving the participation and interaction of industries and related other government and private agencies in 2005 and the plan will be continue till 2020 (Lee, 2005).

#### 3.1. Vocational Training Support Programs for Individuals

Korea currently offers a wide diversity of policies for vocational education and training for workers and companies separately. For example, the training fee support system provides employees support for attending training courses of their choice on the condition of attending at least 80 percent lectures. Another program for employees is the long term student loans at low interest rate. The aim of the support program is provide technical educational opportunities to labors that had not have a chance to attend university in his/her earlier life and to develop more knowledgeable human resources. The paid leave training system allows employees who have employment insurance to attend vocational training programs. Corporations with less than 150 full-time laborers are eligible for a government support, to be used in paid leave up to 14 days and 60 hours of vocational training during the period of leave. Government offers vocational capacity-building aid for youths and adults aged 15 and over with an aim of enhancing the employability of the unemployed and non-economically productive population. Job seeking youths and adults aged 15 or older are eligible to attend vocational education courses and supported by training expenses, transportation fees and meals (Kuczera, Kis and Wurzburg, 2009).

#### 3.2. Certification of Human Resources

The Korea Technical Examination Corporation under the Ministry of Science and Technology organized all technical qualification examinations required to get certifications for technical jobs till 1980s. With the amendment of the National Technical Qualification Act in 1981, administrative authority was given to Korean Vocational Training Management Corporation that was established by Ministry of Labor. Also, a review committee was established for setting the rules for getting technical certificates. Private technical qualifications were prohibited, similar examinations

were unified and penalties regarding the misuse of certificates were increased. Re-registration became compulsory after a certain period of time. After 1997 Asian Economic crisis vocational qualification system has been diversified and publicly authorized private qualification system was introduced. There were approximately 1300 technical certificates given by national organizations and private affiliated centers. Everyone who wants to get a technical job in industry needs to get certificate from related organizations. Sample certifications are as following from 1200 certifications: industrial safety instructor, traditional food expert, cultural property repair engineer, mental health nurse, transportation safety manager, rescue worker, radioactive emergency manager, amateur radio engineer, lifeboat operator, navigator, insurance agent, and damage appraiser and so on (Lee, 2005).

#### **4. Lifelong Education**

The Lifelong Education Act of Korea defines lifelong education as all types of educational activities that occur outside the compulsory regular school curriculum. These activities include education for diploma, literacy education, vocational education, liberal arts education, culture and arts education. Lifelong education providers, government agencies, non-government organizations, corporations, private teaching institutes, universities, culture centers, museums, refers to organizations that have been approved by and registered to central or local government agencies. Lifelong education centers are largely divided into diploma or degree-conferring centers and non-diploma or degree issuing centers. Diploma or degree issuing lifelong education centers include special classes for work-study students, in company universities and technical colleges, cyber universities and special graduate schools. Non-diploma or degree issuing centers are affiliated institutes, such as facilities affiliated with schools, companies, civic groups, private institutes and lecturing centers. Some selected lifelong centers and their characteristics are explained below (NILE, 2009).

##### **4.1. Lifelong Education Schools**

These schools are designed for school dropouts, work-study students, and adults who have not been able to complete their compulsory school education with aim to give a second chance to get diplomas and increase their work related skills. They offer three semester educational curriculum that can be completed in 2 years. They offer specialized curriculum in selected fields, such as general liberal arts, information processing, automobile repair, trade, nursing, emergency aid, security guard service, web design, and animation (Kuczera, et al. 2009)

##### **4.2. Distance Learning Universities**

Distance learning or cyber universities are representative providers of online lifelong learning in Korea. They are largely depending on student tuition for operation more than government support. As of 2011 there were 18 cyber universities in operation, offering education for approximately 107,000 enrolled students. Distance learning universities are generally attended by adults who are working for an organization. They provide an opportunity for those who want to advance in their careers. The Korea National Open University is another provider of both online courses and traditional offline courses offered at 14 regional campuses (MEST, 2011).

##### **4.3. In-company University**

A majority of large corporations in Korea have their own staff training centers. Korean labor law and education law also allow organizations with more than 200 employees, to establish and operate lifelong education centers that provide certificates and diplomas and principally all educational expenses provided by organization. If ministry of education approves in-company learning center's education curriculum, companies can also issue diplomas equal to undergraduate, junior college degrees. As of 2011, only Samsung cooperation was operating an in company university offering undergraduate courses for its employees (Lee 2005).

##### **4.4. Customer Oriented Lifelong Education Facilities**

Another form of lifelong education is company affiliated facilities operated by a corporation with at least 200 employees. They offer lifelong education programs for the organization's customers. Examples of those are culture centers located within department stores. They offer hundreds of courses from cooking classes to language courses. Non-government organizations make use of unused public facilities like closed schools and also provide courses in compliance with their establishment missions.

##### **4.5. University Lifelong Education Centers**

Most of Korean universities are also operating lifelong education centers for the aim of serving local society. They are highly attended by university graduated adults because its high level courses taught by academicians.

##### **4.6. The Academic Credit Bank System**

The Academic Credit Bank System is administered with an aim of providing undergraduate university degrees to individual learners who have accumulated required

*Table 6. Lifelong Education Centers and Number of Students*

School Type Learning Centers	Lifetime	980	723.069
Secondary or Middle School Attached Centers		12	3283
Graduate Scholl Centers	Attached	388	883.196
Company Centers	established	298	1.236.890
NGO Established Centers		386	169.401
Media Attached Centers		203	119.007
Government Centers	Established	384	721.917
Private Study Academies		781	23.123.612

*Source: MEST (2010b)*

amount of credits offered by government affiliated public and private institution like junior colleges, universities and lifelong education centers. An individual can attend separate lectures at different institutions and different time periods. If he/she can successfully gains required amount of credits in order to complete an undergraduate course he/she has right of getting an undergraduate diploma issued by ministry of education and human resources. As of 2008, approximately 260,000 Korean learners earn a gross number of 16,309,000 credits per year, on average. Academic credit bank system functions as bridge between traditional and non-traditional ways of education. They serve to individual learners self-development desires. They are highly popular for those who need officially approved undergraduate diplomas, traditional and non-traditional ways of education (<http://eng.nile.or.kr/> accessed at 28 April 2011).

## Conclusion

South Korea achieved remarkable economic development and transformed itself from a foreign aid receiver agrarian economy into high technology producer, highly networked and well educated information society since 1960s. The skills, technical knowledge, experience and overall capabilities of human resources required by a competitive, high technology oriented, rapidly changing industry are greatly different from those previously required in an industrial society. In the earlier years of economic development efforts, Korean industries' strategy for production was mainly imitation of foreign products. In such kind

of industrial environment, there were no highly required abilities. Because research, knowledge and experience for new products were already acquired by early industrialized countries and Korea's role was only taking and re-producing it. However, Korea became a high technology producing country and requirements for its new role have changed. Especially technology and knowledge producing abilities of such kind of country are highly dependent on human resources that it has. New technological frontier role requires not only principal basic abilities, such as reading, writing, and numeracy, but also analytical and critical thinking abilities, communication skills, information literacy, and problem solving capacity.

Because of rapid changes in technology, industrial structures and world markets the importance of lifelong learning and vocational education has increased. Workforce needs to upgrade their knowledge about work processes in a knowledge based society. Korean government established and nurtured a good lifelong supporting system in order to provide re-education and training opportunities to its human resources. Government also offered various supporting mechanism through financial resources and legal structures for vocational education. Human resources have various alternatives for acquiring new technology and diverse range of expertise. Korean transformed itself to a learning society through national education system, vocational education programs and lifelong education opportunities provided by public and private sector. For example, total number students attending schools from kindergarten to universities was 11.337.372 (23 % of Korea's popula-

tion) and 27.794.000 (56 % of population) person attended various types of courses in 4193 lifelong learning institutions spread over country in 2011.

Korea is a good example for newly developing countries. In spite of lack of financial and natural resources, nation's determination for developing and educating its human resources paved the way for a strong economic and industrial structure.

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# Regression Analysis of Stock Returns By Filtering with Simple Moving Averages

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## Abstract

Stock market prices are affected by industry performance, company news, and world news, political and economic changes. News from company and news about world events play an important role in the direction of stock markets. The analysts have different opinions about estimation of stock prices and stock returns. Some techniques have been used for filtering series in time series analysis, using these methods can give more accurate estimations of stock returns before using regression methods to predict stock returns.

**Keywords:** Stock Prices, Regression Analysis, Filtering, Simple Moving Averages  
**JEL Classification:** G17, C13

## Introduction

Prediction of stock prices is not entirely data driven of company’s earnings, P/E ratios, amount of dividends etc. Some people believe that it is not possible to predict how stock prices will change and some people believe that by looking at past prices and movements, by analyzing them it can be predicted. There is no certain way to predict the future stock prices so the best we can do is a filter that can give the more accurate results with minimal residuals.

There are millions of data in financial market entering analyzing process of prediction of stock returns. These data are often added to data bases with some outlier prices. Pre-filtered data causes less accurate prediction of future stock prices’ movement. Filtering stock prices help to get smooth price action and filter out the noise.



**Figure 1:** Comparison of Google Inc. and S&P500 as an example of some outlier price movements

## Analysis

Simple moving average (SMA) is the unweighted mean of the past  $n$  data. SMA can be used in order to smooth out local fluctuations. For example  $x_1, x_2, \dots, x_n$ ,

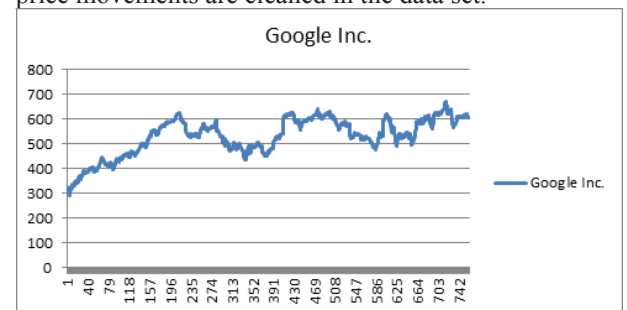
$x_{n+1}, x_{n+2}, \dots$  are data of previous prices of a stock. By applying SMA the new series can be obtained as follow:

$$X_{n+1} = \frac{1}{n} \sum_1^n x_i$$

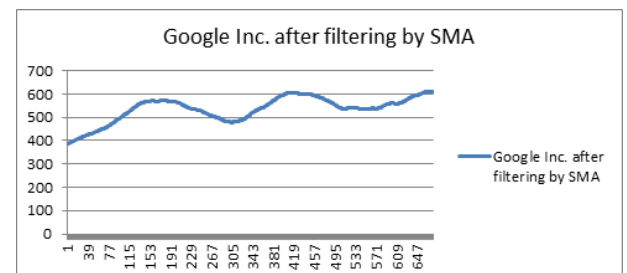
$$X_{n+2} = \frac{1}{n} \sum_2^{n+1} x_i$$

$$X_{n+k} = \frac{1}{n} \sum_k^{n+k} x_i$$

Figure 2 shows the daily stock price movements of Google Inc. between 2009 and 2012. To remove the noise SMA is applied. In figure 3 easily can be seen that outlier price movements are cleaned in the data set.



**Figure 2:** Daily stock prices of Goggle Inc. between 2009 and 2012



**Figure 3:** Daily stock prices of Google between 2009 and 2012 after filtering.

In the following steps data of the daily S&P500 indexes between the same time interval as Google Inc. To understand whether is there real-world relation between the S&P500 index and Google Inc. stock prices the regression analysis will be used. By using the regression the daily data will be taken and the last 30 days observed stock prices and estimated stock prices will be compared without filtering.

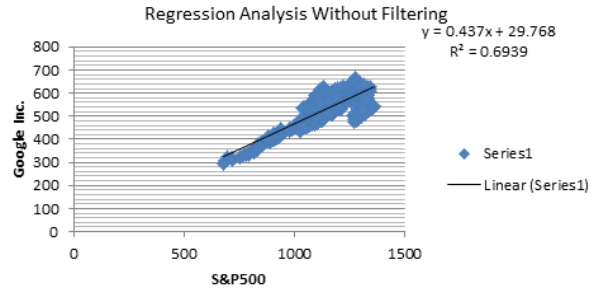


Figure 4: Regression Analysis of Google Inc. daily stock prices and S&P500 daily indexes without filtering

Table 1: Shows the observed Google Inc. daily stock prices and estimated by regression analysis without filtering.

Google Inc. observed stock prices	Estimated prices
568.1	605.91391
579.98	604.99621
577.69	603.54537
580.11	603.28317
580.83	608.38733
585.11	609.02098
596.33	617.4813
609.09	617.23221
606.77	618.42085
609.85	619.69252
611.46	620.56215
605.91	616.49368
612.2	620.48349
609.76	619.9285
605.56	616.75151
606.52	623.22348
604.64	624.61751
614	625.04577
607.94	623.05742
606.11	625.59202
609.9	626.58838
609.31	627.39683
618.39	629.40266
618.25	626.56216
622.4	630.23733
621.25	628.28831
614.25	625.97221
604.96	616.80832
606.8	620.85931
607.14	626.66267

In the second phase the average of Google Inc. daily stock prices and S&P500 indexes will be calculated for 86 data points and SMA method will applied in the time interval between 2009 and 2012. After that the last observed Google Inc. stock prices and estimated prices by using regression analysis with filtering will be compared.

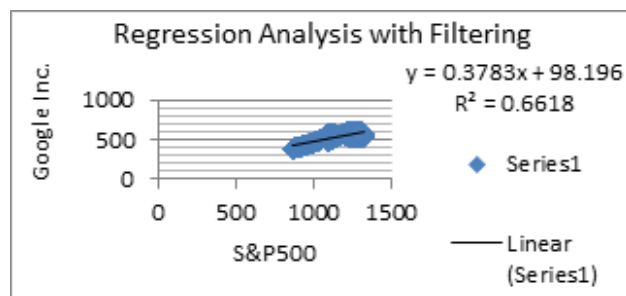


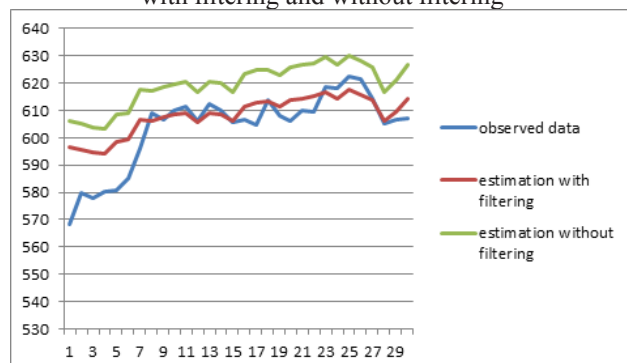
Figure 5: Regression Analysis with Filtering

Table 2: Observed daily Google Inc. stock prices and estimated stock prices by using SMA

Google Inc. observed stock prices	Estimated prices
568.1	596.55654
579.98	595.76274
577.69	594.50778
580.11	594.28098
580.83	598.69602
585.11	599.24412
596.33	606.5622
609.09	606.34674
606.77	607.3749
609.85	608.47488
611.46	609.2271
605.91	605.70792
612.2	609.15906
609.76	608.679
605.56	605.93094
606.52	611.52912
604.64	612.73494
614	613.10538
607.94	611.38548
606.11	613.57788
609.9	614.43972
609.31	615.13902
618.39	616.87404
618.25	614.41704
622.4	617.59602
621.25	615.91014
614.25	613.90674
604.96	605.98008
606.8	609.48414
607.14	614.50398

To analyze the accuracy of the estimation and to figure out which estimation method gives better result, they will be compared on the same graph.

Figure 6: Comparison of observed data, estimation with filtering and without filtering



## Conclusion

The works in this article show that there is a real-world connection between stock prices and S&P500 index. There are many theories about predicting stock prices, stock returns and possible future price movements. Without mentioning about these theories the relation between stock prices and S&P500 index has been showed. Linear regression analysis is used to show possible relations. In the first phase estimation is done with raw data. In the second phase Simple Moving Average (SMA) is used to filter out noise from the data and estimations are calculated after this filtering by using linear regression analysis. The result shows that filtering with SMA gives better and more accurate estimations.

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# Comparative Analysis of Economic Factors Affecting Export and Import in the Countries of the South Caucasus

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## Abstract

This study examines impacts of economic factors affecting exports and imports in the South Caucasus region with a concentration on Armenia, Georgia, and Azerbaijan. After the collapse of the Soviet Union these countries faced economic, political and legal changes. There was a shift from a command economy toward a market economy and after gaining independence Azerbaijan, Georgia and Armenia are making the transition from command economy toward a market economy. A literature review was carried out in order to reveal how previous research has treated this topic. A quantitative research strategy with a descriptive design was employed and regression analysis was carried out. The regression analysis revealed the relationships among Gross Domestic Product (GDP), inflation and the exports and imports were highly significant for three South Caucasus countries. However, the relationship between exports, imports and Foreign Direct Investment (FDI) was not significant.

**Keywords:** export, import, FDI, GDP, inflation.

**JEL Classification:** E23, E31, F02

## Introduction

International trade has always been at the heart of the debate over the benefits and cost of free trade. This phenomenon is also quite a crucial one for the whole modern world, including the three countries of the South Caucasus. Therefore a need emerged to explore within such aspects. This article is structured in the following manner: the paper starts out with an introduction that presents the problem to be addressed and the strategy to be followed. The second section starts with the literature review and introduces the different concepts central to this paper. Section three relates to analysis of data and presents the results of a regression model that will examine the impact of FDI, GDP and inflation on exports and imports. The last section consists of a discussion and addresses limitations and directions for further research.

### 1. Exports and Imports

Export and import have always been widely discussed and researched over the history of economics. Gregory Mankiw (2004) defines exports as goods and services that are produced domestically and sold abroad, imports goods and services that are produced abroad and sold domestically. The first theory of international trade comes from mercantilists that emerged in the 16<sup>th</sup> and 17<sup>th</sup> centuries. Their main postulate was related to the premise that national wealth and power were best served by increasing exports and collecting precious metals in return (Free Online Ency-

clopedia). In other words the Mercantilists were advocating that exports should be encouraged, but imports should be discouraged. In 1776, Adam Smith in his book *The Wealth of Nations* proposed the next theory of international trade, absolute advantage, and attacked the mercantilists' view of international trade (Economic Theories). Adam Smith claimed that invisible hands of the market economy, rather than the government policy, should determine what a country exports and imports. In the 19th century English economist David Ricardo took Adam Smith's theory of absolute advantage further and explained what might happen if a country has an absolute advantage in the production of all goods. This theory is known as a comparative advantage. In the 20th century two Swedish economists Heckscher and Ohlin introduced another theory of international trade, in which they argue that a country's comparative advantage depends on factor endowments (such as land, labor, and capital) rather than on labor productivity as opposed to Ricardo's theory. In other words, a capital-abundant country will export capital-intensive goods, while a labor-abundant country will export labor-intensive goods. In 1953, the Heckscher–Ohlin theory was empirically tested by Noble Prize winning economist Wassily Leontief, who found that the US (the most capital-abundant country of that time) exported more labour-intensive commodities than capital-intensive goods. Therefore the result of his research is known as the Leontief paradox (Hill, 2009).

In this research the exports and imports of goods and services for Azerbaijan, Georgia and Armenia for the period of 1990-2010 will be described. As it can be seen



from Figure 1 after 1994 there was constant increase in exports; however, since 2004 a sharp increase in exports was observed for Azerbaijan. That can be explained due to large and growing oil exports in Azerbaijan. At the same time there was growth in the non-oil energy sector, such as construction, banking and real estate, in 2008, however there was a decrease from 2008 till 2009 due to the impact of financial crisis (Azerbaijan Review, 2010). Since 2009 Azerbaijan, Georgia and Armenia show a positive trend.



Figure 1. Exports for Azerbaijan, Georgia and Armenia.  
Data Source: World Bank

Figure 2 compares imports of goods and services for the countries of the South Caucasus.

All three countries have been increasing their imports since 1995. There was a sharp increase in imports for Azerbaijan since 2001. Armenia was doing worse than the other two South Caucasus countries. However due to the financial crises there was a decline in 2008, but since 2009 a positive trend can be observed.

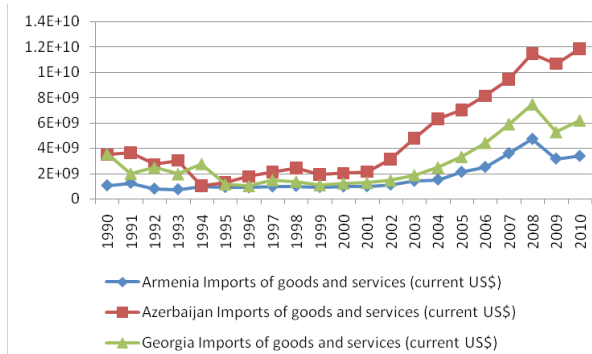


Figure 2. Imports for Azerbaijan, Georgia and Armenia.  
Data Source: World Bank

## 2. FDI (Foreign Direct Investments)

Foreign direct investment is defined as an investment of foreign assets into domestic structures, equipment, and organizations. It can take the form of Greenfield investment, which involves the establishment of a new operation in a foreign country. The second form of FDI is related to

acquiring and merging with the existing firm in the foreign country (About Economics). The effect of foreign direct investment on growth has been surveyed and proved in the literature as an important promoter of growth in its own right (Akinlo, 2004; Buckley et al., 2002; De Mello 1997, 1999; Borensztein et al 1998). The graph presents FDI dynamics for the three countries of the South Caucasus.

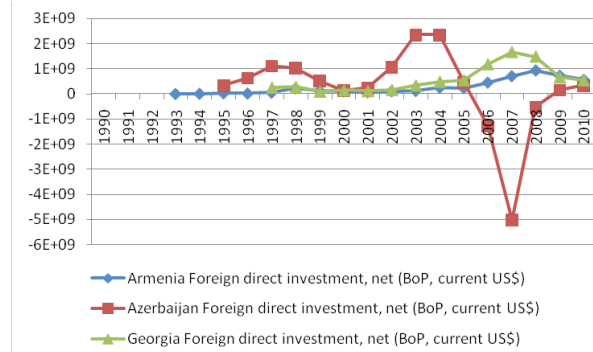


Figure 3. FDI for Azerbaijan, Georgia and Armenia.  
Data Source: World Bank

From Figure 3 it can be seen that the level of FDI in Azerbaijan is higher than the two other neighboring countries. In 2007, a sharp decline in FDI dynamics happened in Azerbaijan, while for Armenia and Georgia this decline was not so sharp. This can be explained by the fact that starting from 2000, the oil income in Azerbaijan greatly increased and this led to a high level of internal investment. Thus, according to the Azerbaijan State Statistical Committee, internal investment grew about 65% (from 1347.2 mln USD to 2225.3 mln USD). However, the increase in investments by 2010 is related to the fact that the emergence of the economic crisis led to reduction of internal investment in Azerbaijan.

A slight decline in FDI in Armenia was due to the fact that its major investor Russia, which holds 52.56% of Armenia's FDI (Arka news agency), began to face difficulties related to the world economic crisis and decline in oil prices in 2010. In the case of Georgia, the war with Russia and the world economic crisis began to negatively affect its FDI inflows in 2008, thus we can observe decrease till 2010.

## 3. GDP (Gross Domestic Product)

GDP is considered to be the sum of all the final services and products produced inside the national economy in the given time. GDP real growth means the increase of wealth and social welfare in the country (McConnell and Brue, 2008).

As it can be seen from Figure 4, the first years of independence of three South Caucasus countries were characterized by decline of their GDP, which was as a result

of interruption of their economic connections, decline in investments, etc. The conflicts appearing in those countries also negatively affected their GDP. But later on, the adjustment of transition economy norms and requirements, establishing and developing their own business units, and most crucially, corresponding government policy towards the increase of business activity positively affected the GDP of those countries. Due to the existence of economic potential and different volumes of investment, these countries' GDP began to increase at different paces. For example, a huge FDI and later internal investment flow to the Azerbaijan economy had a more positive impact on its GDP growth than that of Georgia and Armenia. At the same time it affected the GDP per capita. As for Armenia, the GDP growth was not so large due to the relatively small size of investments and lack of energy resources. However due to the financial crises there was a decline in GDP for the three South Caucasus countries in 2008, but since 2009 an increase was observed.

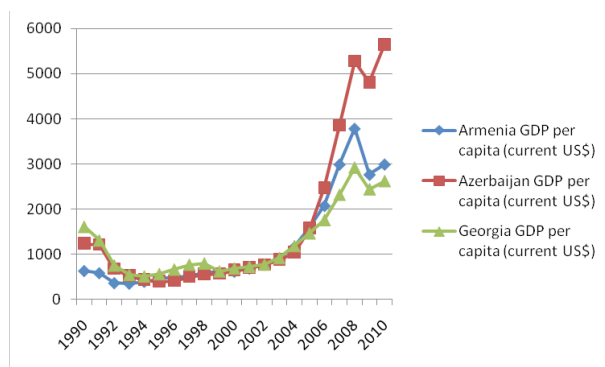


Figure 4. GDP for Azerbaijan, Georgia and Armenia. Data Source: World Bank

#### 4. Inflation

McConnell and Brue (2008) define inflation as “rising level of prices.” However, during rapid inflation prices rise unevenly, meaning that some prices can be constant and others can increase. Figure 5 shows inflation for the countries of the South Caucasus since early 1990s.

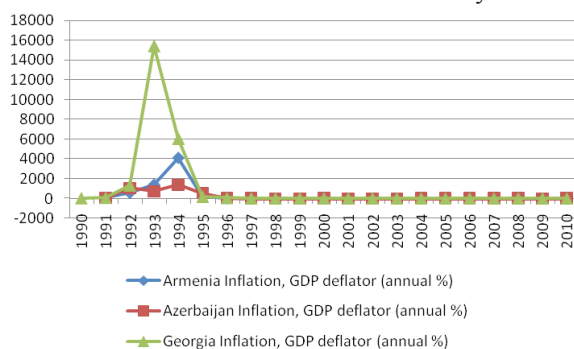


Figure 5. Inflation for Azerbaijan, Georgia and Armenia in thousands

Data Source: World Bank

In the early 1990s, there was hyperinflation in the three South Caucasus countries that happened after the collapse of the Soviet Union. Inflation declined since 1994 in Azerbaijan because of the government’s strict monetary measures like increase of refinancing rate and decrease of money supply. A constant increase was seen in 1997 as the first crude oil was sold in 1997, and beginning from that the cash flow to the Azerbaijan economy began to increase. National Budget Group (2008) reported that Consumer goods and prices for services went up by 20.8 percent in 2008 compared to 2007, which is an indicator of existent inflation at that time. The abrupt increase of utility service and petrol prices in January 2007 may be among the other factors causing a slight increase in inflation. According to the Central Bank of Azerbaijan (2008) the inflation rate began to decrease slightly in Azerbaijan from the 2007 level due to the decrease in imported consumer goods’ prices related to the world economic crisis.

In the case of Georgia, there was an increase in inflation from 1992,; however, there is a decline for the 1993-1995 period. However, a slight decrease in 2000 and in 2003 was related to a rise in certain international commodity prices, including oil and food. Since 2003, inflation in Georgia has been relatively constant.

In 1994 Armenia’s inflation rate started to decline because of a cease-fire and the IMF-sponsored economic liberalization program (Armenia Review, 2010). However, starting from 1996 until 2010 there was a constant inflation rate in Armenia.

#### 5. The Conceptual Model

As mentioned earlier in this study, the dependent variables are exports and imports and the independent variables are FDI, GDP and inflation. In this research the relationship between dependent and independent variables will be analyzed. The linear model for the three South Caucasus countries and the conceptual model illustrated in Figure 6 are based on the literature review:

$$Export = \beta_0 + \beta_1 FDI + \beta_2 GDP + \beta_3 \ln Inflation$$

$$Import = \beta_0 + \beta_1 FDI + \beta_2 GDP + \beta_3 \ln Inflation$$

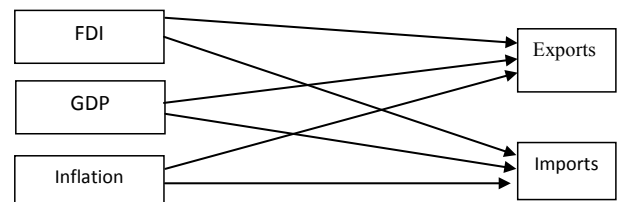


Figure 6. The conceptual model

In the conceptual model, the relationship between exports and imports and some economic factors (FDI, GDP,

and inflation) is demonstrated.

## 6. Analysis of Data

Secondary data from the World Bank was used in order to analyze the impact of FDI, GDP and inflation on exports and imports for the three South Caucasus countries. Regression analysis was conducted in statistical software Stata in order to investigate the relationship between dependent and independent variables.

### Azerbaijan

In the first model the  $R^2$  value is 0.997 when exports are used as the dependent variable. R squared tells how much variance in the dependent variable is explained by the model (Pallant, 2007). The model explains 99.7% of the variance in exports, which is quite a respectable result and considered satisfactory. The results are summarized in Table 1.

In the case of Azerbaijan, it seems that there is not a positive relationship between FDI and Exports. Moreover, the relationship between these two variables was not significant ( $p=0.307$ ). However, there is a positive relationship between GDP and Exports. GDP is the most significant variable ( $p=0.000$ ), e.g. 1 unit of increase in GDP will lead to a 71-unit increase in Exports in Azerbaijan. There is a positive relationship between inflation and Exports. The significance level indicates strong support for this claim ( $p=0.021$ ). 1% of increase in inflation causes  $\beta_3/100$  increase = 18910/100 units of increase in exports.

**Table 1. Results of regression analysis**

Source	SS	df	MS	Number of obs = 16 F( 3, 12) = 1236.05 Prob > F = 0.0000 R-squared = 0.9968 Adj R-squared = 0.9960 Root MSE = 56117			
Model	1.1677e+13	3	3.8925e+12				
Residual	3.7789e+10	12	3.1491e+09				
Total	1.1715e+13	15	7.8101e+11				
Exports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
FDI	-.0101388	.0095114	-1.07	0.307	-.0308623	.0105847	
GDP	71.05525	1.379007	51.53	0.000	68.05066	74.05985	
InInflation	18910.85	7107.879	2.66	0.021	3424.11	34397.58	
_cons	-191846.5	36779.48	-5.22	0.000	-271982.1	-111710.9	

In the second model the  $R^2$  value is 0.899 using Imports as the dependent variable, which means that 89.9% of the variance in the dependent variable is explained by the independent variables. The regression output given in Table 2 shows that the positive relationship between FDI and Imports is not significant ( $p=0.073$ ). The most significant variable is GDP ( $p=0.000$ ). However the negative relationship between inflation and Imports was not significant ( $p=0.815$ ), which can be explained by the fact that inflation rise in Azerbaijan does not affect the weakening of AZN as a result of the Central Bank's strict currency policy.

**Table 2. Results of regression analysis**

Source	SS	df	MS	Number of obs = 16 F( 3, 12) = 35.97 Prob > F = 0.0000 R-squared = 0.8999 Adj R-squared = 0.8749 Root MSE = 1.2e+05			
Model	1.4529e+12	3	4.8431e+11				
Residual	1.6156e+11	12	1.3463e+10				
Total	1.6145e+12	15	1.0763e+11				
Imports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
FDI	.0385982	.0196665	1.96	0.073	-.0042515	.0814479	
GDP	27.07316	2.851355	9.49	0.000	20.86059	33.28573	
nInflation	-3522.043	14696.87	-0.24	0.815	-35543.77	28499.68	
_cons	127974.6	76048.46	1.68	0.118	-37720.73	293670	

### Georgia

At this point in time, the conceptual model replicates well. I find support for the model in our data set and the model provides a relatively high  $R^2$  of 0.950 or 95 % where the drivers' effects on Exports are measured. GDP and Inflation have a positive impact on the dependent variable and these relationships are significant, being ( $p=0.000$ ) and ( $p=0.004$ ) respectively. However, the positive relationship between FDI and Exports was not significant ( $p=0.365$ ). See Table 3.

**Table 3. Results of regression analysis**

Source	SS	df	MS	Number of obs = 16 F( 3, 12) = 76.94 Prob > F = 0.0000 R-squared = 0.9506 Adj R-squared = 0.9382 Root MSE = 25925			
Model	1.5513e+11	3	5.1709e+10				
Residual	8.0651e+09	12	672094945				
Total	1.6319e+11	15	1.0879e+10				
Exports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
FDI	-.0165153	.0175565	0.94	0.365	-.021737	.0547676	
GDP	33.93777	2.690795	12.61	0.000	28.07504	39.80051	
InInflation	10171.89	2820.952	3.61	0.004	4025.565	16318.22	
_cons	-58357.24	17415.74	-3.35	0.006	-96302.88	-20411.61	

The results of regression analysis demonstrate high  $R^2$  of 0.978 or 97.8 % when Imports are used as a dependent variable. GDP and inflation were highly significant at ( $p=0.000$ ) and ( $p=0.000$ ) respectively, compared to FDI which was not significant ( $p=0.727$ ). See Table 4.

**Table 4. Results of regression analysis**

Source	SS	df	MS	Number of obs = 16 F( 3, 12) = 185.50 Prob > F = 0.0000 R-squared = 0.9789 Adj R-squared = 0.9736 Root MSE = 31148			
Model	5.3991e+11	3	1.7997e+11				
Residual	1.1642e+10	12	970207329				
Total	5.5155e+11	15	3.6770e+10				
Imports	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]		
FDI	.0075406	.0210938	0.36	0.727	-.0384188	.0535	
GDP	65.22158	3.23294	20.17	0.000	58.17761	72.26555	
InInflation	18346.58	3389.32	5.41	0.000	10961.88	25731.27	
_cons	-122813.8	20924.68	-5.87	0.000	-168404.8	-77222.81	

### Armenia

In the case of Armenia, while using Exports as a dependent variable we can observe that only GDP is significant ( $p=0.000$ ). However, the model shows  $R^2$  of 0.862 or 86.2 %. The other two independent variables, FDI and inflation, have a positive effect on Exports but were found to be insignificant ( $p=0.691$  and  $p=0.991$  respectively). The insignificance of inflation for exports in Armenia is related to the fact that exports mainly consist of goods which are not strongly affected by inflation (diamonds, energy, etc.). See Table 5.



**Table 5. Results of regression analysis**

Source	SS	df	MS			
Model	3.4788e+10	3	1.1596e+10	Number of obs =	16	
Residual	5.5446e+09	12	462051329	F( 3, 12) =	25.10	
Total	4.0332e+10	15	2.6888e+09	Prob > F =	0.0000	
				R-squared =	0.8625	
				Adj R-squared =	0.8282	
				Root MSE =	21495	

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Exports						
FDI	.0021727	.0053327	0.41	0.691	-.0094462	.0137916
GDP	15.34965	1.847645	8.31	0.000	11.32398	19.37532
lnInflation	25.01094	2172.396	0.01	0.991	-4708.233	4758.255
_cons	26653.74	11241.58	2.37	0.035	2160.447	51147.03

As can be seen from Table 6 and the model, measuring the effects of independent variables on Imports provides a relatively high R<sup>2</sup> of 0.996 or 99.6 %. The impact of GDP on Imports was highly significant at p=0.000. However the effect of inflation on Imports was less significant (p=0.028) and the effect of FDI on dependent variable was not significant (p=0.377).

**Table 6. Results of regression analysis**

Source	SS	df	MS			
Model	1.9533e+11	3	6.5112e+10	Number of obs =	16	
Residual	644339738	12	53694978.2	F( 3, 12) =	1212.62	
Total	1.9598e+11	15	1.3065e+10	Prob > F =	0.0000	
				R-squared =	0.9967	
				Adj R-squared =	0.9919	
				Root MSE =	7327.7	

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Imports						
FDI	-.0016689	.0018179	-0.92	0.377	-.0022919	.0022919
GDP	36.62818	.6298545	58.15	0.000	35.25585	38.00052
lnInflation	1853.769	740.5608	2.50	0.028	240.2261	3467.313
_cons	25413.42	3832.207	6.63	0.000	17063.76	33763.08

## Conclusion

The main purpose of this study was to look at the potential effect of FDI, GDP and inflation on exports and imports in the three countries of the South Caucasus: Azerbaijan, Georgia and Armenia. The preliminary findings at this stage indicate that the relationships among GDP, inflation and the exports and imports were highly significant for three South Caucasus countries. However, the relationship between exports, imports and FDI was not significant. The negative relationship can be explained by the fact that FDI to the South Caucasus economy is mainly focused on non-export sectors of economy and more focused on internal markets and import.

The analysis of the relationship between GDP and exports shows that GDP growth is closely related to export and vice versa in raw material exporting countries. Most of these countries' exports still consist of raw materials. In other words, income growth (GDP growth) from raw materials export also contributes to further growth of raw materials export.

The analysis of the relationship between inflation and exports revealed the following: in Azerbaijan and Georgia, inflation has an influence on exports. It means that Azerbaijan and Georgia's export goods are very sensitive to price changes in the world market, as increase of inflation enables them to be sold more cheaply in the international markets, while strong AZN and Lari cause the loss of interest in exporters.

In Georgia and Armenia, inflation has an impact on imports, causing them to increase, but in fact a rise in inflation should cause a decrease in imports. This phenomenon should be investigated in further research.

At the beginning of this study it was recognized that prior studies have thoroughly investigated these constructs, yet the particular relationships presented in this study's conceptual framework have not been explored or elucidated for the countries of the South Caucasus. Hence, this study provides useful empirical data in regard to exploring the problem at hand.

## Limitations and Implications for Further Research

Like any research effort, this study has limitations that should be noted and taken into consideration when interpreting the results. Due to scarce resources in terms of capital and time, it was considered necessary for this study to limit the approach in terms of sample as well as included variables in the conceptual framework.

In this research I have only looked at some economic factors as drivers of exports and imports, not paying attention to their relationship with other factors, like refinancing rates, tariff rates and other barriers. Furthermore, it would be interesting to explore the relationship between net export (difference between exports and imports) and the growth of GDP. If I had included these constructs into the research, making it a comprehensive model of the whole, it could have provided even greater understanding of this topic. Thus, it may be interesting to make further investigations with a basis on this study to have a wider horizon in terms of concepts and theoretical constructs.

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# Measuring the Impacts of Tacit Knowledge on Individual and Organizational Performance: A Case Study in a Financial Institution

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## Abstract

Tacit knowledge is considered as a strategic factor in knowledge management implementation. Accordingly, it attracts significant attention both from researchers and academicians. Managing tacit knowledge effectively and efficiently is becoming a key success factor for organizations. However, to evaluate the results of tacit knowledge management and to assess the impact of it on organizations' and individuals' performance is one of the most challenging issues in knowledge management. This paper aims to analyze the impacts of tacit knowledge on organizations' and individuals' performance based on the data collected from an international financial institution in Turkey.

**Keywords:** Tacit knowledge, knowledge management, explicit knowledge

**JEL Classification:** M12

## Introduction

Knowledge and the capacity to create and utilize knowledge are seen as the center of global economic transformation (Kakabadse, et. al., 2003). They are also the most important source of wealth and the key to gain sustainable competitive advantage and superior profitability for organizations (von Krogh, 2001). The view that knowledge is a valuable resource that has to be managed effectively and efficiently has become widely recognized by academicians and practitioners (Pathirage, et. al., 2007) and recent studies have expressed considerable interest in KM practices accordingly (Hicks, et. al., 2007).

Together with the increasing interest in knowledge and its management, the concept of tacit knowledge has been dealt with within many disciplines and by many authors. Yet, it is still considered as being relatively unexplored and not fully understood. It has been suggested that the tacit dimension of knowledge is probably the hardest to manage even though it has become more relevant to improving business performance and is perceived as a crucial factor affecting an organization's ability to remain competitive (Pathirage, et. al., 2007).

Despite the widely recognized importance of tacit knowledge as a vital source of competitive advantage, there is comparatively less studies that have been able to establish a casual relationship between tacit knowledge and organizational performance (Marques, Simon, 2006).

This paper aims to analyze the impacts of tacit knowledge on individuals' and organizations' performance based on data collected from a financial institution in Turkey.

## 1. Literature Review

In KM literature, the concept of knowledge; its definition, its description and components have been widely discussed from many perspectives. From the engineering perspective, knowledge was seen as an extension to the Artificial Intelligence (AI) where knowledge was viewed as information: a commodity that can be codified, stored and transmitted. In this view, the emphasis was placed on managing the so called 'knowledge assets' that were tangible, and could be structured and codified; such as patents, trademarks and documents. Hence, the main distinction is about structured and unstructured or less-structured knowledge (Hildreth and Kimble, 2002,)

Lately, there has been a trend towards recognizing the aspects of knowledge which cannot be articulated, abstracted, codified, captured and stored. From the epistemological point of view, the most common definition of knowledge is "justified true belief" (Nonaka, et. al., 2000). Nevertheless, in the recent studies, knowledge is analyzed and defined from a more practical view beyond its epistemological or philosophical meanings.

According to a useful definition of knowledge, it is defined as a "fluid mixed of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information". Obviously the definition underlines the fact that knowledge is not neat or simple. It is a mixture of various elements (Devenport and Prusak, 1998). Therefore, knowledge can take many forms and have a variety of definitions from different perspectives where some of these perspectives are out of the scope of this particular paper.

From the KM perspective, knowledge is usually defined in connection to data and information. Data is defined as “raw facts” while information is defined as “data with context” and knowledge is defined as “information with meaning”. Some experts have also added another concept to this knowledge hierarchy namely “wisdom” which is defined as “knowledge with insight.” (Skyme, 1999).

On the other hand, knowledge is dynamic and context-specific. It depends on a particular time and space. Without being put into a context, it is just information, not knowledge. Information becomes knowledge when it is interpreted by individuals and given a context and anchored in the beliefs and commitments of individuals (Nonaka, et al., 2000)

In general, in the KM literature, knowledge is mostly discussed in tacit and explicit dichotomy and the conversion of these two into each other. Although, there are studies that classify knowledge as individual or group, practical or theoretical, hard and soft, internal and external, foreground and background, the classification of tacit and explicit remains as the most common and practical one (Pathirage, 2007). Consequently, explicit knowledge usually comes in the form of books, documents, papers, databases, and policy manuals (O’Dell and Grayson, 1998) and tacit knowledge, contrastively, can be found in the heads of employees involving such intangible factors as personal belief, perspective, instinct and values (Baumard, 2002).

Polanyi (1998) defines the term “tacit knowledge” with its famous quota “we can know more than we can tell”. Polanyi (1998) also underlines the concepts of “knowing what” and “knowing how,” and he indicates every bit of knowing contains both of these aspects. In this respect, “knowing what” describes something that is knowable, and “knowing how” describes something that is only realizable in action. They are two different things – one can be transferred discursively and the other only through action. Tacit knowing is fundamental to each of these forms of knowing. Accordingly, the concept of “tacit knowing” can be understood through the concepts of distal and proximal. Proximal knowing is the particulars of action, whereas distal is the entire action. For example, when riding a bike, one can concentrate on the steering, pedaling, etc., or proximal aspects of knowing how to ride a bike. The overall knowing how to ride the bike is distal – greater than the sum of its individual components (Berente, 2007).

Tacit knowledge comprises a range of conceptual and sensory information and images that can be brought to bear in an attempt to make sense of something (Hodgkin, 1991). It is suggested that tacit knowledge is hard to articulate, and covers a broad range of meanings which makes it difficult to estimate. (Herrgard, 2000) That is why, there are a number of different definitions that defines the concept from different perspectives. However conventionally, the concept of tacit knowledge used to oppose explicit knowl-

edge, in order to describe a kind of knowledge which cannot be explicitly represented (Linde, 2001). Hence, tacit knowledge can be defined as a dimension of knowledge which is hard to formalize, difficult to communicate and highly personal (Nonaka, 1998). It is portrayed as the generally unspoken knowledge gained from experience which is deeply rooted in action and individual’s commitment to a specific context (Cianciolo, 2006)

On the other hand, some scholars assert that knowledge cannot be described purely tacit or purely explicit. They prefer to describe tacitness of knowledge as a matter of degree. According to this point of view knowledge can be seen in a spectrum where at one extreme it is deeply ingrained, unconscious and completely tacit knowledge while at the other end, there exists easily communicated, shared and well-structured explicit knowledge. However, in real life knowledge can be found somewhere in the middle. If it is near to one extreme, it is classified as tacit and if it is near to the other extreme it is then classified as explicit.

Nonaka (1998) also underlines the importance of interactions between tacit and explicit knowledge and mentions that tacit and explicit knowledge are not separate but mutually complementary entities. Due to that, they interact with each other in the creative activities of human beings which is defined as “knowledge conversion process” (Nonaka 1998).

Furthermore, it is possible to distinguish between technical tacit knowledge and cognitive tacit knowledge. That is why, technical tacit knowledge generally refers to personal skills or concrete know-how whereas cognitive tacit knowledge refers to ingrained schema, beliefs, mental models that are taken for granted (Nonaka, et. al., 2000).

A number of researches and applications in the field of KM focus on capturing tacit knowledge and transforming it into explicit form (Mitri, 2003). Nevertheless, managing tacit knowledge and deriving value from it appears to be one of the most challenging issues in KM. It comes from the very nature of tacit knowledge. Since tacit knowledge is embedded in peoples’ minds, beliefs, values etc., it is linked to individuals, which makes it difficult or sometimes impossible to articulate, capture and diffuse.

Despite the fact that capturing, clarifying and effective use of tacit knowledge and converting it into explicit form is a problematic issue, it is strongly emphasized that tacit knowledge potentially, can represent greater value for the organization (Koulopoulos and Frappaolo, 1999). Explicit knowledge is for everyone to find and use whereas tacit knowledge separates the masters from the common. Hence, the core competency of an organization, to a great extend, comes from the tacit knowledge of “know-how” rather than explicit knowledge of “know-what” (Herrgard, 200). It is suggested that tacit knowledge is the central resource for organizations in applying KM and gaining competitive advantage (Kreiner, 2002).

From the knowledge-based view, knowledge is a strategic resource if it is valuable, rare, and imperfectly imitable and has no strategic equivalent substitutes. For many authors, knowledge, which possesses all these characteristics is the best and the only resource for achieving sustainable superior performance. Yet, according to recent knowledge-based theory, sustainable superior performance is determined by non-proprietary knowledge in the form of tacit knowledge. Tacit knowledge gains its strategic value because of its uniqueness and relatively immobility (Pathirage, 2007).

Furthermore, tacit knowledge is crucial for making the right business decisions as well as for innovation. In this respect, expertise, which is referred to be a special category of tacit knowledge, plays a vital role in innovative processes (Karhu, 2002). It is based on extensive knowledge gained through a learning process and in most cases together with experience. It is mentioned that, expertise is highly specialized, and strongly embedded with the owner; “expert” (Jacob and Ebrahimpur, 2001).

The links and connections between organizational learning, organizational culture and tacit knowledge are also attracting the KM researchers in the recent years (Lopez, et. al., 2004). Knowledge and tacit knowledge in particular is socially constructed and deeply connected with the understanding, intuitions and values of individuals (Lang, 2004). Therefore, the organizational culture, the implicit understandings of individuals and organizational learning processes play a significant role in determining the value of tacit knowledge or the level of its effectiveness (Lopez, et. al., 2004).

However, researchers (Hedlund, et.al., 2003 ; Cianciolo, et.al., 2006) have emphasized the importance of tacit knowledge for the individual’s working performance and they found empirical evidence on the relationship between the level of one’s tacit knowledge and his/her working performance. Since tacit knowledge includes job-related knowledge, experience, know-how and other forms of practical knowledge, it is not surprising that they found a positive correlation between the level of one’s tacit knowledge and his/her level of job performance and work effectiveness.

## 2. Research Methodology

### 2.1. Survey Instrument

The survey instrument is composed of questions relating to the level of tacit knowledge, individual and organizational performance. The questionnaire was prepared by Zaim and Zaim (2008). Each item was rated on a five-point Likert Scale anchored at the numeral 1 with the verbal statement “strongly agree” and at the numeral 5 with the verbal statement “strongly disagree”.

### 2.2. The Sample

Data for this study was collected using a self-administered questionnaire that was distributed to 1000 employees working in an international financial institution in Turkey. The sample was selected randomly. Of the 1000 questionnaires sent by e-mail, a total of 385 questionnaires were returned after one follow-up. The overall response rate was approximately 38%, which was considered satisfactory for subsequent analysis.

## 3. Analysis and Discussions

The data analysis was conducted in two steps:

1. Performing an exploratory factor analysis (EFA) with varimax rotation to determine the underlying dimensions of tacit knowledge.
2. Measuring the direct impact of critical factors of tacit knowledge on the individual and organizational performance.

### 3.1. Exploratory Factor Analysis (EFA)

Due to potential conceptual and statistical overlap, an attempt was made to produce parsimonious set of distinct non-overlapping variables from the full set of items underlying construct. Exploratory factor analysis with varimax rotation was performed on the tacit knowledge criteria in order to extract the dimensions of the construct.

The EFA on the 22 tacit knowledge items yielded 3 factors with eigen values greater than 1. All items were loaded on these 3 factors. Based on the item loadings, these factors were respectively labeled as Managerial knowledge (factor1), Expertise knowledge (factor2), and Collective knowledge (factor3). The Kaiser-Meyer-Olkin measure of sample adequacy was found as 0.95, which supports the validity of EFA results. The Cronbach’s alpha measures of reliability for the factors were 0.95 for managerial knowledge, 0.92 for expertise knowledge, 0.92 for collective knowledge, suggesting a satisfactory level of construct reliability.

### 3.2. Hypothesis

As mentioned above, it is assumed that there is a positive linear relationship between these critical factors of tacit knowledge and individual and organizational performance. In order to test these hypotheses a linear model is constituted and a regression analysis is performed using “Ordinary Least Squares Estimates” technique. We have two hypotheses in this study. These are:

H<sub>1</sub>: individual performance increases if tacit knowledge increases.

H<sub>2</sub>: organizational performance increases if tacit knowledge increases

**3.3. Analysis of the first hypothesis**

The next step is assessing the significance of the model using ANOVA (F) Test that shows the combined effects of all the independent variables in the regression model. In order to consider the model to be significant, the general acceptance is that the significance level should be equal or less than %5 ( $\alpha \leq 0.05$ ).

Furthermore, the adjusted  $R_2$  (coefficient of multiple determination) is 0.64 which means almost 64% of dependent variable individual performance can be explained by independent variables. The adjusted R square value of the Model is exhibiting a satisfactory level of explanatory power for such an exploratory study.

Finally, using “t-test”, partial regression coefficients that explains the effects of independent variables on the dependent variable separately, have to be analyzed. The standardized regression weights for all variables that are shown in Table 1 are significant at the 0.05 level. These results indicate that all hypotheses are significant at 0.05 levels.

Among them, Managerial Knowledge was found to be the most important criterion with the value of (0.51 followed by Expertise Knowledge (0.26). In contrast, collective knowledge (0.01) has comparatively less impact on individual performance.

Table 1. Regression results

Variables	Regression Coefficient
Managerial Knowledge	0.51*
Expertise Knowledge	0.26*
Collective Knowledge	0.01*

\* $p < 0.01$ ; \*\* $p < 0.001$

**3.4. Analysis of the second hypothesis**

The second model is also significant. the adjusted  $R_2$  (coefficient of multiple determination) is 0.54 which means almost 54% of dependent variable -organizational performance- can be explained by independent variables. The adjusted R square value of the Model is exhibiting a satisfactory level of explanatory power for such an exploratory study.

Finally, using “t-test”, partial regression coefficients that explains the effects of independent variables on the dependent variable separately, have to be analyzed. The standardized regression weights for all variables are shown in Table 2. Among them, managerial knowledge is significant at the 0.05 level, expertise and collective knowledge are significant at the 0.10 level.

Managerial Knowledge was also found to be the most important criterion with the value of (0.58) followed by Expertise Knowledge (0.11). Nevertheless, collective

knowledge (0.01) has comparatively less impact on organizational performance.

Table 2. Regression results

Variables	Regression Coefficient
Managerial Knowledge	0.58*
Expertise Knowledge	0.11*
Collective Knowledge	0.01*

\* $p < 0.01$ ; \*\* $p < 0.001$

**Conclusion**

Despite the fact that tacit knowledge is seen as a strategic valuable resource for organizations that has the potential to lead sustainable competitive advantage and superior performance there is less empirical evidences and research studies that can establish a casual relationship between the level of tacit knowledge and organizational performance.

Thus, the findings of this study confirm a positive linear correlation between the level of tacit knowledge items and individual and organizational performance. Level of tacit knowledge was divided into three factors, namely managerial knowledge, expertise knowledge, and collective knowledge. Among these three factors managerial knowledge appeared to be the most influential factor on the organizations’ and individuals’ performances followed by expertise knowledge. The findings show that collective knowledge has comparatively less impact on the performance.

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# Analyzing the Facets of Job Satisfaction and Individual Performance: A Field Study in Turkish Financial Sector

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## Abstract

Job satisfaction is considered to be a critical success factor for organizations. The concept of job satisfaction has gained a special concern from both academicians and practitioners and examined from many perspectives. This study aims to provide a framework for the critical factors of satisfaction (facets of job satisfaction) and to measure their effects on individual performance. A regression analysis is conducted based on data collected from financial institutions in Turkey. The main assumption of the study is that there is a positive direct relationship between the facets of job satisfaction and individual performance.

**Keywords:** employee satisfaction, job satisfaction, performance

**JEL Classification:** M12- Personnel Management; Executive Compensation

## Introduction

Employee satisfaction is considered to be a critical success factor for organizations. The concept of employee satisfaction has gained a special concern from both academicians and practitioners. A number of scholars and management “gurus” stressed the importance of employee satisfaction and its influences on organizational performance as much as customer satisfaction (Chen, et. al., 2006).

The concept of employee satisfaction is a multi-dimensional and inter-disciplinary term that has attracted the attention of researchers and practitioners from different disciplines such as psychology, human resource management (HRM), organizational behavior, TQM etc. In literature, there are a large number of studies that analyze the term from many different perspectives and its relationship with various organizational variables (Lund, 2003).

This study, on the other hand, aims to provide a framework for employee satisfaction, determine the critical factors of employee satisfaction and to measure their effects on individual performance. A regression analysis is conducted based on data collected from financial institutions in Turkey. The main assumption of the study is that there is a positive direct relationship between the facets of employee satisfaction and individual performance.

### 1. Employee’s Job Satisfaction

Employee’s job satisfaction is one of the most researched constructs of HRM mainly because it is relevant to those who are interested in subjective evaluation of work conditions such as responsibility, task variety, or commu-

nunicational requirements (Dormann and Zapf, 2001). It is also relevant to managers and researchers who are interested in organizational outcomes such as commitment, extra-role behavior, turnover, productivity, service quality and customer satisfaction (Spagnoli, et.al, 2012). In literature, there are three main streams of researches. The first stream is focusing on causes and dimensions of employee satisfaction. The second stream is about consequences, personal and organizational outcomes of employee satisfaction. The third stream is aiming at how to measure and influence employees’ job satisfaction (Saari and Judge, 2004).

Although there is no universally accepted definition of employee satisfaction, it is conceptualized as “general attitudes of employees towards their jobs” (Wickramasinghe, 2009). Employees’ job satisfaction is a multi-disciplinary concept that results from employees’ perception of their jobs and the degree to which there is a good fit between them and the organization (Ivancevich, et.al, 2011) and has been defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1304). It is also defined as “a set of favorable or unfavorable feelings and emotions which employees view with their work” (Newstrom, 2011). Specifically, it represents how employees feel and what they think about their jobs. Conceptually employees with high job satisfaction are expected to have positive feelings when they think about their duties or take part in task activities (Colquitt, et.al, 2010).

Furthermore, job satisfaction is a very important aspect of an employee’s well-being (Jain, et.al, 2009) and has emotional, cognitive and behavioral components (Saari and Judge, 2004). Emotional aspect reflects one’s feelings



regarding the job, cognitive aspect reflects one's thoughts and beliefs regarding the job whereas, behavioral component includes people's actions in relation to their work (Kaplan, et.al, 2008).

## 2. Dimensions of Employees' Job Satisfaction

In literature, employees' job satisfaction has been analyzed in two forms, which are based on the level of employees' feelings regarding to their jobs. The first one is the overall satisfaction which refers to employees' overall feelings about their jobs. Nevertheless, if it is viewed only as overall attitude, managers and scholars may miss seeing some key hidden exceptions as they assess an employee's overall satisfaction (Newstrom, 2011).

The second one is job facet satisfaction, which refers to the feelings of employees' about specific job aspects, such as salary, benefits, and the quality of relationships with one's co-workers (Spagnoli, et.al, 2011). The multi dimensionality of employees' job satisfaction has been demonstrated both conceptually and empirically (Edwards, et.al, 2008). The recent studies, as a result, focus on the various parts that are believed to be important (Newstrom, 2011).

In literature, different employee satisfaction researches accentuate different aspects of job satisfaction. In general, the most studied aspects of employee satisfaction include pay, supervision, nature of tasks performed, peer assistance, and the immediate working conditions (Newstrom, 2011). For example, Smith et.al, (1969) evaluated employee job satisfaction in Job Descriptive Index with five aspects namely pay, promotion, co-workers, supervision and work itself. Minnesota Satisfaction Questionnaire (Weiss, et.al, 1967) was also designed to measure employees' job satisfaction and contains three scales; intrinsic satisfaction, extrinsic satisfaction and general satisfaction.

Furthermore, "Employee Satisfaction Survey" of Society for Human Resource Management, which has been regularly published since 2002, signifies that job security, pay and benefits, opportunities to use skills and safety are among the most important aspects of employee satisfaction. In addition, the survey findings disclose that career development, relations with supervisors and work environment are among the other significant factors determining employee satisfaction (SHRM, 2009). One of the astonishing results of these surveys is Job security (63%), for the fourth consecutive year, remained at the top of employees' list of most important determinants of job satisfaction, followed closely by opportunities to use skills and abilities (62%). Organizations' financial stability was added to the questionnaire in 2010 and is considered to be an important aspect of satisfaction by the employees ever since (SHRM, 2011).

Petrescu and Simmons (2008) nonetheless, assess employee satisfaction from HRM point of view and demon-

strate six factors which are work organization, supervision, employee involvement, recruitment and selection, training and learning, and pay practices and found that several HRM practices have a statistically significant effect on job satisfaction. The research also reveals that creating workplaces which embed "on-going learning" has a highly significant effect on employee satisfaction.

Mani, (2010) constructed an employee satisfaction index scorecard, that comprises various factors under four dimensions; extrinsic rewards, autonomy and freedom at work, identity and corporate image, and interpersonal relations. According to research findings, stress, supervisor relationship, training and working environment appeared to be the most important determinant of employee satisfaction (Mani, 2010).

Correspondingly, Rutherford et.al, (2009) evaluated the seven factors of positive effects namely, supervision, overall job, company policy and support, promotion and advancement, pay, co-workers and customers. Additionally, he also evaluated the negative effect of emotional exhaustion on sales person's job satisfaction. Similarly, Gu and siu (2009) revealed the positive effect of salary and benefits, communication with co-workers and managers, and training together with the negative effects of job stress on employee satisfaction.

On the contrary, there are also researches that claim several other factors such as type of work, (Spagnoli, et.al, 2012) autonomy (Spreitzer, 1995), corporate image, affinity, fairness (Nielsen and Smith, 2008; Hsu, and Wang, 2008), co-worker relations (Gu and Siu, 2009), demographic factors such as gender, age, tenure (Hwang, 2008; Wickramasinghe, 2009; Fields and Blum, 1997), personality and cognitive factors (Kaplan, et.al, 2008; Bowling, 2007), emotional intelligence (Sy, et.al, 2006), psychological empowerment (Harris, et.al, 2009; Spreitzer, 1995; Arshadi, 2010), social and life satisfaction (Saari and Judge, 2004), ethical leadership (Kim and Brymer, 2011) and management support (Sy, et.al, 2006; Harris, et.al, 2009; Rutherford, et.al, 2009) are also significant aspects of employee satisfaction. To sum up, these studies support the idea that employee satisfaction has many aspects and influenced by several factors (Hsu and Wang, 2008).

These factors can be classified in three forms. These are intrinsic factors such as personality or attitudes, extrinsic factors such as compensation, rewards, promotions and demographic factors such as gender, ethnicity, rank and years of service (Wickramasinghe, 2009; Petrescu and Simmons, 2008).

## 3. Survey Instrument

The survey instrument is composed of questions relating to employee satisfaction and individual performance. The conceptual definition of construct was adopted from

the literature survey and work of Matzler et.al., (2007) and Zaim et.al., (2007). They developed a multi-item scale to reveal the main factors of employee satisfaction and its effects on performance. The questionnaire was progressed by discussing with a panel of experts and academicians finalized with the study of Zaim and Kocak (2010). Each item was rated on a five-point Likert Scale anchored at the numeral 1 with the verbal statement “strongly agree” and at the numeral 5 with the verbal statement “strongly disagree”.

**4. The Sample**

Financial sector was chosen to gather data about employee satisfaction and performance. Finance sector was considered as an ideal research setting in Turkey. The main reason of selecting this sector is that, financial institutions in Turkey are relatively large, institutionalized and demonstrate comparatively advanced HRM applications. Furthermore, relevant studies indicate that financial institutions are amongst the pioneers in terms of organizational and individual performance (Aydinli, 2010 ; Kaya, et.al., 2010). Particularly restructuring attempts in post-crises epoch robustly account for the improvement in efficiency scores in recent years (Aysan and Ceyhan, 2008). The sample of this research is composed of 4 participation banks in Turkey. Participation banks are interest-free financial institutions. Most of them are international banks operating in Turkey. The list of participation banks is:

Participation Banks
Albaraka Turk
Asya Finans
Kuveyt Turk
Turkiye Finans

The questionnaires have been distributed to 1000 employees in 4 banks and 677 usable ones were returned giving a response rate of 67%, which was considered satisfactory for subsequent analysis.

**5. Research Objectives and Hypotheses**

Based on the literature review discussion above, we propose a conceptual model of employee satisfaction which is composed of four main dimensions: satisfaction from pay and benefits (P&B), satisfaction from peers (P), satisfaction from supervision (S), and satisfaction from working conditions (W). We suggest that these factors have direct effects on the employee performance. According to the framework of the research, four factors are assumed to influence the overall employees’ satisfaction and

performance. These factors are namely pay and benefits, peers, management, and working conditions.

The following hypotheses are then proposed to a more formally state in underlying the impact of critical factors of employee satisfaction on performance.

- H1: Performance improves if employee satisfaction from pay and benefits is enhanced.
- H2: Performance improves if employee satisfaction from peers is enhanced.
- H3: Performance improves if employee satisfaction from supervision is enhanced.
- H4: Performance improves if satisfaction from working conditions is enhanced.

**6. Analysis and Results**

The data analysis was conducted in two steps:

- Performing an exploratory factor analysis (EFA) with varimax rotation to determine the underlying dimensions of employee satisfaction.
- Measuring the direct impact of critical factors of employee satisfaction on the non-financial performance.

**Exploratory Factor Analysis (EFA)**

Due to potential conceptual and statistical overlap, an attempt was made to produce parsimonious set of distinct non-overlapping variables from the full set of items underlying construct. Exploratory factor analysis with varimax rotation was performed on the employee satisfaction criteria in order to extract the dimensions of the construct.

The EFA on the 22 employee satisfaction items yielded 4 factors with eigen values greater than 1 and explaining 69.26% of the total variance, as shown in Table 1. All items were loaded on these 4 factors. Based on the item loadings, these factors were respectively labeled as satisfaction from supervision (S), satisfaction from pay and benefits (P&B), satisfaction from peers (P), and satisfaction from working conditions (W). The Kaiser-Meyer-Olkin measure of sample adequacy was found as 0,94, which supports the validity of EFA results. The Cronbach’s alpha measures of reliability for the five factors were 0,91 for supervision, 0,92 for Pay and benefits, 0,90 for Peers, and 0,80 for working conditions suggesting satisfactory level of construct reliability (Nunnally, 1978).

**Regression Analysis**

As mentioned above, it is assumed that there is a positive linear relationship between these critical factors of employee satisfaction and individual performance. In order to test these hypotheses, a linear model is constituted and a regression analysis is performed using “Ordinary Least

Squares Estimates” technique. In the model written below, dependent variable ( $Y_p$ ) is individual performance, independent variables are determined as in orderly satisfaction from supervision (S), pay and benefits (P&B), peers (P) and working conditions (W). In addition, prior to performing multiple regression analysis, all the assumption of linear regression was tested and no problem had occurred.

$$Y_p = \beta_0 + \beta_1 S + \beta_2 P\&B + \beta_3 P + \beta_4 W$$

The next step is assessing the significance of the model using ANOVA (F) Test that shows the combined effects of all the independent variables in the regression model. In

order to consider the model to be significant, the general acceptance is that the significance level should be equal or less than %5 (0.05).

Furthermore, the adjusted  $R^2$  (coefficient of multiple determination) is 0.78 which means almost 78% of dependent variable –performance- can be explained by independent variables. The left over 23% is estimated as the elements like the influence of personal evaluations, psychological and sociological influences, other performance indicators and subjective evaluations that are not included in the model.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1,00	0,88	0,78	0,78	0,36
A	Predictors: (Constant), supervision, pay and benefits, peers and working conditions			

Table 3: ANOVA(b) Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1,00	Regression	316,76	4,00	79,19	601,33	0,00
	Residual	87,97	668,00	0,13		
	Total	404,73	672,00			
A	Predictors: (Constant), supervision, pay and benefits, peers and working conditions					
B	Dependent Variable: individual performance					

**Table 3:** Regression Analysis

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1,00	(Constant)	0,30	0,08		3,91	0,00
	Pay&benefits	0,12	0,02	0,15	6,38	0,00
	Supervision	0,48	0,03	0,52	17,14	0,00
	Peers	0,11	0,02	0,12	5,01	0,00
	Working Conditions	0,22	0,03	0,22	7,43	0,00
A	Dependent Variable: individual performance					

Finally, using “t-test”, partial regression coefficients, that explain the effects of independent variables on the dependent variable separately, are analyzed. The standardized regression weights for all variables that are shown in Table 3 are significant at the 0.05 level. These results indicate that all hypotheses are significant at 0.05 levels.

Among the factors, supervision was found to be the most important criterion with the value of its standardized regression weight being 0.52 ( $p < 0.01$ ) followed by working conditions (0,22), pay and benefits (0,15) and peers (0,12).

### Conclusion

Employee satisfaction is considered to be a critical success factor for organizations. It is mainly because, in the emerging knowledge economies, gaining sustainable competitive advantage for organizations is dependent on the contribution of knowledgeable workers. Accordingly, if the employees are more satisfied, they are expected to contribute more to their organizations' competitive edge.

Furthermore, employee satisfaction is also an important determinant of an individual performance. On the other hand, employee satisfaction can be analyzed either as the overall satisfaction or as the job satisfaction facets. In this study, we claimed that there is a positive relationship between employee satisfaction and individual performance. We examined four main facets of employee satisfaction namely, supervision, pay and benefits, peer assist and working conditions.

The research findings revealed that the relationship between all facets of employee satisfaction and individual performance is positive and significant. Among these four dimensions of employee satisfaction, supervision was found to have the strongest effect on individual performance followed by working conditions. The effects of compensation and co-workers were also significant but comparatively lower than the first two facets.

The most important limitation of this study is that it only covers one sector in Turkey. Therefore, the findings cannot be generalized. The data was collected from 4 financial institutions which are all participation banks. However, the survey answers were not equally distributed. Despite the above limitations, we believe that this study fills a gap in the literature. Hence, the results of this study may provide important feedback for researchers and decision makers in Turkish banking sector.

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# Blue Ocean Strategy: Analysis of The Sectors that has Benefited and a Glance Into which other Sectors may Benefit From Applying this Strategy

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## Abstract

Ever since its inception about a decade ago the notion of the blue ocean strategy has changed the way businesses around the world look at the competitive environment and shape their strategy. The principal change that has emerged as a consequence of adopting this strategy is that it makes competition irrelevant, which was hard to imagine for many executives until not long ago. This aspect of the blue ocean strategy has made it attractive to businesses in different corners of the globe. However, the business sector isn't the only area reaping outstanding financial gains from adopting this approach. As can be seen from the example of Malaysian government and New York Police Department, blue ocean strategy can be equally practical in the government sector. This paper investigates the application of this strategy in the private and the public sectors and examines the appropriateness of applying it in other sectors.

**Keywords:** Competition, markets, blue ocean strategy, growth, financial gains

**JEL Classification:** M13

## Introduction

As the level of competition continues to intensify, the businesses around the world are increasingly getting worried about the diminishing profit margins and the steadiness of their market share. Since the globalization makes geography irrelevant, businesses are not protected against competitive actions from market participants located elsewhere on the globe. The recent advances in e-commerce coupled with highly sophisticated customer needs make it hard for service providers and producers of goods to stay immune from competition. Moreover, stagnation of markets and commoditization of products leave little room for growth.

The research conducted by Kim and Mauborgne, authors of the book *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant* and multiple articles on the topic, reveals that the business environment doesn't have to be as gloomy with regard to growth opportunities as suggested by the latest developments in the business world. The authors argue that in today's increasingly competitive markets, true winners are those businesses that make competition negligible by creating blue oceans, defined by untapped market space, demand creation and the opportunity for highly profitable growth [Kim, Mauborgne, 2005:4].

According to Kim and Mauborgne, blue oceans denote all the industries not in existence today – the unknown market space, untainted by competition. In blue oceans, demand is created rather than fought over [Kim, Mauborgne, 2004:72]. This is different from the red oceans where

the industry boundaries are defined and accepted and the competitive rules of the game are known. In red oceans companies try to outperform their rivals to grab a greater share of existing demand. As the market space gets crowded, prospects for profits and growth are reduced. Products become commodities, and cutthroat competition turns the red ocean bloody [Kim, Mauborgne, 2005:4].

While corporate and business leaders have adopted the concept of blue ocean strategy and made use of this concept to cut costs and optimize new services and products in new uncontested markets, some government leaders took on this approach to find optimal ways of increasing efficiency in managing the limited national resources. This paper first summarizes the success of the blue ocean strategy in the private sector and public sectors. The second part of the paper examines the appropriateness of applying this concept in other fields, namely public education and higher education sectors.

## 1. Background of the Blue Ocean Strategy

Despite the fact that the world population is on the rise, the demographic changes are not parallel in all regions. According to the UN statistics, the population will soon start to decline in Europe. Although the UN statistics shows a steady increase in the world population (table 1), a study by Nico Keilman, a demographer at the University of Oslo in Norway reveals a much slower growth than what the UN statistics suggests [Connor: 2001].



**Table 1:** UN 2008 estimates and medium variant projections (in millions)

Year	World	Asia	Africa	Europe	Latin America	Northern America	Oceania
2000	6,115	3,698	819	727	521	319	31
2005	6,512	3,937	921	729	557	335	34
2010	6,909	4,167	1,033	733	589	352	36
2015	7,302	4,391	1,153	734	618	368	38
2020	7,675	4,596	1,276	733	646	383	40
2025	8,012	4,773	1,400	729	670	398	43
2030	8,309	4,917	1,524	723	690	410	45
2035	8,571	5,032	1,647	716	706	421	46
2040	8,801	5,125	1,770	708	718	431	48
2045	8,996	5,193	1,887	700	726	440	50
2050	9,150	5,231	1,998	691	729	448	51

Source: [http://en.wikipedia.org/wiki/world\\_population](http://en.wikipedia.org/wiki/world_population)

The slower than expected growth of the world population and the declining of population in some continents causes businesses to readjust their demand forecasts for their products. To address the changes in the demand base and the increasing level of competition, Kim and Mauborgne suggest ‘thinking outside the box’ approach of developing a strategy called blue ocean strategy. Although the term ‘blue ocean strategy’ first appeared in the work of Kim and Mauborgne, the breakthroughs that can qualify as blue oceans have been around for a long time. Be it the invention of the world’s first car, first airplane, the first CD player or the first iPod – each discovery has created a whole new market free of competitors. While not all blue ocean creations successfully made it to the market, the successful ones brought in outstanding profit margins and allowed the authors of these strategies to harvest lingering financial gains.

oceans delivered 38% of total revenue and a startling 61% of total profits [Kim, Mauborgne, 2005:107].

**2. Importance of Four Actions Framework in Creating Blue Oceans**

Four actions framework is an important tool in creating blue oceans. It is used to reconsider the business model and value chain to distinguish between value adding processes and those processes that bring little or no value. The tool has four components: reducing factors that companies in an industry have competed on, but no longer have value; discontinuing over-designing of products/services and over-serving customers; eliminating the compromises an industry forces customers to make; and discovering entirely new sources of value for buyers and creating new demand [Kim, Mauborgne, 2005:114].

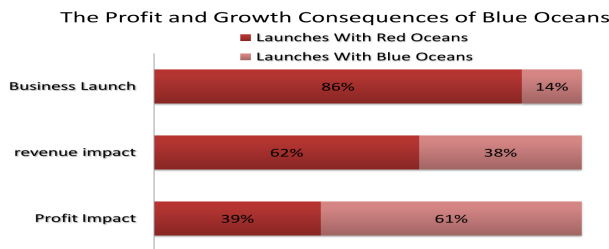


Figure 1: Analysis of revenue and profits in blue and red oceans

Source: [Kim, Mauborgne, 2005:107]

The research on new business launches conducted in 108 companies revealed that 86% of the launches were line extensions, i.e., incremental improvements to existing industry offerings within red oceans; while a mere 14% were aimed at creating new markets or blue oceans (figure 1). While line extensions in red oceans did account for 62% of the total revenues, they only delivered 39% of the total profits. By contrast, the 14% invested in creating blue

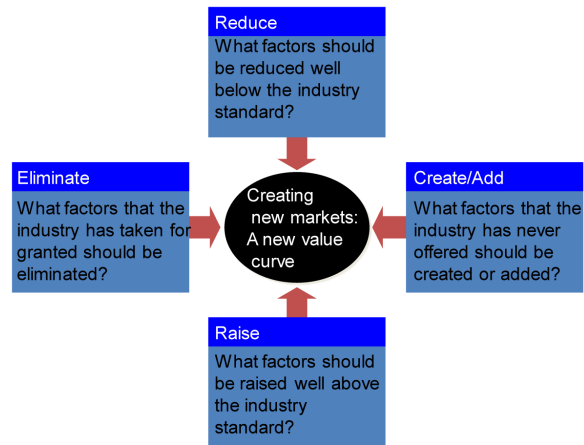


Figure 2: Four Actions Framework

Source: [Kim, Mauborgne, 2005:107]



It is not uncommon to observe some features of products or services that offer no or negligible value to customers. This is mainly because such features have been added without studying the consumer needs and preferences. Additionally, some features that offered value to consumers in the past are no longer of significance to them. Consequently, such features add to the cost of the products without offering anything in return. The first and second actions of the framework propose eliminating or reducing such factors.

The third and fourth factors propose businesses to ask whether the factors desired by consumers are present in the products currently offered and whether businesses need to raise the level of certain factors and/or add completely new features not currently offered.

To create new demand – instead of competing over contracting markets – leaders need to pursue value-based innovation and create blue oceans of new market space. Such actions aim to break the value-cost trade-off. By re-ordering and recombining value elements across market boundaries that provide breakthroughs in buyer value and reducing and eliminating those taken-for-granted factors that are irrelevant to buyers, BOS achieves differentiation and low cost concurrently. That is the key to unlocking new demand in the market and producing profitable growth [Kim, Mauborgne:2009].

### **3. Application of the BOS in the Private Sector in the Example of eBay and Cirque du Soleil**

The well known online shopping and auction website eBay.com is used by millions of people to carry out consumer-to-consumer transactions who buy and sell items without an intermediary. Since its foundation in 1995, eBay has experienced an outstanding growth and enjoyed dazzling financial gains. eBay came into existence as a result of the desire by Pierre Omidyar – the founder of eBay – to establish a marketplace to bring together a fragmented market. Pierre saw eBay as a way to create a person-to-person trading community based on a democratized, efficient market where everyone could have equal access through the same medium, the Internet [Thompson Jr., Strickland III, Gamble, 2007].

The success of eBay is not accidental. Its strategy was based on a unique idea that was not similar to what was available in the market. Pierre Omidyar could see far beyond what he was surrounded by – a red ocean full of retailers competing for a piece of the existing market. His vision and well-crafted strategy gave fruits. Today eBay has become a platform for hundreds of millions of registered users and generated an annual net revenue of \$9.2 billion in 2010 [eBay Annual report, 2010].

Cirque du Soleil – one of Canada’s largest cultural exports – is often referred to as one of the most successful

blue ocean cases. The CEO of Cirque, Guy Laliberte is credited for taking the circus industry to a whole new level, which was not even imagined by conventional circus companies. Founded in 1984, Cirque has achieved revenues that Ringling Bros. and Barnum & Bailey – the world’s leading circus – took more than a century to attain [Kim, Mauborgne, 2004: 71].

Cirque recognized the problems surrounding the circus industry: inability to defend against competition by alternative forms of entertainment and threats by animal rights activists. CEO Laliberte created the features that no other circus offered. He is credited for inventing a new industry that combined elements from traditional circus with elements drawn from sophisticated theater, thus creating a new, uncontested market.

The cases of eBay and Cirque du Soleil illustrate suitability of the blue ocean strategy in the private sectors. However, research shows that the application of the concept of blue ocean strategy is not limited to the private sector only. If businesses like eBay and Cirque du Soleil have reaped outstanding financial gains by implementing this strategy, the government sector examples such as the government of Malaysia, New York Police Department and the Agricultural Bank of China have benefited both on the economic and political front from putting this concept into action.

### **4. Application of the BOS in the Public Sector**

While many businesses have reshaped their strategies based on the concept of blue ocean strategy (BOS) and achieved significant financial gains, the private sector isn’t the only sector benefiting from this strategy. This section of the paper analyses how some governments have made use of the blue ocean strategy to make more efficient use of national resources.

The government of Malaysia can be an example of how governments can utilize blue ocean strategy to solve their economic and social problems. Prime Minister Najib of Malaysia has been making use of this thinking outside the box management style to address some issues on the economic and political front. For instance he used this strategy to address the challenges surrounding the administration of the prison system in Malaysia.

According to Newstraitstimes, Prime Minister Najib has embraced blue ocean strategy as a bigger tool to transform Malaysia’s entry into a new paradigm. Mr. Najib has deployed it as a tool to sort out the mess plaguing the Malaysian prison system [Newstraitstimes: 2011].

As applying the blue ocean strategy does not always require something new but simply a new way of doing things, this has rightly been a focus of many of the initiatives under the actionable framework of the Government Transformation Programme. In the case of the National

Key Results Area on crime, for example, where the target is to reduce street crime by 20 per cent and the overall crime index by five per cent, the strategy since last year has been to boost police presence, not by increasing recruits, but by reassigning administrative tasks to civilian staff and, thereby, releasing those who had hitherto been desk-bound for beat patrols. [Newstraitstimes: 2011].

While the results of the Government Transformation Programme has shown its positive impact on the economic front, the government of Malaysia has also benefited from applying this concept to address some political issues. One such measure has to do with the initiative of the Malaysian government encouraging businesses to host cultural events.

There's another BOS that Najib might consider: Converting Malaysia's multiracial make-up into a corporate social responsibility mission with a slew of tax breaks. Get corporations to hold regular feasts in their neighbourhoods where they operate, even in small branches. No need to wait for the religious festivities or the politicians' open houses. Malaysians like nothing better than to eat and be merry, even if the people they mingle with are political foes and of different races. By hosting the feasts, the corporations will foster racial interaction, discussion, debate and who knows, understanding in a climate where socio-political friction is festering.

And by doing so, the corporations should earn some tax exemptions, embrace a new form of marketing strategy and even an advertising platform, while helping the nation heal intellectual wounds [Newstraitstimes:2011].

The government of Malaysia is not the only one reaping the benefits of applying the blue ocean strategy in the public sector. Agricultural Bank of China (ABC) Limited is another example of a public sector benefiting from applying this concept to perk up its financial standing.

New York Police Department (NYPD) is another public organization that has implemented blue ocean strategy to recuperate itself in the mid 1990s. The commissioner of NYPD Bill Bratton has significantly changed the way things were managed at this organization.

In business terms, the NYPD was a cash-strapped organization with thirty-six thousand employees wedded to the status quo, unmotivated, and underpaid; a disgruntled customer base—New York City's citizens; and rapidly declining performance as measured by the increase in crime, fear, and disorder. Entrenched turf wars and politics topped off the cake. In short, leading the NYPD to execute a shift in strategy was a managerial challenge far beyond the imaginations of most executives. The competition — the criminals—was strong and rising.

Yet in less than two years and without an increase in his budget, Bratton turned New York City into the safest large city in the United States. He broke out of the red ocean with a blue ocean policing strategy that revolution-

ized U.S. policing as it was then known. Between 1994 and 1996, the organization won as "profits" jumped: Felony crime fell 39 percent, murders 50 percent, and theft 35 percent. "Customers" won: Gallup polls reported that public confidence in the NYPD leaped from 37 percent to 73 percent. And employees won: Internal surveys showed job satisfaction in the NYPD reaching an all-time high. Perhaps most impressively, the changes have outlasted its leader, implying a fundamental shift in the organizational culture and strategy of the NYPD. Even after Bratton's departure in 1996, crime rates have continued to fall. [http://www.blueoceanstrategy.com/abo/nypd.html]

## 5. Other Sectors may Benefit from Applying the Blue Ocean Strategy

Successful application of the blue ocean strategy in the private and government sectors brings up the question of whether it is suitable to apply it in other sectors. Namely, this paper will explore the appropriateness of applying this strategy in public education system and the institutions of higher education.

## 6. Application of the Blue Ocean Strategy in Public schools

Few experts would disagree that public education systems are in need of a reform in many countries, including many developed countries. The quality of education at American public schools is far from satisfactory, according to billionaire and philanthropist Bill Gates. Precisely for that reason the world's richest businessman has set up a foundation that sponsors projects targeted at improving the quality of education at American public schools.

Mr. Gates is not the only one alarmed by the level of performance of public education system in the United States. Members of the United States Congress share his concern over the quality of education at public schools. For example, reforms in this area dominated the discussions in debates among presidential candidates before the 2008 presidential election. These concerns about the performance of public schools indicate the need to reconsider the whole system.

Looking at the public education system (PES) through the prism of the four actions framework may help to identify the factors which are vital, but are not given enough consideration in the US public education system or are nonexistent. It may also reveal the practices which need to be discontinued or the areas for which resources need to be reduced below the existing PES standards.

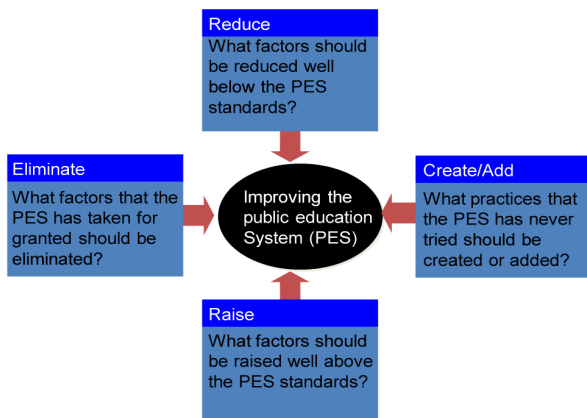


Figure 3: Four Actions Framework in Public Education System (PES)

**What factors need to be raised or added in Public Education System?**

Applying the four actions framework, which serves as the foundation for creating a blue ocean strategy, means taking a look at the conventional practices and deciding which ones need to be eliminated or reduced and which new practices should be created or added. Bill Gates mentions the need for interactive classes rather than the traditional teaching methods based on the teacher lecturing and the students passively listening to the lectures. He urges the need to transform the classroom environment in American public schools.

In 2012 annual letter of the Gates Foundation, Mr. Gates emphasizes the need for a reform in administering the personnel system of teaching. According to Mr. Gates, what needs to be created in the US public education system is an effective personnel system, which involves hiring; giving specific feedback; helping employees improve; and creating pay schedules, benefit plans, and termination procedures. “On the K-12 side, our top priority is helping schools implement a personnel system that improves the effectiveness of teaching, because research shows that effective teaching is the most important in-school factor in student achievement. There are a lot of great teachers in public schools, and a lot of teachers who want to be great but don’t have the tools they need. If we could make the average teacher as good as the best teachers, the benefit to students would be phenomenal.” (http://www.gatesfoundation.org/annual-letter/2012/Pages/home-en.aspx).

Another factor that needs to be raised (from the current level) in the US public education system, according to the findings of the survey conducted by the Gates Foundation, is the specificity of the feedback teachers receive on how to improve their teaching methods. According to a study by the foundation, 95 percent of teachers are not given specific feedback about how to improve. An effective tool in receiving specific feedback as proposed by the

Gates Foundation is the peer evaluation system, where teachers evaluate their colleagues. This method has been found very effective both for evaluators who get a chance to observe their fellow teachers, and the teachers who are being evaluated since they receive very specific feedback on their performance.

**What factors need to be reduced or eliminated in Public Education System?**

The traditional modes of teaching in public schools has not involved enough interactive activities, but were rather based on lectures. While most experts agree that lectures allow teachers to cover more teaching material during class period, when look at the learning end, lecture based classes are far less effective than interactive classrooms where student involvement is higher. Despite some schools have adopted the interactive approach to teaching, conventional lecture based classrooms are far from over.

Given the impact of the change in teaching approaches, it may be beneficial to abandon the long-established lecture based methods of teaching. According to founder of the Gates Foundation, Mr. Gates, it is positive sign to see more and more schools “flip” the classroom so that passive activities like lectures are done outside of class and in-class time is used for more collaborative and personal interactions between students and teachers.

**7. Application the Blue Ocean Strategy in Higher Education Institutions**

In addition to the public education system (PES), another sector that may benefit from the blue ocean strategy is higher education system. Much like the PES, institutions of higher education may also revisit their traditional ways of doing business and investigate how they can improve by looking at their current condition through the prism of the four actions model.

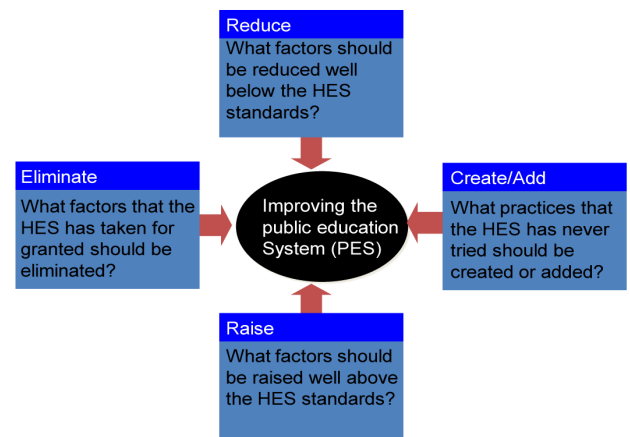


Figure 3: Four Actions Framework in Higher Education System (HES)

### What factors need to be raised or added in Higher Education System?

A study conducted at Qafqaz University (a private university in the Republic of Azerbaijan) examined the factors that students favored the most. According to survey results, one of the most important factors for the university students was instructor-student relationship. Almost twenty percent of the students indicated this factor as very important to them (Durmaz, Journal of Qafqaz, 31).

The instructor-student relationship at Qafqaz University is not only limited to instructors and students, but also involve academic advisors. At Qafqaz University, academic advisors are assigned to a group of about twenty students and meet with students every week to monitor their academic progress. In addition to academic support, academic advisors also organize recreational programs for students including sports events, leisure activities, etc. This close relationship between the academic advisor and students translate into students' academic success and social well-being. As a result, Qafqaz University achieves higher retention rates compared to other universities in the region, with majority of the students choosing to stay at this university until their graduation. In addition to preventing students from transferring away to other universities, Qafqaz University also possesses higher graduate employment rates than other universities with the majority of its students landing in jobs immediately after graduation. (<http://www.qu.edu.az/content.php?link=126&lang=en>).

Unlike traditional academic advisors of American universities who work with a much higher number of students and meet with them only on need based appointments, Qafqaz University's approach to academic advising has proved to be vital to students' success and achieving a higher retention rate. Although this approach would require higher ratio of administrative staff to students, as can be seen from the experience of Qafqaz University gains from this investment will far outweigh the cost in the long run. Other universities may also benefit from creating a similar system as part of their four action framework analysis.

What factors need to be reduced or eliminated in Higher Education System?

Similar to what is observed in public education system, education at many colleges and universities have been based on lectures, where students are passive listeners rather than active learners. However, it has been long known in the academic field that the amount of information retained by students decreases significantly after ten minutes.

Despite the astounding amount of work done on the importance of interactive learning, there are still instructors in higher education sector that utilize the conventional lecture method. There may be strong reasons why some teachers resist giving up their traditional teaching methods and switch to interactive teaching approaches, such as the inability of instructors to cover as much course content in

the time available, too much pre-class preparation time for interactive lectures and so on. Despite these obstacles, the academic institutions which have utilized interactive teaching techniques have been far more successful and popular among students than those colleges and universities which solely make use of conventional lecture methods.

### Conclusion

The results of this study demonstrate that blue ocean strategy can be effectively applied both in the government and private sectors. If the success of companies like eBay and Cirque du Soleil demonstrate the importance of this strategy in the business sector, the accomplishments of New York Police Department and the government of Malaysia show that this strategy is equally significant in the government sector. At a time when governments around the world are faced with the dilemma of addressing unlimited financial and political challenges with limited resources, all governments and government institutions can benefit by revisiting their practices through the prism of the four actions framework.

However, the successful application of the strategy in both private and government sector will serve as a precedent to an increasing popularity of the blue ocean strategy in other sectors as well. As this study has demonstrated, public education system and the institutions of higher education are examples of the sectors that may benefit from applying the principles of the blue ocean strategy into their practices.

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# Causality between Energy Consumption, Employment and Output in Turkey: Evidence from Monthly Data

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## Abstract

This study examines the relationship between energy, employment and output in Turkey using monthly data for the period of 2005:01-2010:10 within a cointegration and causality framework. The results of ARDL bounds testing for cointegration show that electricity, employment and output are cointegrated and employment is Granger caused by electricity consumption and output in the long-run. The negative long-run coefficient of electricity consumption in the ARDL model implies that employment is negatively Granger caused by electricity consumption in the long-run. This result implies that energy conservation policies, in an attempt to prevent wastage in energy consumption and to curtail energy demand, can jeopardize and adversely affect the employment level in the long-run. That a decrease in electricity consumption has a negative effect on employment in a unidirectional way implies that energy inputs are substitute to labor force in Turkey. In both the output and employment equations, there exists no Granger causality among these variables in the short-run. However, electricity consumption Granger causes output level in the short-run.

**Keywords:** Energy consumption, Causality, Turkey.

**JEL Classification:** E23, E24

## 1. Introduction

Energy has been very crucial component of the production process in the world economy. Because of the growth in population and the increase in production facilities all over the world, the importance of energy consumption in the production process as a major input is increasing every day. The increased role of energy in the world economy has reinforced its relationship with macroeconomic variables. It is crucial for macroeconomic policymakers and decision makers to predict the response of macroeconomic variables to abrupt changes in the energy sector (Akarca and Long, 1979). Knowledge of the sensitivity of the macroeconomic variables to unexpected shortages in energy supply, increases in energy prices, changes in energy conservation and environmental protection policies and discoveries of new energy resources enables agencies in economic policy to plan for these economic situations more effectively. If a unidirectional causality runs from output or employment to electricity consumption or there exist no such causality, policies related to the electricity industry will not affect economic growth and the employment level. On the other hand, if causality runs from electricity to income or employment in a unidirectional way, policies proposing reduction in electricity consumption result in a recession in income and/or employment (Narayan and Smyth, 2005). Thus, knowledge of the relationship and the causality among energy consumption and macroeconomic

variables are of importance for policymakers in making macroeconomic plans and programs.

A substantial increase in the literature on the relationship between energy consumption and macroeconomic variables began after the global oil crises of the 1970s. Since the seminal study of Kraft and Kraft (1978), studies on energy consumption increased in accordance with the advances in econometric and other empirical methods. Kraft and Kraft (1978) found that gross national product (GNP) Granger caused energy consumption in the United States (US). However, Akarca and Long (1979, 1980), Yu and Hwang (1984) and Erol and Yu (1987) concluded that a causal relationship between energy consumption and GNP did not exist for the US. The results of Stern (1993) show that energy consumption does not cause economic growth, while economic growth causes energy consumption. Masih and Masih (1996) showed that energy consumption, real income, and prices are cointegrated in the long-run equilibrium and causality runs in a bidirectional way between energy consumption and real income for both South Korea and Taiwan. Cheng et al. (1998) examined the multivariate causality between energy consumption and employment with the environmental implications for the United States and found that while there was no causality from energy consumption to employment. In fact, a reverse causality from employment to energy consumption was detected. Chang et al. (2001) examined the causal relationships among energy consumption, employment and output for



Taiwan and revealed that the variables were cointegrated with one cointegrating vector and bidirectional causality for employment-output and employment-energy consumption, but had only unidirectional causality running from energy consumption to output, which implied energy consumption led to output growth in Taiwan over this period. Narayan and Smyth (2005) found a long-run relationship among variables when the electricity consumption was the dependent variable and causality running from employment and real income to electricity consumption. Ozturk et al. (2010) studied the relationship between energy consumption and gross domestic product (GDP) for 51 countries dividing the countries into three groups of low, lower middle and upper middle income group and found cointegration between energy consumption and GDP for all group countries. The mixed results of the studies in the literature about the relationship between energy consumption and employment show that the results of some studies indicate that no relationship between these variables supporting the neutrality thesis (Erol and Yu, 1987, 1989; Yu et al. 1988; Yu and Jin, 1992; Narayan and Smyth, 2005; Ghosh, 2009) while others indicate that causality runs from employment to energy consumption (Murray and Nan, 1992; Cheng et al., 1998) or from energy consumption to employment

(Akarca and Long, 1979; Cheng and Lai, 1997; Aqeel and Butt, 2001; Ghosh, 2009).

The figures for electricity consumption (EC), employment (EM) and GDP in Turkey for the last decade are given in Table 1. The average growth rates of GDP and electricity consumption are 2.48% and 5.66% respectively, while the growth rate in employment is -0.32% over the period of 2001-2009. While output and energy consumption increases, the decrease in employment level indicates that the production process in Turkey has become more capital intensive. The impacts of the economic crises in 2000 and 2001 can be seen in the negative growth rates for these variables in these years. The biggest decrease in employment in 2004 is substantially due to the methodological changes in labor statistics implemented by the Turkish Statistical Institute (TURKSTAT). The decrease in employment levels continued during the period of 2000-2004, when there was political instability in Turkey. The impacts of economic the crises in 2000 and 2001 in Turkey and global crisis of 2008 are also reflected in the variables. The impact of the global crisis on macroeconomic variables started at the end of 2008 (Polat, 2011; Uslu and Polat, 2010) and lead to the largest decrease in electricity consumption over this period.

**Table 1:** Electricity consumption, real output and employment in Turkey, 2000-2009

Years	GDP (1998=100)	Growth Rates	EC (GWh)	Growth Rates	EM (‘000s)	Growth Rates
2000	1127.26	5.29	98295.7	7.78	21580	-2.12
2001	1048.73	-6.97	97070	-1.25	21524	-0.26
2002	1098.64	4.76	102947.8	6.06	21354	-0.79
2003	1141.54	3.91	111766.	8.57	21147	-0.97
2004	1232.55	7.97	121141.9	8.39	19632	-7.16
2005	1319.58	7.06	130262.9	7.53	20067	2.22
2006	1393.50	5.60	143070.5	9.83	20423	1.77
2007	1441.22	3.42	155135.2	8.43	20738	1.54
2008	1433.93	-0.51	161947.5	4.39	21194	2.20
2009	1351.15	-5.77	156894	-3.12	21277	0.39
Average	1258.81	2.48	127853.15	5.66	20893.6	-0.32

Source: TURKSTAT and EUROSTAT

**Table 2:** Summary statistics of the variables

	EC(GWh)	EM(thousand)	IPI
Mean	15492.03	21017.69	108.8831
Median	15770.13	21008.00	108.0900
Maximum	18313.23	23488.00	121.6600
Minimum	12680.51	18944.00	96.25000
Std. Dev.	1421.272	1103.661	7.305529
Skewness	-0.274046	0.213987	-0.115283
Kurtosis	2.215781	2.579235	1.884610
Sum Sq. Dev.	1.39E+08	84046677	3682.582



This paper investigates the long-run relationship between electricity consumption, employment and output, and examines direction of causality among these variables. An autoregressive distributed lag (ARDL) model developed by Pesaran et al. (1996) and Pesaran and Shin (1999) is conducted to analyze the long-run relationship among the variables using a multivariate approach with monthly data taking into account the effects of global crisis in 2008. Since bivariate approaches can omit relevant variables causing specification bias, a multivariate approach is adopted in this study in line with previous studies in the literature such as Stern (1993, 2000), Chang et al. (2001), Masih and Masih (1996), Narayan and Smyth (2005), Ghosh, (2009).

In the second section, the data and econometric methodologies used in this study are briefly summarized. In the third section, the results of the study are presented. In the fourth section, the conclusion is presented.

## 2. Data and econometric methodology

### 2.1 Data description

Monthly data on total electricity consumption (EC), total employment (EM) and industrial production index (IPI) as a proxy for real output from January 2005 to October 2010 are used in this study and provided from database of TURKSTAT and EUROSTAT on the internet. The period of analysis was determined by data availability. Since seasonality patterns are found by monthly seasonal unit root test in the all series, seasonally adjusted series are used in this analysis. TURKSTAT seasonally and calendar adjusts monthly data of total employment and IPI series. Monthly data of electricity consumption provided from database of EUROSTAT are seasonally and calendar adjusted by conducting TRAMO/SEATS methodology (Gomez and Maravall, 1997) by the authors. All variables were transformed into natural logarithms, because this may help to stabilize variance and move series closer to stationarity (Tari, 2010; Lütkepohl and Kratzig, 2004), as done in previous studies (e.g. Narayan and Smyth, 2005; Chang et al., 2001, Gosh, 2009). Summary statistics of the variables are given in Table 2.

### 2.2. Unit root tests

Despite the advantage of ARDL bounds test for cointegration in that this procedure can be employed regardless of whether the variables are I(0) or I(1), all variables must be of the same degree of integration to conduct the Granger causality test (Narayan, 2005). The order of integration is investigated by using conventional unit root tests developed by Augmented Dickey Fuller (ADF) (Dickey and Fuller 1979, 1981) and Phillips-Perron (PP) (Phillips

and Perron 1988), by the unit root test with structural break developed by Zivot-Andrews (ZA) (Zivot and Andrews, 1992) and by the monthly seasonal unit root test developed by Hylleberg et al. (1990) and modified for monthly series by Franses (1990, 1991). Since conventional unit root tests can be biased, the case time series to be tested have structural breaks (Herzer and Novak-Lehman, 2006) in order to avoid that drawback of conventional unit root tests. The ZA unit root test is also adopted in this study to test order of integration of variables. Zivot and Andrews (1992) proposed three models to test for a unit root in a time series with a structural break as follows:

$$\text{Model A: } \Delta y_t = \mu_1^A + \gamma_1^A t + \mu_2^A DU_t(\lambda) + \alpha^A y_{t-1} + \sum_{j=1}^k \beta_j \Delta y_{t-j} + \varepsilon_{At}$$

$$\text{Model B: } \Delta y_t = \mu_1^B + \gamma_1^B t + \gamma_2^A DT_t(\lambda) + \alpha^B y_{t-1} + \sum_{j=1}^k \beta_j \Delta y_{t-j} + \varepsilon_{Bt}$$

$$\text{Model C: } \Delta y_t = \mu_1^C + \gamma_1^C t + \mu_2^C DU_t(\lambda) + \gamma_2^C DT_t(\lambda) + \alpha^C y_{t-1} + \sum_{j=1}^k \beta_j \Delta y_{t-j} + \varepsilon_{Ct}$$

Here  $\Delta$  is the first difference operator,  $DU_t$  is dummy variable indicating a mean shift occurring at each possible break-date and  $DT_t$  is trend shift variable. Model A analyzes a change in the level, model B analyzes a change in the slope of trend and model C analyzes changes in both the level and the slope of trend in the series (Zivot and Andrews, 1992). In this study models A and C are used to determine the order of integration of variables.

Seasonal patterns of (seasonally unadjusted) series are investigated by conducting monthly seasonal unit root tests developed by Hylleberg et al. (1990) and modified for monthly series by Franses (1990, 1991). The model developed by Franses (1990, 1991) to test monthly series for seasonal unit roots can be written as follows:

$$\Delta_{12} y_t = \mu + T_t + \sum_{k=1}^q \alpha_k D_{kt} + \pi_1 z_{1,t-1} + \pi_2 z_{2,t-1} + \pi_3 z_{3,t-1} + \pi_4 z_{3,t-2} + \pi_5 z_{4,t-1} + \pi_6 z_{4,t-2} +$$

$$\pi_7 z_{5,t-1} + \pi_8 z_{5,t-2} + \pi_9 z_{6,t-1} + \pi_{10} z_{6,t-2} + \pi_{11} z_{7,t-1} + \pi_{12} z_{7,t-2} + \sum_{k=1}^p \gamma_p \Delta_{12} y_{t-k} + \varepsilon_t$$

where;

$$z_{1,t} = (1+L)(1+L^2)(1+L^4+L^8)y_t$$

$$z_{2,t} = -(1-L)(1+L^2)(1+L^4+L^8)y_t$$

$$z_{3,t} = -(1-L^2)(1+L^4+L^8)y_t$$

$$z_{4,t} = -(1-L^4)(1-\sqrt{3}L+L^2)(1+L^4+L^8)y_t$$

$$z_{5,t} = -(1-L^4)(1+\sqrt{3}L+L^2)(1+L^4+L^8)y_t$$

$$z_{6,t} = -(1-L^4)(1-L^2+L^4)(1-L+L^2)y_t$$

$$z_{7,t} = -(1-L^4)(1-L^2+L^4)(1+L+L^2)y_t$$

$$\Delta_{12} y_t = (1-L^{12})y_t$$

are transformed variables of  $y_t$  representing stochastic seasonality,  $\mu$  is drift term,  $T_t$  is the deterministic trend,

$\sum_{k=1}^{11} \alpha_k D_{kt}$  are dummy variables representing determin-



istic seasonality.  $\sum_{k=1}^p \gamma_p \Delta_{12} y_{t-k}$  represents extra  $k$  lag of the dependent variable to avoid serial correlation and is serially uncorrelated error term. The seasonal unit root test is employed by conducting F and t tests on transformed variables of  $y_t$  as shown by Franses (1990, 1991).

### 2.3. Cointegration

The long-run relationships among the variables are estimated employing ARDL bounds testing approach advanced in Pesaran et al. (1996) and Pesaran and Shin (1999). There are some advantages of the ARDL approach over conventional cointegration methods such as Engle and Granger (1987), Johansen (1988), Johansen and Juselius (1990). This approach can be employed irrespective of whether the underlying variables are I(0) or I(1), and can prevent pre-testing problems of conventional cointegration analysis in which classification of the regressors are required to be I(0) and I(1) (Pesaran and Pesaran, 2009). Another advantage of this approach is that this method is

efficient enough in small or finite sample data sizes when compared to other co-integration methods (Fosu and Magnus, 2006).

The existence of the long-run equilibrium relationship among variables is tested through computing the significance of the F-statistics on the lagged levels of the variables in the error correction form of the underlying ARDL model. The appropriate critical values for different regressors (k) whether the ARDL model has an intercept and/or a trend were tabulated by Pesaran et al. (2001) since the F-statistic has a non-standard distribution. On the assumption that all variables in the ARDL model are I(1) in one set, and all the variables are I(0) in another set, two sets of critical values are given in their study. If the computed F-statistic falls outside the bounds covered by critical values, a decision can be concluded in terms of cointegration without knowing the order of integration of the variables. If the computed F-statistic falls within the bounds covered by critical values, then a conclusive inference cannot be made (Pesaran and Pesaran, 2009). The existence of the long-run equilibrium relationships among variables are investigated by using following unrestricted error correction models:

$$\Delta \ln EC_t = a_{0EC} + \sum_{i=1}^p b_{iEC} \Delta \ln EC_{t-i} + \sum_{i=1}^p c_{iEC} \Delta \ln Y_{t-i} + \sum_{i=1}^p d_{iEC} \Delta \ln EM_{t-i} + \alpha_{1EC} \ln EC_{t-1} + \alpha_{2EC} \ln Y_{t-1} + \alpha_{3EC} \ln EM_{t-1} + \alpha_{4EC} DU_t + \alpha_{\epsilon}$$

$$\Delta \ln Y_t = a_{0Y} + \sum_{i=1}^p b_{iY} \Delta \ln Y_{t-i} + \sum_{i=1}^p c_{iY} \Delta \ln EC_{t-i} + \sum_{i=1}^p d_{iY} \Delta \ln EM_{t-i} + \beta_{1Y} \ln Y_{t-1} + \beta_{2Y} \ln EC_{t-1} + \beta_{3Y} \ln EM_{t-1} + \beta_{4Y} DU_t + \beta_{\epsilon}$$

$$\Delta \ln EM_t = a_{0L} + \sum_{i=1}^p b_{iEM} \Delta \ln EM_{t-i} + \sum_{i=1}^p c_{iEM} \Delta \ln Y_{t-i} + \sum_{i=1}^p d_{iEM} \Delta \ln EC_{t-i} + \delta_{1EM} \ln EM_{t-1} + \delta_{2EM} \ln Y_{t-1} + \delta_{3EM} \ln EC_{t-1} + \delta_{4EM} DU_t + \delta_{\epsilon}$$

Here  $\Delta$  is the first difference operator,  $\ln EC$  is the natural logarithm of electricity consumption,  $\ln EM$  is the natural logarithm of employment,  $\ln Y$  is the natural logarithm of IPI,  $DU$  is a dummy variable representing break in level and  $DT$  is a dummy variable representing break in trend and  $tr$  is the trend. Dummy variables are included in equations to represent global financial crisis according to results of unit root tests with structural break, where  $DU=0$  and  $DT=0$  for the period of 2005:01- 2008:10 and  $DU=1$  and  $DT=1,2,3,\dots,25$  for the period of 2008:11-2010:10. The null hypothesis of no cointegration among variables and alternative hypothesis in Eq. (5), (6) and (7) can be written respectively as below:

$$H_0 = \alpha_{1EC} = \alpha_{2EC} = \alpha_{3EC} = 0$$

$$H_1 = \alpha_{1EC} \neq \alpha_{2EC} \neq \alpha_{3EC} \neq 0$$

$$H_0 = \beta_{1Y} = \beta_{2Y} = \beta_{3Y} = 0 \quad H_0 = \delta_{1EM} = \delta_{2EM} = \delta_{3EM} = 0$$

$$H_1 = \beta_{1Y} \neq \beta_{2Y} \neq \beta_{3Y} \neq 0 \quad H_1 = \delta_{1EM} \neq \delta_{2EM} \neq \delta_{3EM} \neq 0$$

If cointegration between variables is found, the coefficients of the long-run relationship between variables are estimated and inferences about values of coefficients are made at the second stage, (Pesaran and Pesaran, 2009). In case employment is the dependent variable, the conditional ARDL long-run model is estimated to estimate coefficients of the long-run relationship among variables as follows:

$$\ln EM_t = \theta_0 + \sum_{i=1}^p \theta_{1i} \ln EM_{t-i} + \sum_{i=0}^q \theta_{2i} \ln Y_{t-i} + \sum_{i=0}^r \theta_{3i} \ln EC_{t-i} + \theta_4 DU_t + \theta_5 DT_t + \theta_6 tr_t + \varepsilon_t$$

The short-run dynamic parameters indicating the short-run relationship among variables are tested by an error correction model associated with the long-run estimates. In case employment is the dependent variable, this error correction model can be written as follows:

$$\Delta \ln EM_t = \omega_0 + \sum_{i=1}^p \omega_{1i} \Delta \ln EM_{t-i} + \sum_{i=0}^q \omega_{2i} \Delta \ln Y_{t-i} + \sum_{i=0}^r \omega_{3i} \Delta \ln EC_{t-i} + \omega_4 DU_t + \omega_5 DT_t + \omega_6 tr_t + \theta ecmt_{t-1} + \varepsilon_t$$

where  $ecmt-1$  is the lagged error term series indicating short-run disequilibria that can be adjusted in the long-term (Fosu and Magnus, 2006).

#### 2.4. Granger causality

Once cointegration among variables is found (Granger, 1988), causality at least in one way would be considered to exist. Thus, the Granger causality test provided by Granger (1986) and Engle and Granger (1987) can be employed to analyze the direction of these relationships. The direction of causality can be analyzed using an error correction model

as follows (Engle and Granger, 1987):

$$\Delta \begin{bmatrix} \ln EC_t \\ \ln EM_t \\ \ln Y_t \end{bmatrix} = \begin{bmatrix} \sigma_1 \\ \sigma_2 \\ \sigma_3 \end{bmatrix} + \sum_{i=1}^p \Delta \begin{bmatrix} \mu_{11i} \mu_{12i} \mu_{13i} \\ \mu_{21i} \mu_{22i} \mu_{23i} \\ \mu_{31i} \mu_{32i} \mu_{33i} \end{bmatrix} \begin{bmatrix} \ln EC_{t-i} \\ \ln EM_{t-i} \\ \ln Y_{t-i} \end{bmatrix} + \begin{bmatrix} \varphi \\ \gamma \\ \mu \end{bmatrix} [ecm_{t-1}] + \varepsilon$$

where  $ecm-1$  is the lagged error correction term obtained from the long-run equilibrium relationship. The error correction term is not used, in case no relationship among variables exist (Narayan and Smyth, 2005). The Granger causality test is conducted by computing F-statistics on the lagged explanatory variables of the error correction model as a group indicating the significance of the short-run causal effects and the t-statistics on the coefficients of the lagged  $ecm$  indicating the significance of the long-run causal effects in the model (Chang et al., 2001; Gosh, 2009). The lag length  $k$  is determined through the Schwarz Bayesian Criterion (Schwarz, 1978) (SBC).

### 3. Empirical Results

The monthly seasonal unit root test is employed to analyze seasonal patterns of the raw data. If all the variables do not have the same degree of integration in terms of seasonal frequencies, it would not be possible to conduct seasonal cointegration. In this case, seasonally adjusted data should be used. The results are reported for the base equation and the base equation including the constant, trend and seasonal dummies in Table 3. The advantage of considering those four model specification is to distinguish deterministic or stochastic seasonality simultaneously. Inclusion of seasonal dummy variable serves as an indirect test of whether there can be a deterministic seasonality with or without seasonal unit root(s) (Leong, 1997). In order to avoid serial correlation, Breusch–Godfrey serial correlation LM statistics is used for first and 12th serial correlation due to the lack of an observation number.

Table 3: Monthly unit root test results

Series	Lag <sup>1</sup>	LM(1)/LM(12) <sup>2</sup>	$t_{\pi_1}$	$t_{\pi_2}$	$F_{\pi_3, \pi_4}$	$F_{\pi_5, \pi_6}$	$F_{\pi_7, \pi_8}$	$F_{\pi_9, \pi_{10}}$	$F_{\pi_{11}, \pi_{12}}$
$\ln(IPI)$	3	1.07/0.72	0.34	-1.63	0.28	2.18	1.60	3.29	1.15
$\ln(IPI)^c$	2	0.52/1.23	-3.49 <sup>a</sup>	-1.68	0.21	1.77	1.51	1.90	0.79
$\ln(IPI)^{c,t}$	2	0.37/1.23	-3.48 <sup>b</sup>	-1.69	0.19	1.77	1.40	1.84	0.77
$\ln(IPI)^{c,sd}$	1	0.54/1.07	-1.94	-1.49	3.20	2.26	5.67 <sup>b</sup>	2.29	5.41 <sup>c</sup>
$\ln(EC)$	6	0.07/1.20	0.99	-0.90	0.08	0.15	0.81	2.41	0.01
$\ln(EC)^c$	4	0.10/1.49	-1.18	-0.78	0.03	0.43	0.68	1.65	0.01
$\ln(EC)^{c,t}$	6	<0.01/1.42	-2.45	-0.96	0.07	0.14	0.52	2.56	0.01
$\ln(EC)^{c,sd}$	-	0.35/1.40	-0.27	-1.77	1.89	2.57	8.34 <sup>a</sup>	1.70	3.09
$\ln(EM)$	-	1.25/1	1.58	-2.09 <sup>b</sup>	1.12	7.78 <sup>a</sup>	0.39	17.43 <sup>a</sup>	0.31
$\ln(EM)^c$	-	1.06/1.04	0.41	-2.05 <sup>b</sup>	1.12	7.48 <sup>a</sup>	0.35	16.52 <sup>a</sup>	0.33
$\ln(EM)^{c,t}$	1	0.19/1.33	-2.53	-1.28	0.70	3.90 <sup>b</sup>	0.31	4.00 <sup>b</sup>	0.09
$\ln(EM)^{c,t,sd}$	-	0.30/1.29	-0.14	-1.10	1.00	3.19	3.81	5.52	3.68

Notes: a, b and c denote significance at the 1 %, 5% and 10 % levels respectively. c, t and sd indicate that models consist of drift, trend and seasonal dummies respectively. All series seasonally unadjusted. Critical values are provided from Franses and Hobijn (1997)

Number of lags in the auxiliary regression.

Breusch-Godfrey first and 12th order serial correlation LM statistics

In the model selection process, if there is a relatively significant difference between the models in terms of t or F-statistics, the extended model is used to avoid the loss of power that results from exclusion of necessary variables. In this view, model (4) was considered in testing of IPI and employment series and model (1) is considered in the electricity consumption series. According to the results, the zero frequency unit root is not rejected in all series, the null of the seasonal unit root could not be rejected at the frequencies  $\pi$ ,  $\pi/2$ ,  $2\pi/3$  and  $5\pi/6$  in IPI series;  $\pi$ ,  $\pi/2$ ,  $2\pi/3$ ,  $5\pi/6$ , and  $\pi/6$  in the employment series, at all frequencies in the electricity consumption series. This implies that the seasonal movements in the series are

permanent and change over time. There is also deterministic seasonality in addition to seasonal unit roots in all series. The results indicate that seasonal differencing filters can remove seasonal fluctuations in the series.

Since seasonal patterns are found by the monthly seasonal unit root test, seasonally adjusted series are used. The seasonally adjusted series of total employment and IPI are taken from TURKSTAT. The seasonally unadjusted series of electricity consumption taken from EUROSTAT are seasonally adjusted by employing TRAMO/SEASTS method suggested by Gomez and Maravall (1997).

The results of the ADF and PP unit root tests for the seasonally adjusted series are reported in Table 4. The number of lags is determined by the SBC in ADF test and by bandwidth using the Newey–West Bartlett kernel in PP test to avoid serial correlation. The ADF and PP unit root tests conclude the same results, indicating that the null hypothesis of non-stationarity was not rejected for all series at conventional levels. In case all series are first differenced, unit roots rejected at 1% level. This implies that all series are I(1).

**Table 4:** Results for the conventional unit root tests

Series	Model <sup>1</sup>	Lag <sup>2</sup>	ADF	PP	Series	ADF	PP
$\ln(IPI)$	-	1	1.14	0.75	$\Delta \ln(IPI)$	-5.76 <sup>a</sup>	-6.02 <sup>a</sup>
	c	3	-2.38	1.38		-5.88 <sup>a</sup>	-6.09 <sup>a</sup>
	c,t	3	-2.51	-1.66		-5.83 <sup>a</sup>	-6.05 <sup>a</sup>
$\ln(EC)$	-	-	2.07	2.39	$\Delta \ln(EC)$	-8.09 <sup>a</sup>	-8.09 <sup>a</sup>
	c	-	-0.97	-0.91		-8.56 <sup>a</sup>	-8.63 <sup>a</sup>
	c,t	-	-1.99	-1.98		-8.50 <sup>a</sup>	-8.56 <sup>a</sup>
$\ln(EM)$	-	-	2.95	2.43	$\Delta \ln(EM)$	-6.13 <sup>a</sup>	-6.24 <sup>a</sup>
	c	-	0.68	0.35		-6.69 <sup>a</sup>	-6.68 <sup>a</sup>
	c,t	-	-1.15	-1.58		-6.83 <sup>a</sup>	-6.83 <sup>a</sup>

Notes: a, b and c denote significance at the 1%, 5%, 10% levels respectively.

The results for the unit root tests with structural breaks are reported in Table 5. According to the results, the null hypothesis of non-stationarity was rejected for all series at conventional levels. This implies that the series consist of structural break rather than unit root. The breaks in level for IPI, electricity consumption and the employment series are respectively in September, October and November

2008, coinciding with global economic crisis in 2008. That the break in the level of the employment series follows after the break of IPI indicates the rigid structure of the labor factor market in Turkey. There are also accelerations in the trend in 2008:9 for Industrial Production, in 2008:10 for electricity consumption and in 2008:11 for Employment, which implies recovery from the global crisis in 2008.

**Table 5:** Results for the ZA test

Series	Model	$k$	$TB$	$\mu$	$\beta$	$\theta$	$\gamma$	$t_{\rho}$
$\ln(IPI)$	A	3	2008:07	0.91 <sup>a</sup>	0.001 <sup>a</sup>	-0.04 <sup>a</sup>		-4.59 <sup>c</sup>
	C	3	2008:09	1.14 <sup>a</sup>	0.001 <sup>a</sup>	-0.06 <sup>a</sup>	0.001 <sup>a</sup>	-4.84 <sup>c</sup>
$\ln(EC)$	A	-	2008:10	4.34 <sup>a</sup>	0.003 <sup>a</sup>	-0.06 <sup>a</sup>		-5.12 <sup>b</sup>
	C	-	2008:10	4.22 <sup>a</sup>	0.003 <sup>a</sup>	-0.06 <sup>a</sup>	$-2 \times 10^{-4a}$	-4.85 <sup>c</sup>
$\ln(EM)$	A	4	2009:12	2.90 <sup>a</sup>	$4 \times 10^{-4a}$	0.01 <sup>a</sup>		-4.12
	C	4	2008:11	3.67 <sup>a</sup>	$6 \times 10^{-4a}$	-0.01 <sup>a</sup>	0.001 <sup>a</sup>	-5.72 <sup>a</sup>

Notes: a, b and c denotes significance at the 1%, 5%, 10% levels respectively. All series are seasonally adjusted.  $k$  is the number of lags for which the last included lag has a marginal significance level at 5%. Structural breaks are determined according to minimum  $t$  statistics associated with the unit root. Fraction of data range to skip at both start and end when examining possible break points is 15%.

**Table 6:** Results of Bounds Tests for Cointegration

Dependent Variable	$F$ -Statistics	Critical Values I(0)-I(1)
$F_{EC}(E L, Y)$	3.91 [.014]	6.34-7.52 <sup>a</sup>
$F_{EM}(L E, Y)$	19.52 [.000]	4.87-5.85 <sup>b</sup>
$F_Y(Y E, L)$	3.01 [.040]	4.19-5.06 <sup>c</sup>

Note: a, b and c denotes critical value bounds for 1%, 5% and %10 respectively. Asymptotic critical value bounds are provided from Table CI (v) Case V for  $k=2$  presented by Pesaran et al. (2001).  $k$  is the number of regressors in Eq. (5), (6) and (7). Figures in brackets are probability values

**Table 7:** Estimated the long-run coefficients using the ARDL (2,0,0) model

Regressor	Coefficient	Standard Error	T-Ratio
C	13.3805	1.4837	9.0184[.000]
$\ln EC$	-.3987	.19226	-2.0737[.043]
$\ln Y$	.0607	.1437	.42263[.674]
T	.0041	.0011	3.9012[.000]
DT	.0034	.0011	3.1155[.003]
DU	-.0852	.0285	-2.9896[.004]

Note: Figures in brackets are probability values.

The results of the ARDL bounds test for cointegration using maximum 4 lags are given in Table 6. The results show that cointegration is only present when employment is the dependent variable. Computed F-statistics of FEM (E|L, Y) is higher than the upper bound critical value at the 1% level. However, when output and electricity are dependent variables, there is no cointegration, since F-statistics of FL (L|E, Y) and FY (Y|E, L) are lower than the critical values at all statistically significant levels.

The estimated long-run coefficients using ARDL (2,0,0) specification based on SBC are given in Table 7. All variables except output are statistically significant at conventional levels. The estimated coefficients of the long-run relationship show that electricity consumption has a high level of significance and a negative impact on employment in the long-run, while output has no significant impact on employment. This implies that energy inputs are substitute to labor force in the long-run.

The results of the short-run dynamic coefficients are reported in Table 8. All variables except output are statistically significant at conventional levels as was found in the long-run relationship analysis. The larger absolute value of the equilibrium correction coefficient (ecm) indicates that the return of the economy to its equilibrium will be faster after a shock (Pesaran and Pesaran, 2009). The ecm is statistically significant at 1% level and has the correct sign. The ecm is estimated approximately -0.31 and implies that approximately 31% of disequilibria by a shock in the previous year adjust to the long-run equilibrium in the current year.

The results of Granger causality test within the error correction model are given in Table 9. Starting with short-run impacts, electricity consumption is found to be significant at the 10% level, while employment is found to be insignificant in the output equation. This implies that only the electricity consumption Granger causes the output in the short-run. In both employment and electricity consumption equations, there is no Granger causality from output and employment to electricity consumption and from output and electricity consumption to employment.

The long-run causality results show that t-statistics on the coefficient of the lagged error correction term are significant at 1% level in the employment equation with a negative sign, which is consistent with the result of ARDL bounds test, implying that the series are non-explosive and the long-run equilibrium can be reached. The output and electricity consumption Granger cause employment in the long-run, indicating that causality interactively takes place through the error correction term from output and electricity consumption to employment.

The stability of the coefficients of the estimated Eq. (10), in which employment is the dependent variable, is checked by using the cumulative sum of recursive residuals (CUSUM) and the CUSUM of the square (CUSUMSQ) tests proposed by Brown et al. (1975). Fig. 1 and 2 respectively provide the graphs of CUSUM and CUSUMSQ tests. The plot of the CUSUM and CUSUMSQ statistics are within 5% of critical bands. The results of the stability tests show that all coefficients in the estimated model are stable over the period analyzed.

*Table 8: Error Correction Representation for ARDL (2,0,0) Model*

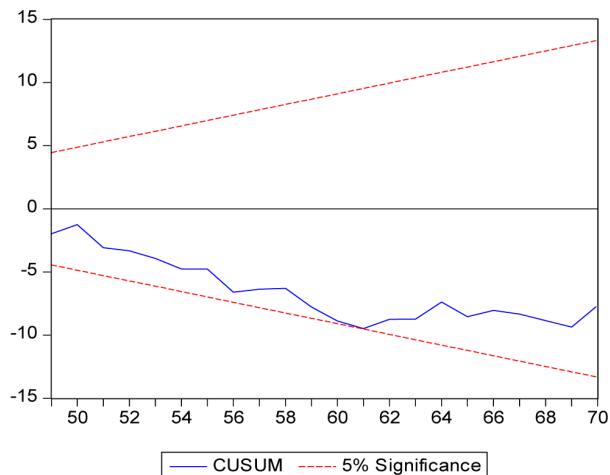
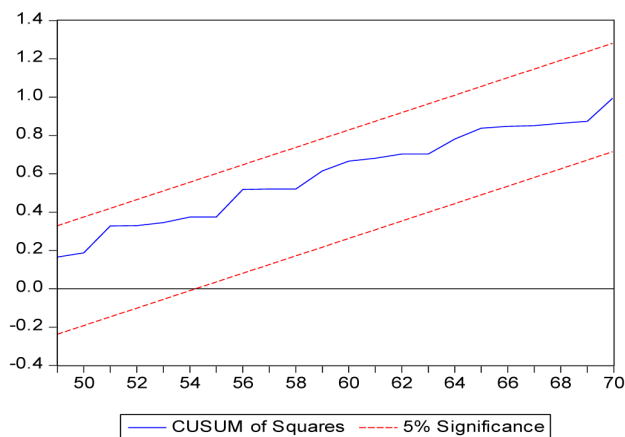
Regressor	Coefficient	Standard Error	T-Ratio
$\Delta C$	4.1818	.58635	7.1318[.000]
$\Delta \ln EM_{t-1}$	.8248	.0533	15.4693[.000]
$\Delta \ln Y$	.0190	.0444	.4269[.671]
$\Delta \ln EC$	-.1246	.0590	-2.1137[.039]
$\Delta T$	.0013	.3393E-3	3.7677[.000]
$\Delta DT$	.0011	.3719E-3	2.8290[.006]
$\Delta DU$	-.0266	.0096	-2.7636[.008]
$ecm_{t-1}$	-.3125	.0314	-9.9447[.000]
$R^2$	.8496	Adjusted $R^2$	.8314
St. Error	.0077	F-Statistic F(3,38)	46.79[.000]
SBC	214.73	AIC	223.49

*Note: Figures in brackets are probability values*

**Table 9: Results of Granger causality F-tests**

Dependent Variable	$\Delta \ln EC$	$\Delta \ln Y$	$\Delta \ln EM$	$ECT_{t-1}$
$\Delta \ln EC$	-	0.138 (0.712)	0.068 (0.795)	
$\Delta \ln Y$	3.399 (0.070) <sup>c</sup>	-	0.069 (0.795)	
$\Delta \ln EM$	2.339 (0.106)	0.678 (0.512)	-	-1.206 [-5.423] <sup>a</sup>

**Note:** Figures in parenthesis and brackets are probability values and t-statistic respectively. a and c denotes significance at 1% and 10% levels respectively.

**Figure 1.** Plots of CUSUM**Figure 2.** Plots of CUSUMSQ

#### 4. Results

The results of ARDL bounds testing for cointegration show that electricity, employment and output are cointegrated in Turkey in the long-run for the period analyzed. In the long-run, employment is Granger caused by electricity consumption and output. The negative long-run coefficient of electricity consumption in the ARDL model implies that employment is negatively Granger caused by electricity consumption in the long-run. This result implies that en-

ergy conservation policies, in an attempt to prevent waste in energy consumption and to curtail energy demand, can jeopardize and adversely affect the employment level in the long-run. That decrease in electricity consumption impacts employment negatively and in a unidirectional way implies that energy inputs are a substitute for labor force in Turkey. In both the output and employment equations, there exists no Granger causality among these variables in the short-run, implying that economic growth will not impact employment levels and policies inducing higher employment levels will not increase economic growth in the short-run. However, electricity consumption Granger causes increased output levels in the short-run. This result implies that the economic growth depends on energy consumption, and thus, electricity conservation policies can adversely affect economic growth in the short-run.

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# The Role of Enterprise Zones and Tax Incentives in the Local Economic Development

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## Abstract

This paper examines enterprise zone practices and how effects of enterprise zones and investment incentives on local economic development would be measured. Concept of enterprise zone and its relationship with economic development are discussed, and scientific literature related to topic is introduced. Some information is provided about technical and methodological difficulties encountered in measuring effects of enterprise zones and investment incentives on local economic development, and main models used in measurement of such effects are explained. Enterprise zone practices widely used especially in developed countries across the world are focused on besides reasons for achievement and failure of these practices. This paper ends with some recommendations about impacts of enterprise zones and investment incentives on local economic development and results obtained by scientific literature.

**Keywords:** Enterprise zones, Tax incentives, Local economic growth, Economic development, Regional Competitiveness

**JEL Classification:** H25, O18, O49, R11, R58

## Introduction

In many countries, various projects are carried out to encourage economic development. In these projects, large resources are used and costs are generally met by governments. Therefore, supporting local economic development by using a fewer public resource is a base priority of almost all countries. Enterprise zones are one of the important tools used in developed countries for a long time in this regard. An enterprise zone can be defined as a special geographical area that is constituted by state in order to encourage local economic development. Enterprises located in enterprises zones enjoy various tax and investment incentives and financial advantages. By this means, they reduce the costs.

This paper examines enterprise zone practices and how effects of enterprise zones and investment incentives on local economic development would be measured. Firstly, the concept of enterprise zone and its relationship with the economic development are discussed, and scientific literature related to topic is introduced. Some information is provided about technical and methodological difficulties encountered in measuring effects of enterprise zones and investment incentives on local economic development, and main models used in measurement of such effects are explained.

Then, enterprise zone practices widely used especially in developed countries across the world are focused on besides reasons for achievement and failure of these prac-

tices. Causes of failures of enterprise zones and investment incentive policies are touched upon, and policies concerning increasing regional competitive power through enterprise zones and investment incentives are examined.

This paper ends with some recommendations about impacts of enterprise zones and investment incentives on local economic development and results obtained by scientific literature.

## 1. The Concept of Enterprise Zone & Its Relationship with Economic Development

There are many types of enterprise zones. Urban Enterprise Zones mainly aim at breathing new commercial life into lifeless areas of cities; Manufacturing Enterprise Zones principally intend to bring together enterprises making production in the same fields, and Science & Technology Enterprise Zones or Industrial Parks and Techno Parks basically target development of science and technology.

The enterprise zone is only a kind of structure that is formed in a country generally with economic concerns subject to special laws and rules, and mostly called free zones. Free zones can be established to address to domestic market or foreign market. They can be commercial or industrial in respect of their core activity areas. Free zones can be established not only for increasing production and investment but also for developing export and trade. Those are called export processing zones, transit loading centers, free ports or free-trade zones.



To accomplish above-mentioned goals; a special custom regime is implemented, and financial advantages and tax advantages are provided concerning infrastructure that effects acts or costs of business in all free zones. Thus, it is impossible to consider and examine enterprise zones independently from these advantages.

Enterprise zones are of special importance in globalizing world of the present time. Free zone and enterprise zone practices are used as an instrument that is considered to enable especially developing countries to increase their competitive power. These practices are also part of a policy aimed at enhancing regional competitive power. Accordingly, it is expected for free zones and enterprise zones to encourage local economic development.

## 2. Scientific Literature

Although it is expected for enterprise zones to encourage local economic development, results encountered in practice and findings obtained from scientific literature make it impossible for us to reach a definite result on this matter. Firstly, findings of scientific literature will be discussed.

Even though there are many scientific studies dealing with taxes and incentives in enterprise zones, the number of studies investigating the relationship of taxes and incentives with economic growth is not high. There are certain conflicts between findings of major econometric studies on this matter.

As far as it could be identified, the first econometric studies investigating the effects of local taxes and tax incentives on investment decisions of businesses started in the 1980s. Newman & Sullivan (1988) found a positive relationship though Rubin & Rubin (1987) argued that there was no relationship at all. A literature review in 1991 demonstrated that in general, national and local taxes had a small but significant effect on investment decisions (Bartik, 1991).

Papke (1994) is highly important in that it makes a distinction between tax incentives for enterprise zones and regional tax incentives. Examining enterprise zones in India, this study found that constituting an enterprise zone in a region caused a reduction in use of machinery and equipment and unemployment, and increased business inventories. Boarnet & Bogart (1996) failed to reach similar results in the study conducted for New Jersey by employing the same method. Wasylenko (1997) supported Bartik (1991), but pointed out that the results of analyses changed by data set employed, period covered and variables used. Examining the effect of enterprise zones both on businesses and household incomes, Greenbaum (1999) figured out that enterprise zones could create new business opportunities, but these acquisitions could end up with downsizing of other businesses. Greenbaum & Engberg (2000) detect-

ed that enterprise zones had a small positive influence on household market, incomes and employment.

Being one of the most-recent studies conducted on this matter by means of “establishment-level data” and a “border effect methodology”, Billings (2009) found that Colorado enterprise zone did not have any impact on site of establishment of businesses, but it created new business opportunities.

Buss (2001) presented a nice literature review about enterprise zones, incentives in these regions and their economic effects.

## 3. Methodological and Technical Difficulties

Theoretical scientific approaches assert that enterprise zones, and incentives may have a positive influence on national and local economic growth. However, considering empirical evidence, it is not clear whether enterprise zones and incentives create an economic growth at the national and local level as discussed above.

Many reasons can be indicated for failure of theoretical and empirical studies to arrive at a consensus on this matter. However, main reason is that the ideal system set forth by theory is not actualized in practice, and that econometric empirical studies cannot be effectively conducted due to reasons such as lack of data and methodological difficulties.

The following example can be given for the first one. In most of the countries, incentives implemented in enterprise zones are of the small amount. In addition, certain mistakes are made in implementation of the incentive policy. When the said two adversities come together, positive influence on the economic growth decreases. Tax incentives are mostly implemented at a large geographical scale but not in the form of enterprise zone incentives. This situation makes it difficult to determine the effects of incentives on regional investment decisions alone. A company which receives the same incentive also outside the enterprise zone does not operate in the enterprise zone just because it is granted an incentive in this zone. Moreover, enterprise zones are established, organized and managed for not only economic concerns, but for political purposes in certain cases. Due to these kinds of reasons, enterprise zone incentives come to affect not costs but probably choice of place of business and investment decisions under very limited circumstances. Researchers making empirical analyses based on econometric modeling mostly have to take “other factors (variables)” as constant data because of lack of data and methodological difficulties and carry out the analysis by focusing on a particular factor or several particular factors at a time. In this case, possible effects of “other factors” on dependent variable(s) are ignored.

There are difficulties in the non-econometric analysis of the matter, too. A study examining opinions of business-

es about tax incentives via survey method may encounter many obstacles. Response rates may be too low. Survey questions may be answered by people who are not directly related to the issue. Respondents may give false, imperfect or misleading information in regard to the importance; they attach to tax incentives. In addition, it is difficult to rank different factors in surveys. Similarly, researchers may face difficulties in the case study method, too. When case study method is employed, it will be necessary to conclude a positive relationship between incentives and growth if a region has economically developed in the course of time and incentives in this region have been increased within this time period. However, this positive relationship may have stemmed from “other factors,” and it is always difficult to measure the effects of “other factors.”

Another methodological difficulty arises by nature of taxes. Both at local and national level, taxes are paid in return for all public goods or services. Public goods and services have a positive contribution to national or local economic growth. However, studies on effect of enterprise zones and tax incentives on local economic development do not take into account the possible negative effect to be caused by an increase in incentives on value of public services provided in this region. In fact, this problem is more unsolvable at the regional level. This is because, it is required to determine whether companies in the enterprise zones are “net taxpayers” (whether additional benefits provided through the increase in incentives meet losses of benefit caused by decrease in public services) in the case of tax incentives.

Studies examining effects of taxes are built on the “concept of elasticity.” For example, it is possible to calculate how a change of 1% in taxes affects the other variable. However, although this kind of a calculation has a statistical meaning, there are deep suspicions about its actual economic meaning (Buss, 2001: 95).

Businesses do not make investment decisions only according to tax incentives. These decisions may be affected by many factors such as access to sale markets, costs, and saving opportunities. According to many researchers, it is quite difficult to capture this complex structure among econometric equations (Peters & Fisher, 2002: 167).

Econometric models measure local economic growth only on the basis of “investment decisions” (establishment of new businesses in that region) in general. However, local economic growth in a region may occur in ways other than foundation of factories there (Peters & Fisher, 2002: 167). Other main variables that can affect local economic growth are public services provided for these businesses, average wage rate in the region, taxes, national and local regulations, and non-tax incentives.

As mentioned above, data set used in the econometric analysis is very important in measuring the effect of enterprise zones and tax incentives on local economic growth.

This is because; during analyses, enterprise zones should be evaluated independently from country and city where they are established. However, data set about tax-related advantages is published on the basis of country or city in many countries. This brings about misleading results in the analysis. Dataset should be provided on the basis of enterprise zone or company (at establishment level).

If multiple enterprise zones are being analyzed, all of the enterprise zones should have same characteristics. However, enterprise zones are usually formed for different purposes and in different structures. While main establishment purpose of an enterprise zone is to encourage technological investments, main purpose of another enterprise zone may be to support manufacturing industry or to increase employment. They cannot be evaluated together. In such a case, researcher should conduct his work covering just one enterprise zone.

#### 4. Employed Models

Different models have been used up to now depending on characteristics of data set that could be reached in order to measure the effect of enterprise zones and tax incentives implemented in these regions on local economic development.

Among these models, the first one is Constant Coefficients Model (Sayrs, 1989: 19–26). The most important weakness of this model is the difficulty of assuming coefficients as constant in a study examining the relationship between tax and growth.

Therefore, in general, Covariance Model is used in tax-growth literature. Effects that result from central government or local conditions, change depending on the time, and cannot be included in panel data analysis can be captured by this means. Covariance Model is also known as Least Squares Dummy Variables - LSDV Model or Fixed Effects Model (Peters & Fisher, 2002: 177). The difficulty of this model is that increasing the number of dummy variables decreases degree of freedom, accordingly statistical power of the model. To overcome this problem, temporal fixed effects are ignored, and model can be defined to include cross-sectional fixed effects alone (Pindyck & Rubinfeld, 1997: 253).

Another model that can be used in analysis of tax-growth relationship is Random Effects Model. This model employs time and cross-section dummy variables. Error term of a cross-section model is divided into three components: cross sectional error, time error and combined error. By this means, lack of knowledge is identified in the first two components of error term, and lower degree of freedom, and higher statistical significance are ensured. In this regard, Random Effects Model is superior to Covariance Model in analysis of tax-growth relationship. However, error term components must be uncorrelated with explana-

tory variables in the model. If this assumption is not met, estimations may become invalid. The use of Fixed Effects Model may be required if this assumption cannot be fulfilled due to reasons deriving from available data (Peters & Fisher, 2002: 177).

## 5. Enterprise Zone Practices

Up to this point, the topic has been covered within the scope of methodology concern, and mostly technical explanations have been made by expressing difficulties encountered, and models used in measuring the effect of enterprise zones on local economic development. The motivation behind this approach is that there are serious mistakes and deficiencies even in developed countries concerning determination of whether enterprise zones are really beneficial, and regarding measurements made in this respect in terms of methods, data and models, in particular.

Now, enterprise zone practices widely implemented in developed countries in the world will be introduced through examples. Reasons for achievement and failure of these practices will be touched upon. It will be discussed how correct policies may serve the purpose of increasing regional competitive power by distinguishing these reasons.

### 5.1. Enterprise Zones in United Kingdom

The United Kingdom (UK) is the first country where enterprise zone practice was launched in the 1980s. Enterprise zones were established in the UK initially for increasing employment by forming work areas designated with special status in underdeveloped regions (mostly squatter settlements) of cities, and for economically developing these regions. In general, areas under public possession were chosen as a place of establishment. Those established in the first stage were planned in such a way that maximum 81 companies could operate there. However, those established later on were planned to include 12 companies. Not only tax incentives but also bureaucratic incentives were used in these zones (Bennett, 1990: 387).

Incentives granted for enterprise zones in the UK were limited to a period of 10 years following establishment of the enterprise zones. This restriction made additional contributions of enterprise zones to local economic development controversial in the following years. However, although incentives lost their validity in the course of time, existence of businesses in these areas mostly continued through redesign of these areas (Potter & Moore, 2000: 1279-1280).

Incentives applied to businesses in enterprise zones in the UK are collected under eight titles (Bennett, 1990: 388):

- 1) Exemption from local property tax for all industrial, commercial and business goods. This exemption is valid for a period of 10 years as of the establishment. Revenue loss to be suffered by local government later on is fulfilled by central administration.
- 2) Exemption from development land tax. This tax is collected through taxation of the difference between purchasing price and sale price of a land. The first 75 thousand pound of the profit is exempted from tax.
- 3) %100 discount from income tax and corporate tax imposed on capital expenditures to be made on industrial and commercial buildings in these zones,
- 4) Priority in certain customs transactions for companies established in enterprise zones, reducing certain customs obligations for these companies,
- 5) Advantage of not paying information and compulsory education fee to industrial training institution (this advantage was effective until 1989),
- 6) Simplified local planning: Plans and projects in accordance with general purposes of the enterprise zone could be put into practice without receiving approval of the higher authority.
- 7) Auditing concerning planning of the zone, and
- 8) Reduction of the amount of statistical information required to be sent to central administration.

Small- and medium-sized businesses making production, mostly for domestic market took place in enterprise zones in the UK. Accordingly, contribution of these zones to local employment remained limited (Potter & Moore, 2000: 1286).

It was figured out that just a small part of created employment consisted of full-time jobs, and cost of generating employment was very high (Gunther & Leathers, 1987: 889).

It was argued that enterprise zones in the UK did not encourage free enterprise, but tax incentives implemented in these regions could contribute to urban regeneration (Jones, 2006: 109). In parallel with that, it is thought that enterprise zones do not increase inward investments, but probably enable investments to become dense in particular areas (Jones, 2006: 123)

### 5.2. Enterprise Zones in the USA

Enterprise zone practice in the USA started shortly after the UK. Unlike the UK, the Congress had initially a suspicious approach towards enterprise zones in the USA, and relevant legislature was not legitimized in the beginning (Rubin & Richards, 1992: 433). However, lack of legal regulations was made up in 1993, and the number of enterprise zones increased in the USA (Snow, 2000: 17-18). In 2000, this number was found to be 3 thousand in the entire

country (Potter & Moore, 2000: 1280).

Incentives in enterprise zones in the USA were limited to 10 years in 1994. However, unlike the UK, the USA laid down local labor employment as a condition. Companies in the USA enjoyed greater incentives and advantages. 20% of tax obligation to be paid by these companies was regarded as tax-exempt amount (Cowden, 1995: 8). Still, incentives implemented in the USA enterprise zones vary by states and regions. For example, while investment allowances and property tax abatements are used in some cases, exemption from all the state and local taxes is adopted in some other cases (Snow, 2000: 17). A special importance was attached to the employment increase goal in employment zone practice in the USA. Incentives were specially regulated for an employment increase.

Nevertheless, main criticisms addressing to enterprise zone practice in the USA indicate that incentives and other advantages are not regarded by businesses in many areas, and that businesses attach more value on components such as infrastructure, logistics, easy access to market, and production and labor costs. Enterprise zones in the UK are considered to be unsuccessful in accomplishing their purpose while those in the USA are regarded to be partially successful as they could generate more employment (Rubin & Richards, 1992: 433).

### 5.3. Enterprise Zones in Other Countries

Apart from the USA and the UK, countries such as France, Italy, Russia, Poland, India, China and Vietnam have enterprise zones. In addition, different development programs concerning development of underdeveloped regions are carried out in almost every country. Enterprise zone practices and these development programs are not alternatives to one another; they support one another. The difference of enterprise zones is that it is built upon realization of local economic development through private sector, but not public resources.

Enterprise zones do not operate in a particular sector or particular sectors in the above-mentioned countries, either. They are common in almost all sectors.

Enterprise zone practices in these countries are criticized in a similar way to those in the USA and the UK. It is stated that enterprise zones remain incapable of generating additional employment, just cause inter-regional mobilization of employment, and fail to fulfill their roles concerning development of underdeveloped areas.

### Conclusion and Recommendations

Today, it is one of the priorities of almost every country to support economic development and reduce regional imbalances. For this purpose, large public resources are used. Enterprise zones, which are defined as special geographical

areas created by state in order to encourage local economic development, are one of the important instruments used as they are thought to support economic development through use of fewer public resources. Businesses located in the enterprise zones enjoy various tax and investment incentives and financial advantages. It is theoretically thought that, thanks to these advantages, a contribution is made to economic growth through lower-cost production, provision of competitive advantage, encouragement of desire to invest, and expansion of employment opportunities.

On the other hand, there are certain doubts concerning whether enterprise zones and incentives implemented in these zones accelerate economic growth, as set forth in theory. This report was prepared in order to point to this issue, in particular. It also examined enterprise zone practices and how effects of enterprise zones and investment incentives on local economic development would be measured.

Firstly, the concept of enterprise zones and its relationship with economic development were explained, and the scientific literature related to topic was reviewed. Upon reviewing scientific studies, it was determined that the number of scientific studies focusing on taxes and incentives in the enterprise zones was high, but the number of studies examining the relationship of taxes and incentives in these regions with economic growth was low. Inconsistencies between findings of econometric studies on this matter starting in the 1980s were clearly seen in the present report. This situation was understood to result from the data sets employed, the periods covered and the variables included.

Secondly, some information was given about technical and methodological difficulties encountered in measurement of effects of enterprise zones and investment incentives on local economic development. Obtained results can be summarized as follows:

In many countries, tax incentives are not implemented only at the “enterprise zone level”. Therefore, it is quite difficult to reach a dataset that includes only tax incentives implemented at enterprise zone level. In fact, it is necessary to separate enterprise zone tax incentives and regional tax incentives in empirical analyses.

Enterprise zones and incentives may have two kinds of effects on growth. This effect may occur at a national level or local level. It is necessary to make this distinction in econometric analyses, too. That is to say, economic growth should be separately taken as national economic growth and local economic growth.

If tax incentives are not implemented only in enterprise zones in a country, a company which receives the same incentive also outside the enterprise zone does not operate in the enterprise zone just because it is granted an incentive there. There are also other factors affecting investment decisions of companies. Among such factors are conveniences in the provision of raw materials – intermediate goods, access to sale markets, production and labor

costs and cost saving opportunities, average local wage rate, physical and technological infrastructure facilities, easy access to market, public services provided for companies, non-tax incentives, deregulations implemented at enterprise zone level, and bureaucratic conveniences. When making investment decisions, companies take into consideration these factors, as well. In this sense, econometric models should include these factors, too.

When evaluating tax incentives and public services provided for companies together, it may be necessary to consider whether additional benefits obtained by companies through the incentive increase meet losses of benefit caused by decrease occurring in public services to be provided in the enterprise zone due to increase in incentives.

Local economic growth should not be measured only looking at “investment decisions (establishment of new businesses in that region).” Since purposes of establishment of enterprise zones show a variety, we may encounter local economic growth as “local employment increase” in labor-intensive sector, and as “production and added-value increase” in the technology-intensive sector.

Dataset to be used in an econometric study examining the effect of enterprise zones on local economic growth should be at enterprise zone or company level (establishment level), which mostly requires examination of just one enterprise zone, or for all enterprise zones to have same characteristics.

Thirdly, main models used for measuring the effect of enterprise zones and tax incentives implemented in these zones on local economic growth were introduced. Among these econometric models are Constant Coefficients Model, Covariance Model and Random Effects Model. Covariance Model is also known as Fixed Effects Model. Especially weaknesses of the said models were examined. Accordingly, the last two models are the most suitable ones for use.

The following chapter of paper presented enterprise zone practices in the world through examples. Details of this practice, which is widely implemented in the USA and the UK, were evaluated. Enterprise zone practice is used as a complementary element of development programs aimed at development of underdeveloped regions of developing countries. Lessons derived from country experiences for succeeding in the said practice are as follows:

It is necessary to set a reasonable time limit (e.g. 10 years) for tax incentives implemented in enterprise zones. Following completion of this time limit, governments obtain an opportunity to re-arrange these zones, and businesses located in these zones generally do not terminate their existence there.

It is very important that an enterprise zone is designed in accordance with its purpose of establishment. Enterprise zones should not be formed just for political concerns. The ways in which an enterprise zone would affect economic

growth should be determined at the stage of establishment. In parallel with that, taxes and other incentives and privileges should be independently stipulated for each enterprise zone.

For instance, if the purpose is to achieve local employment increase, “local labor employment requirement” should be set along with incentives, and incorporation of big companies making labor-intensive production into the enterprise zone should be encouraged. If enterprise zones are to be designed in the form of technological zones, companies should enjoy incentives as much as they provide “production and added-value increase.”

Other factors affecting entrance of companies into enterprise zones and investment decisions should be taken into consideration by governments in detail. Among these factors, those which can be controlled independently from the geographical area (e.g. physical and technological infrastructure facility, public services provided for companies, non-tax incentives, deregulations implemented at enterprise zone level, bureaucratic conveniences) should be arranged in favor of companies.

Finally, reliable company (establishment) level numerical data are needed in each country to enable measurement of the effect of enterprise zones and tax incentives implemented in these zones on local economic growth. Large gap between theory and practice can be prevented only in this way.

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## Aggregate Order Release Planning through Supply Chain and Loss Compensation

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### Abstract

In recent times, the competition exists among supply chains but not enterprises. Therefore collaboration, information sharing and aggregate planning through supply chain are very important. Aggregate order release planning through supply chain is essential because it reduces total supply chain inventory costs. In this planning, enterprise doesn't release own optimum order quantity. Instead of this, enterprise cares about supply chain costs and releases chain optimum order quantity. With reducing total supply chain inventory costs through chain, some enterprises take advantage of aggregation whilst some enterprises may lose. For the long term and permanent cooperation purposes vantage enterprises should compensate the enterprises which are in disadvantage position.

In this study, a supply chain coordination model with multi-stage and multi product condition has been developed. Model has been tested with supply chain data and the supply chain costs in local optimum decision through supply chain condition have been calculated. At the same time, supply chain costs in condition of aggregate planning through total supply chain have been calculated. Suffered loss calculation method is proposed to compensate for the losses of enterprises working in coordination with the supply chain as a result of reductions in the supply chain from the SCC (Supply Chain Cost).

**Keywords:** Supply chain, inventory, loss compensation

**JEL Classification:** M11

### Introduction

Supply Chain Management includes and aggregates all of the enterprises' supply and demand management. Traditionally, companies focus on their businesses, they do not see themselves as part of the supply chain. However, one of the most important points needed to focus on is aggregate planning of the supply chain. Supply chain knowledge and participation are important issues for effective aggregate planning.

The conversion of an aggregate demand into production units is relatively straightforward for a company who produces just one product, closely allied products, products that are reasonably homogeneous, or products that use few component parts. However, for facilities that produce a diverse set of products, the development of an aggregate plan is more complex (Waller, 2003:365).

Recent advances in information technology enable firms to manage effectively and inexpensively the coordination of not only the physical flow of materials but also the flow of different types of information such as demand, capacity, inventory, and scheduling, through a supply chain (Barut, Faisst, & Kanet, 2002:161-171).

After Goyal's (Goyal, 1976: 107-111) study in coordination through supply chain inventory cost, several researchers stayed on this issue and expanded this concept (Monahan, 1984: 720-726, Joglekar, 1988:1391-139,

Banerjee, Kim&Burton, 2007: 271-280, Jaber & Goyal, 2008,95-103).

Goyal developed inventory cost optimization methods for a definite product for manufacturers and suppliers. According to him, aggregate planning, deterministic demand and zero lead time are assumed (Goyal, 1976: 107-111).

Monahan expanded and added discount rate for aggregate buyer and supplier inventory planning for a definite product (Monahan, 1984: 720-726). Later model was improved by Joglekar (Joglekar, 1988:1391-139).

Banerjee and colleagues developed a mathematical model, with the objective of cost minimization, for coordinating the replenishment decisions for procurement, production and distribution inventories, associated with a single product, in a deterministic, multiechelon supply chain environment. Such coordination is achieved by linking the inventories at the different echelons of the chain through integrated decision making. They also suggested a heuristic two-phase solution algorithm (Banerjee, Kim&Burton, 2007: 271-280).

Jaber and Goyal's paper investigates the coordination of order quantities amongst the players in a three-level supply chain with a centralized decision process. This paper assumes that savings generated from coordination would be distributed among the players of the chain (Jaber & Goyal, 2008,95-103).



**1. Multi Product and multi level supply chain**

It is assumed that the supply chain consists of one manufacturer, multi supplier and multi wholesaler. The product is evaluated with two parts in manufacturer: Entrance warehouse with raw materials or components and exit warehouse with finished products.

Product is manufactured with a combination of multiple components (Figure 1). These components come from suppliers to entrance warehouse after that pass through production line and enter to exit warehouse as a finished good in manufacturer. Afterwards, finished goods are distributed to wholesalers.

**1.1 Assumptions and Notations**

Assumptions are as follows:

- a. deterministic demand
- b. zero lead time
- c. the product consists of many components or raw materials
- d. one more product available
- e. manufacturer production batch is coefficient of wholesalers order quantity
- f. manufacturer splits the production batch and then orders to suppliers
- g. supplier production batch is coefficient of suppliers order quantity
- h. shortages are not allowed
- i. time horizon is infinity

The input parameters and decision variables for wholesaler, manufacturer and suppliers are denoted by the subscripts  $r$ ,  $p$  and  $s$ , respectively.

Notations are as follows:

- $D$  total annual demand rate for wholesaler
- $D_r$  annual demand rate for  $r$  wholesaler

- $Q$  total monetary order quantity of wholesalers in
- $Q_r$  monetary order quantity of  $r$  wholesaler
- $K_1$  manufacturer production coefficient
- $K_2$  suppliers production coefficient
- $L$  number of delivery lot splitting for manufacturer
- $K_{1r}$  manufacturer production coefficient for  $r$  wholesaler
- $K_{2rs}$  supplier production coefficient which beginning from  $r$  warehouse
- $L_r$  number of delivery lot splitting for manufacturer which beginning from  $r$  warehouse
- $O_R$  total ordering cost for wholesalers
- $O_r$  ordering cost for  $r$  wholesaler
- $O_w$  total ordering cost for wholesalers
- $O_s$  total ordering cost for suppliers
- $S_{sp}$   $s$  suppliers setup cost for product  $p$
- $h_R$  total holding cost rate for wholesalers
- $h_m$  total holding cost rate for manufacturer
- $h_s$  total holding cost rate for suppliers
- $S$  manufacturer total setup cost
- $S_m$  manufacturer fixed setup cost
- $S_p^m$  manufacturer variable setup cost for  $p$  product
- $P^p$  annual monetary production rate for manufacturer
- $B_1$  add-on cost rate to product when products flow from manufacturer to wholesaler
- $B_2$  add-on cost rate to production line
- $B_3$  add-on cost rate to product when products flow from supplier to manufacturer
- $P_s$  annual monetary production rate for supplier
- $p_s$  suppliers procurement rate for total raw material
- $C_{rp}$  product cost of  $p$  in  $r$  wholesaler
- $Q_{rp}$  ordering quantity cost of  $p$  in  $r$  wholesaler
- $D_{rp}$  annual demand quantity of  $p$  in  $r$  wholesaler
- $\delta_r$  discount rate for wholesalers
- $\delta_s$  discount rate for suppliers
- $D_s$  annual demand for  $s$  supplier
- $Q, K_1, K_2, L, Q_r, K_{1r}, K_{2rs}, L_r > 0$

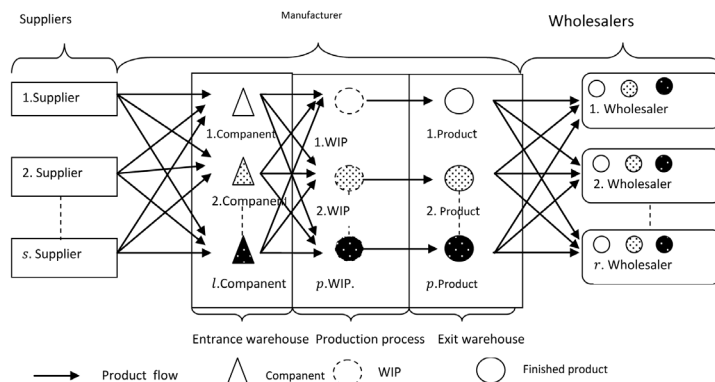


Figure 1. Structure of multi-product and multi-level supply chain

## 2. Total supply chain inventory cost

Total supply chain inventory cost is considered in two aspects: without coordination and with coordination.

### 2.1 Without coordination

Without coordination every participant of supply chain cares about local inventory cost optimization. Every wholesaler gives own order separately and therefore manufacturer receives every order and also puts into production separately. At the same time ordering activity for procurement prepared separately. Manufacturer and supplier multiply every order by production coefficient and put into production (Banerjee, Kim&Burton, 2007: 271-280, Sultanov, 2010). Total supply chain inventory cost (TSCC) would be equal to

$$\begin{aligned}
 TSCC(Q_r, K_{1r}, L_r, K_{2rs}) &= \sum_r O_r \frac{D_r}{Q_r} + \sum_r \frac{Q_r}{2} h_r + \sum_r \frac{D_r}{K_{1r} Q_r} S \\
 &+ \sum_r \frac{Q_r \left( (2 - K_{1r}) \frac{D_r}{P B_1} + K_{1r} - 1 \right)}{2 B_1} h_m + \sum_r \frac{D_r L_r}{K_{1r} Q_r} O_w \\
 &+ \sum_r \frac{K_{1r} Q_r D_r}{2 L_r P B_1^2 B_2} h_m + \sum_s \sum_r \frac{D_r L_r}{Q_r K_{1r} K_{2rs}} O_s \\
 &+ \sum_s \sum_r \frac{Q_r K_{1r} \left( (2 - K_{2rs}) \frac{D_r}{P_s B_1 B_2 B_3} + K_{2rs} - 1 \right)}{2 L_r B_1 B_2 B_3} h_s
 \end{aligned} \tag{1}$$

### 2.2 With coordination

With coordination every participant of supply chain cares about supply chain inventory cost optimization. Every wholesaler releases aggregate order and therefore manufacturer receives every order at a specific time and puts into production together. At the same time ordering activity for procurement prepared compound (Sultanov, 2010). TSCC\* with coordination would be equal to

$$\begin{aligned}
 TSCC^*(Q, K_1, L, K_2) &= \frac{D}{Q} O_r + \frac{Q}{2} h_r + \frac{D}{K_1 Q} S + \frac{Q \left( (2 - K_1) \frac{D}{P B_1} + K_1 - 1 \right)}{2 B_1} h_m \\
 &+ \frac{DL}{K_1 Q} O_w + \frac{K_1 Q D}{2 L P B_1^2 B_2} h_m + \frac{DL}{Q K_1 K_2} O_s \\
 &+ \frac{Q K_1 \left( (2 - K_2) \frac{D}{P_s B_1 B_2 B_3} + K_2 - 1 \right)}{2 L B_1 B_2 B_3} h_s
 \end{aligned} \tag{2}$$

## 3. Loss compensation through supply chain

With reducing total supply chain inventory costs through chain, some enterprises take advantage of aggregation whilst some enterprises may lose. For the long term and permanent cooperation purposes vantage enterprises should compensate the enterprises which are in disadvantage position (Jaber & Goyal, 2008,95-103).

If wholesalers are end up a loser after that the main manufacturer will perform a discount rate by  $\delta_r$ . Discount rate for wholesaler suggested as

$$\delta_r = \left( \frac{D_r}{Q_r^{**}} O_r + \frac{Q_r^{**}}{2} h_r - \frac{D_r}{Q_r} O_r - \frac{Q_r}{2} h_r \right) \frac{1}{D_r} \tag{3}$$

After receiving the discount from the manufacturer, wholesaler adjusted annual inventory cost would be equal to

$$TSCC_r(Q_r^{**}) = \frac{D_r}{Q_r^{**}} O_r + \frac{Q_r^{**}}{2} h_r - D_r \delta_r \tag{4}$$

Other disadvantaged players may be the manufacturer suppliers. If after aggregate order releases planning, supplier will be in disadvantage position, manufacturer will be compensated and discount rate  $\delta_s$  suggested as

$$\begin{aligned}
 \delta_s = & \left( \frac{D_s L^{**}}{Q_s^{**} K_1^{**} K_2^{**}} O_s + \frac{Q_s^{**} K_1^{**} \left( (2 - K_2^{**}) \frac{D_s}{P_{ss} B_1 B_2 B_3} + K_2^{**} - 1 \right)}{2 L^{**} B_1 B_2 B_3} h_s \right. \\
 & \left. - \sum_r \frac{D_r L_r}{Q_r K_{1r} K_{2rs}} O_s + \sum_r \frac{Q_r K_{1r} \left( (2 - K_{2rs}) \frac{D_r}{P_s B_1 B_2 B_3} + K_{2rs} - 1 \right)}{2 L_r B_1 B_2 B_3} h_s \right)
 \end{aligned} \tag{5}$$

If  $\delta_s < 0$  this means supplier is not in disadvantage position and  $\delta_s = 0$ . After receiving the discount from the manufacturer, suppliers adjusted annual inventory cost would be equal to

$$\begin{aligned}
 TSCC_s(Q_s^{**}, K_1^{**}, L^{**}, K_2^{**}) &= \frac{D_s L^{**}}{Q_s^{**} K_1^{**} K_2^{**}} O_s + \frac{Q_s^{**} K_1^{**} \left( (2 - K_2^{**}) \frac{D_s}{P_{ss} B_1 B_2 B_3} + K_2^{**} - 1 \right)}{2 L^{**} B_1 B_2 B_3} h_s \\
 &- \frac{D_s}{B_1 B_2} \delta_s
 \end{aligned} \tag{6}$$

After compensation of wholesalers and suppliers, manufacturer adjusted annual inventory cost would be equal to

$$\begin{aligned}
 TSCC_M(Q^{**}, K_1^{**}, L^{**}) &= \frac{D}{K_1^{**} Q^{**}} S + \frac{Q^{**} \left( (2 - K_1^{**}) \frac{D}{P B_1} + K_1^{**} - 1 \right)}{2 B_1} h_m + \sum_r D_r \delta_r \\
 &+ \frac{DL^{**}}{K_1^{**} Q^{**}} O_w + \frac{K_1^{**} Q^{**} D}{2 L^{**} P B_1^2 B_2} h_m + \sum_s \frac{D_s}{B_1 B_2} \delta_s
 \end{aligned} \tag{7}$$

**4. Numerical example**

Consider four-level supply chain with three wholesalers, three suppliers and two different warehouses in manufacturing (entrance warehouse and exit warehouse).

The values of parameters have taken from Sultanov's (Sultanov, 2010) study (Table 1, Table 2, Table 3). The wholesalers, manufacturers and suppliers have following input parameters.

*Table 1. Wholesalers input*

Wholesalers	Lokbatan		Binegedi		Regions	
	CRT14	LCD32	CRT14	LCD32	CRT14	LCD32
Annual demand (unity)	6000	3000	2400	1200	3600	600
Cost(\$)	90	562.5	90	562.5	90	562.5
Ordering cost	45		45		45	
Holding cost	%20		%20		%20	
Cost percentage( $B_1$ )	1.25(%25)		1.25(%25)		1.25(%25)	

*Table 2. Manufacturer inputs*

	CRT14	LCD32	
Setup cost (\$)	132	132	
Holding cost	%18		
Production rate(unity/year)	18.000	7.200	
Cost percentage( $B_2$ )	1.2(%20)		
Ordering cost	Azerbaijan	Front cabin	20
		Rear cabin	
	X country	Styrofoam	60
		Parcel	
	Y country	Screen	120
		Main board	

*Table 3. Suppliers inputs*

Suppliers	Azerbaijan				X country				Y country			
	Front cabin		Rear cabin		Styrofoam		Package		Screen		Main Board	
	CR T	LCD	CRT	LCD	CRT	LCD	CRT	LCD	CRT	LCD	CRT	LCD
Production rate(unity/year)	19154	7662	19154	7662	76616	30648	19154	7662	19154	7662	19154	7662
Component Cost(\$)(In manufacturer)	3	25	5	27	0.25	3	1.5	5	35	270	15	36
Setup cost	30		40		30		40		200		80	
Holding cost	%20				%20				%20			
Cost percentage( $B_3$ )	1.3(%30)				1.3(%30)				1.3(%30)			

Equation 1 and 2 are used to get TSCC. If there is no coordination (Equation 1) and every enterprise through supply chain level cares about local stage cost wholesalers order quantities are  $Q_1^*=31660.31$ ,  $Q_2^*=20023.74$ ,  $Q_3^*=17253.26$ , manufacturer production coefficient is  $K_1^{**}=4$  for every wholesaler, supplier delivered number to exit warehouse is  $L^*=1$  and suppliers' production coefficient  $K_2^*$  vary between 1 and 3 for every different ordering (Table 4).

If there is a coordination (Equation 2) and every supply chain level cares about total supply chain cost wholesalers total order quantity is  $Q^{**}=63142.71$ , manufacturer production coefficient is  $K_1^{**}=4$ , supplier delivered number to exit warehouse is  $L^{**}=2$  and suppliers production coefficient is  $K_2^{**}=2$ .

When through the supply chain used aggregate order release planning TSCC reduced by 18793.22\$ and only wholesaler becomes a loser (Table 5). Manufacturer and supplier become an advantage position and putdown the annual inventory costs (AIC).

After using equation 3 wholesalers discount rate is calculated for each wholesaler respectively  $\delta_1=0.0037\%$ ,  $\delta_2=0.0199\%$ ,  $\delta_3=0.0199\%$ . If in question discount rate is used (equation 4) TSCC for each wholesaler will be reduced respectively to 6332.06, 4004.75 and 3450.65.

There is no loss for suppliers and discount rate is  $\delta_s=0$ . Therefore with AIC of suppliers there is no change and it remains as 12761.93664\$. After compensation of wholesalers is lost AIC of manufacturer will increase to 13370.45\$ (12761.94 + 608.51).

Table 4. TSCC without coordination

$Q_r$	AIC of wholesaler	$K_{1r}$	AIC of entrance warehouse	$L_{mr}$	AIC of exit warehouse	$K_{2rs}$	AIC of suppliers	$TSCC_r$
$Q_1^*=31660.31$	6332.061276	$K_{11}^*=4$	10628.06321	$L_{m1}^*=1$	6876.065728	$K_{211}^*=2$ $K_{212}^*=3$ $K_{213}^*=1$	1507.780097 880.7524474 6879.967682	$TSCC_1=33104.69044$
$Q_2^*=20023.74$	4004.747183	$K_{12}^*=4$	7486.398131	$L_{m2}^*=1$	3074.437774	$K_{221}^*=2$ $K_{222}^*=2$ $K_{223}^*=1$	862.1630320 571.9029565 3609.391018	$TSCC_2=23204.62917$
$Q_3^*=17253.26$	3450.652112	$K_{13}^*=4$	6538.889962	$L_{m3}^*=1$	2460.506704	$K_{231}^*=1$ $K_{232}^*=2$ $K_{233}^*=1$	723.3308319 489.5647421 3001.954278	$TSCC_3=16664.89863$
	13787.46		24653.35		12411.01		18526.80708	69378.62916

Table 5. Annual inventory costs with independent and aggregate approaches

	AIC of wholesaler	AIC of entrance warehouse	AIC of exit warehouse	AIC of suppliers	TSCC
Independent SCM	13787.46100	24653.3513	12411.01020	18526.80708	69378.62916
Aggregate SCM	14395.96404	11758.22509	11669.28319	12761.93664	50585.40896
Cost enhancing percentage	-4%	110%	6%	45%	37%

**Table 6.** Compensation discount rate for each wholesaler

	$D_r$	$Q_r^{**}$	$Q_r$	$\frac{D_r}{Q_r^{**}} O_r + \frac{Q_r^{**}}{2} h_r$	$\frac{D_r}{Q_r} O_r - \frac{Q_r}{2} h_r$	Loss	$\delta_r$
1 (Lokbatan)	2227500	37209.1	31660.31	6414.81	6332.06	82.75	0.0037%
2 (Binegedi)	891000	14883.6	20023.74	4182.26	4004.75	177.52	0.0199%
3 (Regions)	661500	11050	17253.26	3798.90	3450.65	348.24	0.0526%

**Conclusion**

Aggregate order release planning is crucial through supply chain for being competitive and reducing total supply chain inventory cost. Local inventory optimization approaches will increase the total supply cost. As a team play in supply chain every enterprise should care about total supply chain cost. Coordination through supply chain would yield the synergy effect and TSCC would affect positively. However, some enterprises may lose this coordination. For this reason after coordination supply chain participants should compensate the enterprises loss which in the disadvantage position.

In this article the supply chain inventory cost model was established. This model considered coordination and no coordination condition through supply chain. Compensation for disadvantage position, participants discount rate and AIC after discount rate were suggested. The model checked and supported with real supply chain parameters. The paper puts emphasis on loss composition aspect nevertheless further researches may head towards total supply chain acquisition share out suggestions.

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## Foreign Direct Investment and Growth Relationship in Georgia

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### Abstract

This paper aims to investigate the empirically the impact of FDI on economic growth of Georgia over the period of 1997-2010. The Engle-Granger cointegration and Granger causality tests are used in order to analyse the causal relationship between FDI and economic growth. It is crucial to see the directions of causality between two variables for the policy makers to encourage private sectors. It is found that these two variables are cointegrated. Our empirical findings suggest that it is FDI that causes GDP in the case of Georgia.

**Keywords:** Economic growth, foreign direct investment, Granger causality,

**JEL Classification:** O4, F21, C32

### Introduction

It's a well-known fact that Foreign Direct Investment (FDI) has recently become more crucial, and this statement most of all applies to the developing countries which strive for modernization of their industries and support their socio-economic developments. By definition, made by many international organizations such as the international Monetary Fund (IMF), The Organization for Economic Cooperation and Development (OECD), and the United Nations Conference on Trade and Development (UNCTAD), FDI can be understood as the long term financial participation by an investor from one particular country in an enterprise to another country, thereby having a significant degree of influence on management of the enterprise (at least a 10 % share of capital). It can take in the form of acquisition of already existing host firms or establishment of new companies in the host country, usually referred to as Greenfield investments.

Many policy makers and academicians agree on the issue that FDI can have a long-term beneficial impact on a country's development since it is generally directly linked to productive investments. Many of the empirical studies regarding the role of FDI in the host countries suggest that FDI may also assist developing countries through the provision of capital with creating new job opportunities, through the inflow of technology, through the inflow of managerial know-how and marketing skills, and through its impact on the development of efficient markets<sup>1</sup>. Beside the positive effects of FDI to the host countries, some firm-level studies do not support the idea that FDI promotes the economic growth<sup>2</sup>.

Since 1970, there have been only five major downturns

in FDI inflow trend. In 1976 FDI inflows fell by 21%, in 1982-1983 the decline was 14% a year on average, in 1991 FDI inflow was down 24%, in 2001-2002 the bust in FDI registered 31% a year on average (UNCTAD, 2003), and finally, after a 16 % decline in 2008, global FDI inflow fell a further 37% in 2009 (UNCTAD, 2010).

FDI remains the biggest component of net resource flows to developing countries, and since 1990 it has been a growing part of total investment in these countries. The amount of FDI flowing to developing countries increased remarkably in the 1990s and now account for about 25% of global FDI (Erdal and Tatoglu, 2002). From only \$15 billion in 1985 and \$23.7 billion in 1990, FDI inflow to developing countries rose up to \$162 billion in 2002 (Farrell, Remes, & Schulz, 2004) which is significant. Developing countries which proved to be relatively immune to the global turmoil in 2008 were not spared in 2009 but did better than developed countries. After six years of uninterrupted growth, reaching the historical record in 2008, 658 billion, FDI flows to developing countries decline by 24% in 2009 (UNCTAD, 2010).

Georgia is a newly independent country after the collapse of the Soviet Union. The country has attracted interest and attention of foreign investors since the early 1991s, and has started to become the subject of FDI inflow. Georgia has relatively small markets and do not have rich natural resources (e.g. oil, natural gas and rich minerals) compared to other countries in the region, such as Azerbaijan, Turkmenistan, Kazakhstan and Uzbekistan. A majority of the foreign investment flows toward the region is in the form of FDI. After obtaining independence in 1991, Georgia encountered problems such as ethnic conflicts and civil war. During the 1992-1995 periods, Georgian economy was in



a very poor situation. Severe economic problems coupled with increased criminal condition hindered FDI inflows to the country (Economist, 1993). The cumulative decline in real GDP is estimated to have been more than 70% between 1990 and 1994, and by the end of 1996, Georgian economy had shrunk to around one-third of its size in 1989.

Starting from 1995, Georgian economy began to show the signs of improvement and development with the macro-economic stabilization programs carried out with the assistance of the IMF and the World Bank. But the remarkable increases in the economy occurred after the Rose Revolution of 2003 with the Saakashvili's new government, mostly due to the introduction of political and economic stabilization programs, which involved the strengthening of central authority, decline of crime rates, fighting effectively against corruption, competitive trade regime, low taxes and acceleration of privatization. These efforts had a positive impact on the economy and led to an increase in the value of FDI. As mentioned by Gursoy and Kursun (2008) in their survey study that the issues such as government regulations (regulatory burden), infrastructure, or safety do not act as major deterrents of FDI inflows, especially after the successful reforms of the Saakashvili government. In 2007, the inflow of FDI more than doubled, reaching 1.75 billion, which was 17% of GDP. However, the global financial crisis coupled with the August war in 2008 and their aftermath had impeded growth. FDI nose-dived to \$1.56 billion in 2008 and fell further to \$658 million in 2009 and \$814million in 2010. This is just 7 % of GDP, not only well below the pre-crisis level but also at a record low level since 2004 (Edilashvili, 2011).

The present paper is organized as follows. Section II includes literature review. Section III describes the methodology employed and the sources of data collected. Section IV reports the estimated results. Last section is the conclusion.

## 1. Literature Review

According to the general growth theories, the two major factors driving economic growth are the capital accumulation and the technological advances. Naturally, this has drawn the attention of the scholars' researches on the relationship between FDI and economic growth. As mentioned by Ozturk and Kalyoncu (2007), the consensus view seems to be that there is a positive relationship between FDI inflow and growth provided receiving countries have reached a minimum level of educational, technological and/or infrastructure development. However, there is no universal agreement about the positive association between FDI inflow and economic growth. Research that focuses on data from only less developed countries (LDC's) has tended to find a clear positive relationship, while studies that have focused on data from only developed coun-

tries (DC's), have found no growth benefit for the recipient country.

For example, Mullen and Williams (2005) and Choe (2003) have found that FDI has a positive effect on economic growth. But Borensztein et al. (1998), Alfaro et al. (2008), conclude that FDI will promote economic growth only when certain economic conditions are met in the host country, like a threshold level of human capital. Also, Hansen and Rand (2006) argue that FDI promotes economic growth, but the extent at which a country can benefit by FDI depends on its trade policies, labor force skills and absorptive capabilities. Agrawal and Khan (2011) in their study suggest that economic development depends on conductiveness of economic climate. In the absence of such a climate FDI may be counterproductive; it may thwart rather than promote growth.

As contrary to this, Carkovic and Levine (2005) provide the evidence that FDI does not have any significant impact on economic growth in the host country. Herzer et al. (2007) has argued that with 28 developing countries data there exists neither a long-term nor a short-term effect of FDI on growth; in fact, there is not a single country where a positive unidirectional long-term effect from FDI to GDP is found.

As for developing countries, consensus has been reached among academia and practitioners that - subject to economic climate- FDI tends to have positive effect on overall economic development.

## 2. Model Specification and Data

In order to investigate the impact of FDI on economic growth, the following following empirical model was used:

$$GDP = \alpha + \beta * FDI \quad (1)$$

The empirical analysis employs annual data on GDP and FDI for Georgia over the period of 1997-2010. The data for Georgia are obtained from the database of the World Bank. Figure 1 shows the total amount of FDI as a percentage of GDP for Georgia. All the variables considered in the model are expressed in natural logarithms. Figure 1 shows the FDI as a percentage of GDP in Georgia.

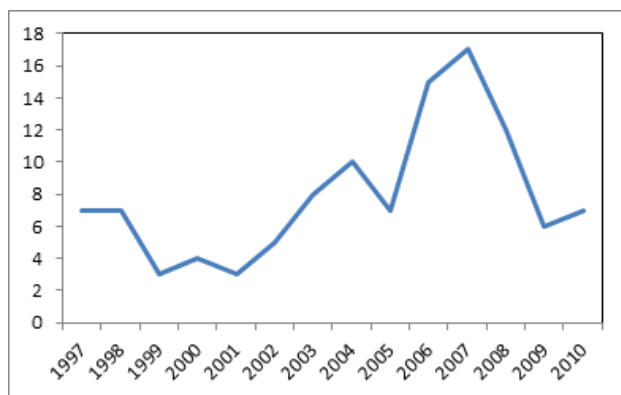


Figure 1. FDI in Georgia (% of GDP)

### 3. Empirical Results

The present section analyzes the time-series properties of the data obtained. The Augmented Dickey-Fuller (ADF) unit root test was conducted. The unit-root tests were performed on both levels and first differences of all variables.

As can be seen, Table I reports the results of non-stationary tests for FDI and GDP series using Augmented Dickey-Fuller (ADF) test. We reported a constant but no time trend result of ADF tests. Test results indicate that the hypothesis of a unit root in FDI and GDP cannot be rejected as a level. The hypothesis of a unit root in FDI and GDP is rejected as a first difference at the 5 percent level of confidence for FDI and 10 percent level of confidence for GDP. These results indicate that all the variables in question are integrated of order one I(1).

Table I: ADF unit roots test results

	Level	AIC(lag)	First Difference	AIC(lag)
FDI	0,927	0.278 (0)	-3.303 *	0.457 (0)
GDP	0,188	-2.275 (0)	-2.725 **	-2.245 (0)

Note: \*,\*\* denote significantly at the 5% , 10% level respectively.

Having established that all variables are integrated at the same order, the Engle-Granger’s (EG) residual-based ADF test was conducted by us. As the first step of the EG cointegration test, we estimated Equation (1) using the OLS method. The second step of the EG procedure considered to check the stationarity of residuals by using the ADF test. Table II presents the results from Engle-Granger (EG) cointegration test. These results indicate that long-run equilibrium exists between GDP and FDI for Georgia.

Table II: Results for EG Cointegration Tests

Country	Model	ADF
Georgia	GDP = 5.265 + 0.520*	-1,758 0**
	FDI	

Note: \*,\*\* denote significantly at the 5% , 10% level respectively.

After finding cointegration, the causality among variables was investigated. As Granger (1988) points out, if there exists a cointegration vector between GDP and FDI, there is causality among these variables at least in one direction. Thus, Granger causality test are employed to determine the causal relationships between GDP and FDI. There are four possible outcomes regarding causal relationships between GDP and FDI: unidirectional causality from GDP and FDI or vice versa; bidirectional causality between the two variables; and, lack of any causal relationship.

In table III the causality test results between GDP and FDI is reported. Lag length is selected by using the SC criterion. The probability values for F statistics are given on the right side of Table III. If these probability values are less than any  $\alpha$  level, then the hypothesis would be rejected at that level. We found uni-directional causality running from FDI to GDP for Georgia. The content of policy implications has been determined according to the direction of causality between these two variables.

Table III: Results for Granger Causality Tests

Null Hypothesis:	Lag	F-Statistic	Prob.	Result
FDI does not Granger Cause GDP	1	0.49454	0.49795	FDI $\Rightarrow$ GDP
GDP does not Granger Cause FDI		0.30922	0.59038	

### Conclusion

The paper examines the causal relationship between FDI and GDP by using Engle-Granger cointegration and Granger causality tests for Georgia over the period 1997-2010. It is very important to understand the directions of causality between two above mentioned variables, in order to establish the policies that will encourage private investors, specially in developing countries. We found that it is FDI that causes GDP in the case of Georgia.

### Notes

1. See Mello (1997, 1999) for a comprehensive survey of the nexus between FDI and growth as well as for further evidence on the FDI-growth relationship, Mody and Murshid (2002) for an assessment of the relationship between domestic investment and FDI, Neuhaus (2006) shows theoretically FDI not only raises the level of physical capital but also improves the quality of physical capital.
2. See Carkovic and Levine (2005) and the references therein. Hanson (2001) has found weak evidence that FDI generates positive spillovers for host countries. For a recent, comprehensive discussion at the firm level see also Grog and Greenaway (2004).



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## The Crime in the Insurance Sector

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### Abstract

The development of the insurance sector is one of the main premises of the population economic security and country's economic development.

Despite the achievements, there are a number of problems on the insurance market of Georgia, which need solve, improve and regulate. Low insurance culture, which is expressed in a number of criminal and fraudulent in nature as from the insurers side and also from the side of the insurance companies brings the serious damages not only the population, also thoroughly the insurance market.

**Keywords:** Criminal in the insurance, Swindle in the insurance, Insurance sector, Problem in the insurance sector, Insurance culture  
**JEL Classification:** G22

### Introduction

The psychology and the nature of humanity are distinguished with great variety. Among them is noteworthy that unconscious and conscious steps which trends the humanity in different cases. Especially should be mentioned different kinds of risks, natural, technical and technological, criminal, financial and others, which always stand in front of human. As the risk represents the great discomfort for human, he maximally tries to make a stand against it by any means. If not the only way struggling with risk, one of the basic and approved mechanism for centuries is the insurance, as risk prevention with the principle of afterwards transferring to other and distribute in a group, itself risk reduce method.

The development of the insurance sector is one of the main premises of the population economic security and country's economic development. The insurance market is exerting and among them the insurance companies, which offers to the customers the wide option of insurance products. The insurance market of Georgia has achieved the certain success in the last two decades, but despite the achievements, there are a number of problems on the insurance market of Georgia, which need solve, improve and regulate. Low insurance culture, which is expressed in a number of criminal and fraudulent in nature as from the insurers side and also from the side of the insurance companies brings the serious damages not only the population, also thoroughly the insurance market.

### The Motivation of Insurance Swindlers

Due to international insurance statistics, which is very limited and incomplete the insurance companies of various

countries are losing quite a lot money by the noted problem. By the data of European insurance trade association, for European insurance companies the damage by only insurance swindle is about 9.9 billion USD annually, which approximately is 2% of total insurance premium. Appropriation and embezzlement cases of insurance premiums are much higher (approximately 30% of insurance premiums), which are committed by insurance agents, financial managers, also department head workers, which is expressed by issue of large number fee payment amount in the form of bonuses. With similar cases USA insurance companies are losing about the same amount and with incomplete data Russian insurance companies are losing the amount about 0.5 billion USD annually. According to world statistics, 14% of declared insurance cases are victims of swindle and 35% of swindle is at auto-motto vehicle insurance. Also the cheating is typical for cargo transportation insurers, consequent the object of insurance belongs to displace value material and the control is complicated due to the specificity of the insurance object.

For insurance relations in the interests of insurance companies are as traditional insurance products also new, well approved in developed countries and sufficiently smarten, non-traditional risks for the insurance market of Georgia, which is a great precondition of insurance companies commercial successes progress. At the same time, the known risks and the insurance of non-traditional risks often become the cause of conducting criminal, as from insurer and insured as insurance company's side. (If we consider the fact that the insurance fund and the insurance payment is not taxed, the noted fact often becomes the cause of criminal deal between insurer and insurance company).

Though, the insurance market of Georgia is not in front of big swindle danger, although such cases are recorded.



Based on statistics (which is quite small and incomplete) criminal cases and frauds in insurance sector was mainly at property insurance. Namely at robbery by means of fraud and with unspecified information the certain number of damages payments by insurance companies was used for regulating that damages. It was quite frequent to insure means of transportation, hereinafter by the perspective of receiving the compensation, as well as fire safety insurance and health insurance.

A classical example of insurance swindle is a double insure. That insure takes place when the insurer insured the property in two or several insurance companies and total insurance amount exceeds the insurance value of the insure object. According to the Law of Georgia "About Insurance" the double insure cases should be known for all insurance companies involved in this process, but total sum should not be exceeded the real damage. If the insurer has drawn up a double insure with the goal of unlawful income, then each contract should be consider void. But in many cases the mentioned information is known for insurance company only the time of insurance occurrence. The law provides the obligation of insurer to supply the information to the following insurance company about existed insure, but the insurer did not consciously give the information to the companies participant in insure and at the time of insurance occurrence requires from them the damage payment within the sum of insurance and tries to blame insurance company in giving vague information.

From the motivation of swindlers we can separate: getting more compensate than insurance amount; getting unlawful compensates by falsification of the insurance occurrence; increasing the size of insurance payment by illegal means and hiding information in case of risk enlargement.

It is noted the certain cases of fraud from the side of insurance agents and other staff involved in insurance process, which greatly damages to insurance market and so unformed insurance culture.

It should be especially noted the criminal and swindle occurrences from the side of insurance companies. The insurance companies often avoid the insurance responsibility, which is expressed in that insurance liability, that the insurance company timely pay the insurance amount or insurance compensation at the time of insurance occurrence. In certain cases this does not happen so. The non-existence of liberal and operative politics of damages payment is often; the less inform of insurer and insured from the insurance companies, which in itself represents professional indifference and gives reverse result with the term of insurance relations development. The clear example of this is that criminal fact, which was showed in February, 2011 by the team-work result of chamber of control and ministry of finance investigation department (The combine conclusion of chamber of control and ministry of finance investigation department, February 2011). From the insurance

companies involved in state health insurance programme implemented conscious non-distribute of insurance policies for certain period, and as a result besides the timely paid amount by state, about 5 781 797 GEL can not reach to the customer. Thousands of people visited the medical institutions, but they could not receive the medical service due to non-existence of insurance policy and in accordance insurance service. Besides, there were variety of unidentified persons in the lists of insurance companies with the purpose of lists inflate. After the mentioned fact, law enforcers arrested and arraigned 9 workers of insurance companies and 7 workers of ministry of health and social affairs. Consequent from current reality such cases on the insurance market of Georgia are reduced significantly, but despite this for studying of insurance companies rating and citizens' dependence to insurance products by IPL, the sociological group and the centre of sociological and marketing of journal "Banks and Finance" clearly showed the following trends: at the question – are you using or not by insurance services, the 55% of inquired answered negatively and the reason of this named distrust to insurance companies the 27% of the same inquired (The research results of insurance companies rating and citizens' dependence to insurance products by IPL, the sociological group and the centre of sociological and marketing of journal "Banks and Finance". December 27-29, 2011).

### Conclusion

It is difficult to prove which stemmed earlier - swindle from insurers side or to avoid own liability fulfilment from insurance company. If it will be maximal effort from insurance companies' side at the fulfilment of oblige liabilities by law and contract, the probability of reducing criminal cases and the number of swindle will be quite large. The society should acknowledge in necessity of insurance security and in requirement of reciprocal liabilities fulfilment according to the contract. This will minimize the swindle at the competitive insurance market from the side of insurance companies, but the wide range of swindle from insurers' side represents serious danger for insurance companies. Any form committed fraud for company should be deemed as a risk of getting financial loses. Therefore according to the theory of risk the damage from risk realization and expense from security should be compared to each other. Getting positive result means that the insurance companies should take measures for reducing such risks.

And finally, as a conclusion we should mention that further development of insurance sector is unimaginable without duly exploring of noted criminal and swindle cases and taking effective and qualified legal measures against them, which is possible by means of complex and effective work of state enforcement departments and insurance companies (and their special investigation departments) to

reduce the mentioned risks.

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The combine conclusion of chamber of control and ministry of finance investigation department. February 2011.

The research results of insurance companies rating and citizens' dependence to insurance products by IPL, the sociological group and the centre of sociological and marketing of journal “Banks and Finance”. December 27-29, 2011.

<http://www.nbg.gov.ge/>

## Causality between Financial Development and Economic Growth: Evidence from Georgian Economy

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### Abstract

This study examines the nature and direction of the relationship between financial development and economic growth using both time-series and Grange Causality test in Georgian Economy for the period of the annual data period 1999–2011. Causality tests were conducted by co-integration testing. The empirical results strongly support the view that financial development and economic growth are mutually causal, that is, causality is bidirectional.

**Keywords:** Granger Causality Test, Co-integration, GDP, Stock Market Development, Banking Sector Development  
**JEL Classification:** G10, G17

### Introduction

In the history of development economics, the relationship between financial development and economic growth is becoming an important area among economists. A large and growing body of literature, both theoretical and empirical, has investigated direction of causality between the two variables, and the channels of transmission between them. The first serious discussions and analyses of relation emerged during the 1930s and 1970s with Shumpeter (1932) and Goldsmith (1969), most recently examined by McKinnon (1973) and Shaw (1973). In 1932, Schumpeter showed that it is possible to explain economic change by previous economic conditions alone. Economist demonstrated that changes in economic growth are caused by changes in financial system of countries. Goldsmith (1969) performed a work from different perspective and found that the effect of financial development on economic growth is the most important problems in the field of finance. There is increasing studies by economist to examine the relationship between financial development and economic growth.

An extensive volume of literature and research work has risen attempting to highlight the role of the financial market in growth. The importance of financial sector development for economic growth has long been established in the literature in developing and developed countries. However, there are limited researches done to date for transition countries, due to largely lack of available data and literature.

Previous and recent papers on developing and developed countries have emphasized that the causality between financial development and economic growth may follow

one of two ways: supply-leading phenomena (e.g., King and Levine 1993; Levine and Zervos 1998) or demand following case (e.g., Robinson 1952). In the first case, financial intermediation contributes to economic growth through two main channels: (1) by raising the efficiency of capital accumulation and allocation to sector (Goldsmith, 1969) and (2) by raising the savings rate and thus the investment rate (McKinnon, 1973; Shaw, 1973). In another saying, by increasing the size of savings and improving the efficiency of investment, financial development leads to higher economic growth. This first view took a considerable support from recent empirical studies (see, for example, Bencivenga & Smith, 1991; Greenwood & Jovanovic, 1990; Thakor, 1996).

In contrast, demand-following case, growth creates additional demand for financial resources, its demand for financial services increases, leading to the growth of these services and the financial system grows to accommodate it.. Empirical support for this second view can also be found in some recent studies (Demetrides & Hussein, 1996; Ireland, 1994).

A third case of the relationship between financial development and economic growth indicate that the two variables are mutually causal, that is, they have bidirectional causality (Demetrides & Hussein, 1996; Greenwood & Smith, 1997).

Finally, a fourth case, which was originally put forward by Lucas (1988), argues that financial development and economic growth are not causally related. He says that “economists heavily emphasize over the role of financial factors in economic growth”

Although relationship between financial development



and economic growth that the literature is mixed and inconclusive. There are a plenty of studies like Levine (1997, 2002) provided a comprehensive survey about the subject. In his theoretical study, Singh (1997) examined the importance of stock market development for the economic growth of developing countries. In her major studies, such as King and Levine (1993a, b); Levine and Zervos (1996, 1998); and Liang and Reichert (2007) identifies that stock market improvements promote growth dramatically, especially in developed countries. Levine and Zervos (1996) also indicate a distinction between the financial services offered by credit and equity markets and suggested that they may complement each other.

Loayza and Ranciere (2005) investigated the relationship between financial development, financial fragility, and growth and used the data of 75 countries. They got that while there is a positive long-run relationship between financial intermediation and output growth, this relationship can be a negative in the short-run.

Much of the available literature uses cross-section data in developing and developed countries which do not resolve the issue of causality. Present paper is the first paper in this manner and examining the finance-growth nexus in Georgia using both time-series, employing Granger-causality tests within an error-correction (EC) framework.

The rest of the paper is organized as follows. Section 2 gives methodology and data used in the research, section 3 reports the empirical results from unit root tests and discusses the results from the Johansen test of co-integration. Section 4 gives conclusion.

## 1. Methodology and Data

In investigating the relationship between financial development and economic growth appropriate econometric method should be chosen based on the stationary properties of the series. In order to determine the stationary properties of the series in this study we apply Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1979), Phillips-Perron (PP) (Phillips, 1987 and Phillips-Perron, 1988) and Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) (1992) tests.

Applying the ADF unit root tests for the intercept model requires estimating the following regression.

$$\Delta y_t = \beta_1 + \beta_2 y_{t-1} + \sum_{i=1}^p \varphi_i \Delta y_{t-i} + \varepsilon_t$$

Where  $\Delta$  is the first difference operator;  $y_t$  shows series used in the study i.e. *loggdp*, *cap* and *bc*;  $t=1, \dots, T$  is an index of time;  $p$  represents the number of lags, determined by the Akaike Information Criterion (AIC);  $\varepsilon_t$  is a stationary random error. For trend and intercept model, it is necessary to include trend variable in the ADF equation. The PP

method estimates the ADF equation in the non-augmented form ( $\Delta y_{t-1}$ ,  $i=1,2,\dots$  are not included in the ADF equation). While applying ADF and PP tests if the calculated statistics is smaller than the critical values it means that a unit root does not exist in the series. In the event that it is considered that ADF and PP tests have lower power to test the stationarity of series, the KPSS test is to be applied. If the calculated test statistics exceeds the critical values, the stationarity of series is rejected against the non-stationary alternative.

After examining the stationary properties for variables for the unit root, i.e.  $I(1)$ , the co-integration test is applied which is used to specify any long-run relationship between variables. The co-integration test has a crucial role in deciding the model used in detecting the relationship between financial development and economic growth. To that end, we employ the Johansen (1988) efficient maximum likelihood approach.

After obtaining co-integration test results, a Granger causality test is performed. Granger (1987) and Granger (1988) point out that if two time-series variables are co-integrated, then at least one-directional Granger-causation exists. Therefore, the existence of a stable long-run relationship among economic growth, banking sector development, and stock market development implies that the three variables are causally related at least in one direction. Hence, there are two possible sources of causality: error correction term, which shows long-run causality, and lagged explanatory variables, revealing short-run causality.

According to Granger (1988), when there is co-integration between  $I(1)$  variables, Granger causality testing requires using the error correction term from co-integration. It means that in case the variables are in long-run relationship the causality analysis is applied by using VECM.

### 1.1. Data and Measurement

Paper focused on Georgian's economy spanning a period of 12 years. Study covers annual data for the period 1999 to 2011. The reason for choosing an annual data was the unavailability of quarterly or monthly data for GDP, stock market development and banking system development for a sequent long time frame. The variables that were used are as follows: Economic development: measured by growth rate of nominal GDP ( $Y$ ). Stock market development: measured by the market capitalization ratio (size proxy) defined by the ratio of market capitalization to GDP ( $MCY$ ). Banking system development was measured by the ratio of domestic bank credit to nominal GDP ( $BY$ ).

### 3. Empirical Results

The first step of this study was subjecting the data to diagnostic tests; such as unit root tests and Johansen co-integration test. The empirical results reported for Georgia were based on annual observations for the period 1999 to 2011. All the data were expressed in logarithms.

Table 1 reports the augmented Dickey-Fuller and Phillips-Perron test statistics for the levels and first difference of all variables in this paper. Table 1 indicate that the ADF and PP tests for unit roots suggested that the variables considered in this study are all non-stationary in their levels but stationary in first difference.

**Table 1. The ADF and PP tests for Unit Roots**

Test Statistic	GDP	BY	MCY
Level <sup>a</sup> f=1999-2011			
ADF	3.22(1)	-1.44(1)	-1.17(1)
PP	4.89(3)	-1.74(3)	-1.58(3)
First Difference <sup>a</sup>			
ADF	2.83(1)*	2.24(1)***	4.38(1)
PP	3.34(3)	-5.21(3)**	-4.78(3)***

*Note:* ADF stands for Augmented Dickey-Fuller; PP for Phillips-Perrone.

Numbers in brackets are number of lags used in the ADF test in order to remove serial correlation in the residuals, these lag lengths are chosen based on Akaike's Information Criterion (AIC)

\*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% levels respectively.

<sup>a</sup>with intercept

In the second step is to test for co-integration among the variables using the Johansen's (1988) methodology, that is, the trace ( $\lambda$  trace) and the maximum Eigen value ( $\lambda$ max) statistics. In general, if two series are found to be co-integrated, then the inference of a long-run equilibrium relation between them is sufficiently robust, except for a stationary disturbance with finite variance.

Table 2 shows results of co-integration rank tests for the model are presented in. The value of the trace test ( $\lambda$ trace) indicated that the null hypothesis of three ( $r < 3$ ) co-

integrating vectors can be rejected at the 1% and 5% levels. It recommends the presence of three co-integrating vectors between annual growths of GDP (Y), annual change of market capitalization ratio (MCY) annual change of bank credit ratio (BY).

Max-eigen value test indicated the existence of 3 co-integrating equations at both 1% and 5% levels, and 2 co-integrating equations at 1% level. Consequently, Georgian growth rate of output, market capitalization ratio, bank credit ratio were co-integrated. Results show the existence of a long-run relationship between Y, MCY and BY in the paper over the entire period 1999 to 2011.

**Table 2. Cointegration using Johansen Method**

Model : Y=(MCY, BY) sample period ( 1999-2011 )				
Lag Length:3 <sup>a</sup>				
Test statistics	$r^b = 0$	$r \leq 1$	$r \leq 2$	$r \leq 3$
Trace test	185.5**	117.8**	84.5**	
$\lambda$ max test	93.8*	54.5*	32.6**	

<sup>a</sup> the lag length is calculated by using AIC (Akaike Information Criterion)

<sup>b</sup>r is the number of co-integration vectors.

\*\*\*, \*\*, \* denotes significance at 1%, 5 % and 10 %

#### 3.1. Granger Causality test

The Causality test results are summarized between output growth, banking system development, and stock market development as shown in Table 3. Table 3 shows that the banking system development is a vehicle of economic growth, through the bi-directional causality, which runs both sides between bank credit ratio (BY) and GDP growth (Y), which runs from lending interest rate to GDP growth. The banking system development affects the stock market development. There is a bi-directional causality runs from BY to MCY (market capitalization ratio), and a uni-directional causality runs from lending interest rate to MCY. The results showed that the only effect of the stock market on the economy was through bank credits. The results showed the existence of a bi-directional causality runs between bank credit ratio and market capitalization ratio.

**Table 3. Causality Test between GDP Growth, Banking system and Stock market Growth**

Output development	Private bank credit	Stock market development
Y↔BY	BY→Y	MCY↔BY
Y→MCY	BY↔MCY	MCY→BY

## Conclusions

This paper was to provide empirical evidence for the relationship between the economic development and financial sector developments. Study did the causal relationships between the GDP growth, banking sector development, and stock market development. The results indicated evidence of a stable long-run relationship between the banking sector and economic growth, and between the banking sector and the stock market. The paper reported a bi-directional causality between banking sector development and economic growth in the long run, and a bi-directional causality between the banking sector and stock market.

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# The Role and Importance of R&D Activities in Economy

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## Abstract

The aim of this article is to show the importance of Research and Development in the economy. In our modern life, the enterprises are indicated as the source of economic development and innovation. To forecast the demand of the market beforehand and to meet this demand with new and innovative products have become the reason for existence of enterprises in our modern world. When we look at leading enterprises of the market, we may witness that the main features of these enterprises are to develop new product or production methods. In other words, the enterprises will be successful if they move toward Research and Development and innovation activities in tough competition condition.

**Keywords:** R&D, competition, innovation, enterprise, market.

**JEL Classification:** O3, O39

## 1. Research and Development Notion

### 1.1. R&D

Based on chances for a long time, the humanity could reach today's cultural level from the near past by means of systematic work. Today we cannot refer the national economy and even the development of enterprises to simple chances. That is why, taking into consideration the financial opportunities the countries and enterprises must pay attention to the research and development function (Ertuğrul, 2004:85).

R&D is systematic and creative activity aimed at forming new products or production process. At the same time, R&D is the mean of getting new knowledge for the development of science and technology, forming new systems, processes and services (Türkiye Odalar ve Borsalar Birliği, 2004:10).

R&D is closely related with other activities which have scientific and technological foundation. R&D composes systematic R&D activities in R&D departments and non-systematic R&D activities in other departments (OECD; Frascati Kılavuzu, 2002:18).

### 1.2. R&D Types

There are three different types of R&D activities in connection with their quality and content (Eseryel,1999:56):

- Basic research,
- Applied research,
- Basic and applied research.

### 1.3. The Importance of R&D

In a technically and economically fast changing dynamic environment the enterprises have to pace with those changes in order to exist and realize their goals. In this content, the enterprises can change by means of planned and systematic research and development activities which are the source of all innovations. If we take into consideration the need of finding new production methods and products, developing the existing products and production methods together with finding solutions to the current problems it will be very easy to understand the importance of R&D function for the enterprises.

To develop and apply new technologies in order to meet the needs and demands of consumers are the duty of R&D which is in close connection with technology. Technological knowledge is the result of R&D activities, and it is spread and shared in the economy which leads to economic development (Ekren, 2000:1-2). R&D activities are the means of struggle for survival in tough competition.

### 1.4. The Goals of R&D

The basic goal of R&D function is to provide the enterprises operating in continuous changing environment to fall in step with those changes, help those enterprises to develop and grow, consequently to help attain sustainability. Based on those basic goals, there are some other goals of R&D given below:

- To develop new product and process,



- To find new use area for current products and equipments,
- To find new production techniques or develop current production techniques,
- To protect the competitiveness in falling in step with competitors,
- To increase efficiency in enterprises,
- To provide cuts in production costs,
- To provide bonification of employer-employee relationships,
- To provide establishment of new management information systems that will enhance information flow towards the management.

### 1.5. Types of Research

The research is divided into two groups; basic research and applied research. The main goal of basic research is add new to the existing knowledge (Kara, 2002:98). The basic research can be defined as bringing objective bases for science and technology and developing the borders of science rather than being used for commercial purposes (Devrez, 1970:146). In some cases the results of basic research can be used for designing new product (Barutçugil, 2003:131).

The applied research is used to solve specific problems of scientific knowledge and principles. To put it different, the applied research is mainly used for commercial purposes. The most important thing in this research is contribute to the development of existing applications (Eren, 2003:56). In industry the applied research is more competitive and useful rather than basic research (Tekin, 1996:112).

### 1.6. Types of Development

The development function of enterprises use the results of basic and applied research in creating products, systems and production methods or developing the existing ones. The development provides the opportunity for use of basic and applied research results and as the consequence, it takes the bridge role between research and production (Tuncer, 1974:148). The basic characteristic of development milestone is intense experiments in this level. The development is based on activities which economically provide the development of methods for situations emerging as the result of research (Barutçugil, 2003:133).

### 1.7. The Reasons for R&D and Followed Strategies

The reasons why the enterprises in nowadays pay much more attention to the research and development are given below (Barutçugil, 2003:20-21):

- Market reasons: To develop products in order to

become pioneer enterprise in the market, protect this position and compete with rivals in the market.

- Organization reasons: To make a name of innovation in the industry, and maintain it, possess alternative products.
- Social reasons: To satisfy the consumers who expect changes, to prove the public and government the benefits of the firm to the community.
- Staff reasons: to attract skilled researchers, to keep them in the enterprise and add taste and meaning to the activities.

The strategy that the enterprises should follow in research and development is to make continuous innovations for maintaining sustainable growth. That is why when forming strategies, there is a great need for industry growth forecasts, information about strategies, and enterprise opportunity analysis. Forecasts for industry growth provide the opportunities to determine opportunities and threats in future, to avoid abrupt technological and economical surprises, to know new activity areas and competitive development. At the same time, to know the reactions of rivals to the changes in the environment plays great role. The current situation analyse also plays an important role in formulating innovative strategy.

The R&D and innovative strategies are as follows:

- Innovative strategy which provides designing new product and new production process and introduce them to the market before the competitors and become the leader in market.
- Innovative strategy which provides defense.
- Innovative strategy which provides imitation.
- Traditional and opportunist innovative strategy.

First strategy is highly aggressive with high risk and high profit. Second one is mainly aimed at being first in world markets and technology but wishing not to stay ahead of technological developments. The enterprises who follow this strategy aims at developing the existing technology rather than to make technological innovation. The third one is to follow the leaders in technology with licensing. Last one is opportunist. It is not eager to make innovations in changes and competition expect emergency situations.

## 2. The Current Situation of R&D Activities in the World

R&D activities which comprise of scientific – technological innovations, needs skilled personnel, resources and capital, and well organized enterprise. That is why the developed countries are successful in R&D activities, in contrast the developing countries are staying behind.

There is a need for separate budget of resources for R&D. As a rule, it is not acceptable to have the budget limit for R&D resources. Because it is obvious that expenditures for R&D are never enough. According to world

For example, the Federal Germany spent \$58 billion for R&D in 2006, in the same year France spent \$38 billion,

scale the R&D resources are evaluated by dividing the R&D expenditure with GDP rate. In connection with this, 27 European countries are given in table 1. (Tuncer, 2006). When comes to R&D expenditures it reaches great amounts.

and England spent \$32 billion in 2005.

*Table 1. The R&D expenditures in GDP in percentages (%)*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	1.7	1.78	1.9	1.94	2.07	2.14	2.26	2.26	2.48	2.46	2.52	2.67	2.75	2.75
Canada	1.66	1.76	1.8	1.91	2.09	2.04	2.04	2.07	2.04	2	1.96	1.87	1.92	1.8
Czech Republic	1.08	1.15	1.14	1.21	1.2	1.2	1.25	1.25	1.41	1.55	1.54	1.47	1.53	..
Denmark	1.92	2.04	2.18	..	2.39	2.51	2.58	2.48	2.46	2.48	2.58	2.87	3.02	..
Estonia	..	0.57	0.68	0.6	0.7	0.72	0.77	0.85	0.93	1.13	1.1	1.29	1.42	1.44
Finland	2.71	2.88	3.17	3.35	3.32	3.37	3.44	3.45	3.48	3.48	3.47	3.72	3.96	3.84
France	2.19	2.14	2.16	2.15	2.2	2.23	2.17	2.15	2.1	2.1	2.07	2.11	2.21	..
Germany	2.24	2.27	2.4	2.45	2.46	2.49	2.52	2.49	2.49	2.53	2.53	2.68	2.78	..
Hungary	0.7	0.66	0.67	0.79	0.92	1	0.93	0.87	0.95	1	0.97	1	1.15	..
Iceland	1.83	2	2.3	2.67	2.95	2.95	2.82	..	2.77	2.99	2.68	2.64	..	..
Ireland	1.27	1.24	1.18	1.12	1.1	1.1	1.17	1.23	1.25	1.25	1.29	1.45	1.79	..
Israel	2.97	3.08	3.52	4.27	4.55	4.56	4.28	4.28	4.41	4.43	4.76	4.68	4.28	4.25
Italy	1.03	1.05	1.02	1.05	1.09	1.13	1.11	1.1	1.09	1.13	1.18	1.23	1.27	..
Japan	2.87	3	3.02	3.04	3.12	3.17	3.2	3.17	3.32	3.4	3.44	3.44	3.33	..
Korea	2.41	2.26	2.17	2.3	2.47	2.4	2.49	2.68	2.79	3.01	3.21	3.36	..	..
Netherlands	1.99	1.9	1.98	1.94	1.93	1.88	1.92	1.93	1.9	1.88	1.81	1.76	1.82	..
Norway	1.63	..	1.64	..	1.59	1.66	1.71	1.59	1.52	1.52	1.62	1.61	1.76	..
Slovenia	1.28	1.34	1.37	1.39	1.5	1.47	1.27	1.4	1.44	1.56	1.45	1.65	1.86	..
Sweden	3.47	..	3.58	..	4.13	..	3.8	3.58	3.56	3.68	3.4	3.7	3.62	..
Switzerland	..	..	..	2.53	..	..	..	2.9	..	..	..	3	..	..
Turkey	0.37	0.37	0.47	0.48	0.54	0.53	0.48	0.52	0.59	0.58	0.72	0.73	0.85	..
United Kingdom	1.77	1.76	1.82	1.81	1.79	1.79	1.75	1.68	1.73	1.75	1.78	1.77	1.85	1.82
United States	2.57	2.6	2.64	2.71	2.72	2.62	2.61	2.54	2.57	2.61	2.67	2.79	..	..
EU27 total	1.66	1.67	1.72	1.74	1.76	1.77	1.76	1.73	1.74	1.77	1.77	1.84	1.9	..
OECD total	2.1	2.12	2.16	2.2	2.24	2.21	2.21	2.18	2.21	2.24	2.27	2.33	..	..
China	0.64	0.65	0.76	0.9	0.95	1.07	1.13	1.23	1.32	1.39	1.4	1.47	1.7	..
Russian Federation	1.04	0.95	1	1.05	1.18	1.25	1.29	1.15	1.07	1.07	1.12	1.04	1.24	..

*Source: OECD Factbook 2011: Economic, Environmental and Social Statistics*

The 1990s are the years that R&D intensity is very low, in contrast the 2000s are the years that the R&D intensity approached its previous level. In European Union the R&D intensity lost ground till 1997, and after 1997 could not reach its previous position. Turkiye showed the biggest bounce between 1990-2002. The R&D intensity was 0.32 in the beginning of the term but till the end of 2002 the rate

doubled to 0.66 and in 2005 the rate was 0.76. Hence, the R&D intensity of Turkiye constitutes to only the one second of average R&D intensity of EU (2,52), and one third of average R&D intensity of OECD (3,19). When we look at the table 1, we may see that the biggest increase belongs to Israel.

*Table 2. The foreign trade of countries (Export – billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	64.7	71.3	89.2	110.8	117.7	134.2	156.7	172.8	131.4	..
Belgium	190.3	215.8	255.5	306.4	334	369.1	430.9	477.2	370	411.1
Canada	261.1	252.6	272.1	317.2	360.6	388.2	419.9	455.6	315.3	386.7
Czech Republic	33.4	38.5	48.7	65.8	78.2	95.1	120.9	142.6	110.7	..
Denmark	50.1	55.7	64.6	74.7	83.3	91.6	109.2	115.6	92.5	96.8
Finland	42.8	44.7	52.5	60.9	65.2	77.3	90.1	96.9	62.9	69.4
France	289.6	304.9	358.1	413.7	434.4	479	539.4	594.9	464.1	511.7
Germany	572	615.6	748.5	911.8	977.1	1122	1328.8	1466.1	1127.5	1271.1
Iceland	2	2.2	2.4	2.8	3.1	3.5	4.8	5.4	4.1	4.6
Ireland	77.4	88.3	92.9	104.3	110	108.8	122	127.1	116.9	118.3
Israel	29.1	29.5	31.8	38.6	42.8	46.8	54.1	61.3	47.9	..
Italy	244.3	254.2	299.5	353.5	373	417.2	500.2	539.6	406.7	447.5
Japan	402.6	416.7	472	565.7	594.9	646.7	714.3	781.4	580.7	769.8
Korea	150.4	162.5	193.8	253.8	284.4	325.5	371.5	422	363.5	..
Netherlands	175.5	175.3	227.3	290.5	320.1	370.2	476.8	506	402.6	..
Norway	59	59.6	67.9	82.5	103.8	122.2	136.4	172.7	114.7	131.4
Slovenia	9.3	10.4	12.8	15.9	17.9	21	26.6	29.3	22.3	24.2
Spain	116.1	125.9	156.3	182.7	192.8	214.1	253.8	279.2	223.1	..
Sweden	76.3	82.9	102.4	123.2	130.3	147.4	169.1	183.9	131	158.1
Switzerland	82.1	87.9	100.7	116.8	130.9	147.9	172.1	200.8	172.5	195.6
Turkey	31.3	35.8	47.3	63.1	73.5	85.5	107.3	132	102.1	114
United Kingdom	272.6	280.6	307.7	349	384.4	448.4	440	461.6	352.4	404.7
United States	731	693.2	723.7	817.9	904.3	1037	1162.5	1299.9	1056.7	1277.1
EU27 total	..	..	..	..	1307.3	1441.8	1703.1	1929.3	1527.4	..
OECD total	4342	4500.9	5179.7	6174.9	6758.6	7664.9	8807.1	9759.8	7598.3	..
China	266.1	325.6	438.2	593.3	762	968.9	1220.1	1430.7	1201.6	1577.8
India	43.9	50.1	59.4	75.9	100.4	121.2	145.9	181.9	176.8	..
Russian Federation	99.9	106.7	133.7	181.6	241.5	301.2	352.3	468	301.8	373.1

*Source: OECD Factbook 2011: Economic, Environmental and Social Statistics*



*Table 3. The foreign trade of countries (Import İthalat- billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	69	71.4	91.5	111.3	120	134.3	156.1	175.4	136.4	..
Canada	221.6	222.4	240.2	273.8	314.4	350.3	380.6	408.8	321	392
Czech Republic	36.5	40.7	51.2	66.7	76.5	93.4	116.8	140.3	102.9	..
Denmark	44.3	49.3	56.2	66.8	75	85.3	104.3	109.8	82	84.5
Finland	32.2	33.6	41.6	50.7	58.5	69.4	81.8	92.2	60.9	68.2
France	293.9	303.8	362.5	434.2	476	529.9	611.1	695.5	540.5	599.2
Germany	486.3	490.1	601.8	718.2	779.8	922.2	1059.3	1204.2	938	1066.8
Ireland	51.1	52.3	54.2	62.3	70.3	76.6	86.7	85	62.6	60.5
Israel	33.3	33.1	34.2	41	45	47.8	56.6	65.2	47.4	..
Italy	236.1	246.6	297.4	355.3	384.8	442.6	511.9	553.2	414.7	486.6
Japan	348.6	337.6	383.5	455.2	515.9	579.1	622.2	762.5	552	694.1
Korea	141.1	152.1	178.8	224.5	261.2	309.4	356.8	435.3	323.1	..
Netherlands	169.9	163.4	209	257.7	283.2	331.5	421.3	458.2	352.6	..
Norway	33	34.9	39.9	48.5	55.5	64.3	80.3	90.6	69	77.3
Slovenia	10.1	10.9	13.9	17.6	19.6	23	29.5	34	23.8	26.4
Sweden	63.5	67.1	84.2	100.5	111.4	127.1	152.8	167.3	120.2	148.4
Switzerland	84.2	83.7	96.4	110	126.6	141.4	161.2	183.6	155.4	176.3
Turkey	41.4	51.3	69.3	97.5	116.8	139.6	170.1	202	140.9	185.5
United Kingdom	338	359.4	393.5	468.1	515.8	598.4	624.7	638.6	484.7	558.6
United States	1180.1	1202.3	1305.1	1525.3	1732.3	1919	2017.1	2164.8	1601.9	1966.5
EU27 total	..	..	..	..	1465.1	1671.9	1966.6	2287.7	1670.9	..
OECD total	4688.2	4840.2	5594.6	6690.7	7496.2	8535.9	9639.4	10766.6	8075.4	..
China	243.6	295.2	412.8	561.2	660	791.5	956.1	1132.6	1005.6	1396
India	50.7	57.5	72.4	99	140.9	178.2	218.6	315.7	266.4	..
Russian Federation	41.9	46.2	57.3	75.6	98.7	137.8	199.7	267.1	170.8	217.4

Source: OECD Factbook 2011: Economic, Environmental and Social Statistics

Not enough R&D investment will make the countries dependent on foreign environment. Foreign dependency will result in foreign trade deficiency. Disregarding the other conditions (low level of exchange rates, custom policies and etc.), the most important reason we face is the pro-

vision of the same products produced in the country from foreign countries at the best quality or at the best price. The reason is the foreign countries produce those products with advanced technologies and at very low price.

*Table 4. The foreign trade of countries (Gross foreign trade - billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	-4.4	-0.1	-2.3	-0.4	-2.2	-0.2	0.5	-2.6	-5.1	..
Canada	39.4	30.2	31.8	43.4	46.1	37.9	39.2	46.9	-5.8	-5.3
Chile	2.6	2	3.6	9.4	10.4	22.5	23.5	8	13.7	..
Czech Republic	-3.1	-2.2	-2.5	-0.9	1.7	1.7	4.1	2.3	7.8	..
Denmark	5.8	6.4	8.4	7.9	8.3	6.3	4.9	5.9	10.5	12.3
Finland	10.7	11	10.9	10.2	6.8	7.8	8.3	4.7	2	1.2
France	-4.3	1.1	-4.4	-20.5	-41.6	-50.9	-71.8	-100.6	-76.4	-87.5
Germany	85.7	125.6	146.8	193.6	197.3	199.7	269.5	261.9	189.4	204.3
Ireland	26.4	36	38.7	42	39.7	32.2	35.3	42.2	54.3	57.8
Israel	-4.2	-3.6	-2.4	-2.3	-2.3	-1	-2.5	-3.8	0.6	..
Italy	8.1	7.6	2.1	-1.7	-11.9	-25.4	-11.6	-13.6	-8	-39.1
Japan	54	79.1	88.5	110.5	79.1	67.7	92.1	18.9	28.7	75.7
Korea	9.3	10.4	15	29.4	23.2	16.1	14.6	-13.3	40.4	..
Netherlands	5.6	11.9	18.3	32.8	36.9	38.7	55.6	47.8	50	..
New Zealand	0.4	-0.7	-2	-2.8	-4.5	-4	-3.9	-3.8	-0.6	0.8
Norway	26	24.7	28.1	34	48.3	57.9	56.1	82.2	45.7	54.1
Slovenia	-0.9	-0.6	-1.1	-1.7	-1.7	-2	-2.9	-4.7	-1.6	-2.2
Spain	-38.8	-40	-53.4	-76.5	-96.8	-115.9	-137.5	-139.5	-64.4	..
Sweden	12.8	15.9	18.2	22.8	18.9	20.3	16.2	16.5	10.7	9.7
Switzerland	-2.1	4.2	4.2	6.8	4.4	6.5	10.9	17.2	17.1	19.3
Turkey	-10.1	-15.5	-22.1	-34.4	-43.3	-54	-62.8	-70	-38.8	-71.6
United Kingdom	-65.4	-78.8	-85.8	-119.1	-131.4	-150.1	-184.7	-177	-132.2	-153.9
United States	-449.1	-509.1	-581.4	-707.4	-828	-882	-854.6	-864.9	-545.2	-689.4
EU27 total	..	..	..	..	-157.8	-230.1	-263.5	-358.4	-143.5	..
OECD total	-346.2	-339.3	-414.8	-515.8	-737.5	-871	-832.3	-1006.7	-477.1	..
China	22.5	30.4	25.5	32.1	102	177.5	263.9	298.1	196.1	181.8
India	-6.8	-7.4	-13.1	-23.1	-40.5	-57	-72.7	-133.9	-89.6	..
Russian Federation	58	60.5	76.3	106	142.7	163.4	152.5	200.9	131	155.6

Source: OECD Factbook 2011: Economic, Environmental and Social Statistics

## Conclusion

R&D, as one of the important issues of export incentives, is indispensable issue for increasing the competition and production power of the countries. Together with high expenditure, R&D is a such kind of investment that the returns are very high. Not enough R&D investment will make the countries dependant on external countries.

The other issue in determining the importance of R&D investments for countries is taking into consideration the R&D expenditures as the base of countries' development level. There is a tough contest in R&D among the western countries. But in comparison with developed countries the developing countries are falling behind developed ones because of lack of resources and not understanding the importance of R&D activities.

In innovative countries the 50% of national competition power lies on R&D capacity. The quality of public institutions take up 25% of competition power and the other 25% belongs to macroeconomic stability. In innovative economies that are close to technological borders the the only source technological development is innovation capacity based on R&D, the countries that are very far from technological borders the source of technological development is either the innovation based on R&D or technological transfer.

In a globalized economy, the countries that want to national competition power must turn into dynamic competition advantage based on R&D, high innovation capacity, high competition power, high added value production. To attain these the governments must create and develop stable political and macroeconomic environment, invest in human resources for gaining skilled employees, foster the informational and technological infrastructure of the economy by directly or indirectly supporting R&D expenditures, protect the investment climate.

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# The Role and Importance of R&D Activities in Economy

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## Abstract

The aim of this article is to show the importance of Research and Development in the economy. In our modern life, the enterprises are indicated as the source of economic development and innovation. To forecast the demand of the market beforehand and to meet this demand with new and innovative products have become the reason for existence of enterprises in our modern world. When we look at leading enterprises of the market, we may witness that the main features of these enterprises are to develop new product or production methods. In other words, the enterprises will be successful if they move toward Research and Development and innovation activities in tough competition condition.

**Keywords:** R&D, competition, innovation, enterprise, market.

**JEL Classification:** O3, O39

## 1. Research and Development Notion

### 1.1. R&D

Based on chances for a long time, the humanity could reach today's cultural level from the near past by means of systematic work. Today we cannot refer the national economy and even the development of enterprises to simple chances. That is why, taking into consideration the financial opportunities the countries and enterprises must pay attention to the research and development function (Ertuğrul, 2004:85).

R&D is systematic and creative activity aimed at forming new products or production process. At the same time, R&D is the mean of getting new knowledge for the development of science and technology, forming new systems, processes and services (Türkiye Odalar ve Borsalar Birliği, 2004:10).

R&D is closely related with other activities which have scientific and technological foundation. R&D composes systematic R&D activities in R&D departments and non-systematic R&D activities in other departments (OECD; Frascati Kılavuzu, 2002:18).

### 1.2. R&D Types

There are three different types of R&D activities in connection with their quality and content (Eseryel,1999:56):

- Basic research,
- Applied research,
- Basic and applied research.

### 1.3. The Importance of R&D

In a technically and economically fast changing dynamic environment the enterprises have to pace with those changes in order to exist and realize their goals. In this content, the enterprises can change by means of planned and systematic research and development activities which are the source of all innovations. If we take into consideration the need of finding new production methods and products, developing the existing products and production methods together with finding solutions to the current problems it will be very easy to understand the importance of R&D function for the enterprises.

To develop and apply new technologies in order to meet the needs and demands of consumers are the duty of R&D which is in close connection with technology. Technological knowledge is the result of R&D activities, and it is spread and shared in the economy which leads to economic development (Ekren, 2000:1-2). R&D activities are the means of struggle for survival in tough competition.

### 1.4. The Goals of R&D

The basic goal of R&D function is to provide the enterprises operating in continuous changing environment to fall in step with those changes, help those enterprises to develop and grow, consequently to help attain sustainability. Based on those basic goals, there are some other goals of R&D given below:

- To develop new product and process,





- To find new use area for current products and equipments,
- To find new production techniques or develop current production techniques,
- To protect the competitiveness in falling in step with competitors,
- To increase efficiency in enterprises,
- To provide cuts in production costs,
- To provide bonification of employer-employee relationships,
- To provide establishment of new management information systems that will enhance information flow towards the management.

### 1.5. Types of Research

The research is divided into two groups; basic research and applied research. The main goal of basic research is add new to the existing knowledge (Kara, 2002:98). The basic research can be defined as bringing objective bases for science and technology and developing the borders of science rather than being used for commercial purposes (Devrez, 1970:146). In some cases the results of basic research can be used for designing new product (Barutçugil, 2003:131).

The applied research is used to solve specific problems of scientific knowledge and principles. To put it different, the applied research is mainly used for commercial purposes. The most important thing in this research is contribute to the development of existing applications (Eren, 2003:56). In industry the applied research is more competitive and useful rather than basic research (Tekin, 1996:112).

### 1.6. Types of Development

The development function of enterprises use the results of basic and applied research in creating products, systems and production methods or developing the existing ones. The development provides the opportunity for use of basic and applied research results and as the consequence, it takes the bridge role between research and production (Tuncer, 1974:148). The basic characteristic of development milestone is intense experiments in this level. The development is based on activities which economically provide the development of methods for situations emerging as the result of research (Barutçugil, 2003:133).

### 1.7. The Reasons for R&D and Followed Strategies

The reasons why the enterprises in nowadays pay much more attention to the research and development are given below (Barutçugil, 2003:20-21):

- Market reasons: To develop products in order to

become pioneer enterprise in the market, protect this position and compete with rivals in the market.

- Organization reasons: To make a name of innovation in the industry, and maintain it, possess alternative products.
- Social reasons: To satisfy the consumers who expect changes, to prove the public and government the benefits of the firm to the community.
- Staff reasons: to attract skilled researchers, to keep them in the enterprise and add taste and meaning to the activities.

The strategy that the enterprises should follow in research and development is to make continuous innovations for maintaining sustainable growth. That is why when forming strategies, there is a great need for industry growth forecasts, information about strategies, and enterprise opportunity analysis. Forecasts for industry growth provide the opportunities to determine opportunities and threats in future, to avoid abrupt technological and economical surprises, to know new activity areas and competitive development. At the same time, to know the reactions of rivals to the changes in the environment plays great role. The current situation analyse also plays an important role in formulating innovative strategy.

The R&D and innovative strategies are as follows:

- Innovative strategy which provides designing new product and new production process and introduce them to the market before the competitors and become the leader in market.
- Innovative strategy which provides defense.
- Innovative strategy which provides imitation.
- Traditional and opportunist innovative strategy.

First strategy is highly aggressive with high risk and high profit. Second one is mainly aimed at being first in world markets and technology but wishing not to stay ahead of technological developments. The enterprises who follow this strategy aims at developing the existing technology rather than to make technological innovation. The third one is to follow the leaders in technology with licensing. Last one is opportunist. It is not eager to make innovations in changes and competition expect emergency situations.

## 2. The Current Situation of R&D Activities in the World

R&D activities which comprise of scientific – technological innovations, needs skilled personnel, resources and capital, and well organized enterprise. That is why the developed countries are successful in R&D activities, in contrast the developing countries are staying behind.

There is a need for separate budget of resources for R&D. As a rule, it is not acceptable to have the budget limit for R&D resources. Because it is obvious that expenditures for R&D are never enough. According to world

For example, the Federal Germany spent \$58 billion for R&D in 2006, in the same year France spent \$38 billion,

scale the R&D resources are evaluated by dividing the R&D expenditure with GDP rate. In connection with this, 27 European countries are given in table 1. (Tuncer, 2006). When comes to R&D expenditures it reaches great amounts.

and England spent \$32 billion in 2005.

*Table 1. The R&D expenditures in GDP in percentages (%)*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	1.7	1.78	1.9	1.94	2.07	2.14	2.26	2.26	2.48	2.46	2.52	2.67	2.75	2.75
Canada	1.66	1.76	1.8	1.91	2.09	2.04	2.04	2.07	2.04	2	1.96	1.87	1.92	1.8
Czech Republic	1.08	1.15	1.14	1.21	1.2	1.2	1.25	1.25	1.41	1.55	1.54	1.47	1.53	..
Denmark	1.92	2.04	2.18	..	2.39	2.51	2.58	2.48	2.46	2.48	2.58	2.87	3.02	..
Estonia	..	0.57	0.68	0.6	0.7	0.72	0.77	0.85	0.93	1.13	1.1	1.29	1.42	1.44
Finland	2.71	2.88	3.17	3.35	3.32	3.37	3.44	3.45	3.48	3.48	3.47	3.72	3.96	3.84
France	2.19	2.14	2.16	2.15	2.2	2.23	2.17	2.15	2.1	2.1	2.07	2.11	2.21	..
Germany	2.24	2.27	2.4	2.45	2.46	2.49	2.52	2.49	2.49	2.53	2.53	2.68	2.78	..
Hungary	0.7	0.66	0.67	0.79	0.92	1	0.93	0.87	0.95	1	0.97	1	1.15	..
Iceland	1.83	2	2.3	2.67	2.95	2.95	2.82	..	2.77	2.99	2.68	2.64	..	..
Ireland	1.27	1.24	1.18	1.12	1.1	1.1	1.17	1.23	1.25	1.25	1.29	1.45	1.79	..
Israel	2.97	3.08	3.52	4.27	4.55	4.56	4.28	4.28	4.41	4.43	4.76	4.68	4.28	4.25
Italy	1.03	1.05	1.02	1.05	1.09	1.13	1.11	1.1	1.09	1.13	1.18	1.23	1.27	..
Japan	2.87	3	3.02	3.04	3.12	3.17	3.2	3.17	3.32	3.4	3.44	3.44	3.33	..
Korea	2.41	2.26	2.17	2.3	2.47	2.4	2.49	2.68	2.79	3.01	3.21	3.36	..	..
Netherlands	1.99	1.9	1.98	1.94	1.93	1.88	1.92	1.93	1.9	1.88	1.81	1.76	1.82	..
Norway	1.63	..	1.64	..	1.59	1.66	1.71	1.59	1.52	1.52	1.62	1.61	1.76	..
Slovenia	1.28	1.34	1.37	1.39	1.5	1.47	1.27	1.4	1.44	1.56	1.45	1.65	1.86	..
Sweden	3.47	..	3.58	..	4.13	..	3.8	3.58	3.56	3.68	3.4	3.7	3.62	..
Switzerland	..	..	..	2.53	..	..	..	2.9	..	..	..	3	..	..
Turkey	0.37	0.37	0.47	0.48	0.54	0.53	0.48	0.52	0.59	0.58	0.72	0.73	0.85	..
United Kingdom	1.77	1.76	1.82	1.81	1.79	1.79	1.75	1.68	1.73	1.75	1.78	1.77	1.85	1.82
United States	2.57	2.6	2.64	2.71	2.72	2.62	2.61	2.54	2.57	2.61	2.67	2.79	..	..
EU27 total	1.66	1.67	1.72	1.74	1.76	1.77	1.76	1.73	1.74	1.77	1.77	1.84	1.9	..
OECD total	2.1	2.12	2.16	2.2	2.24	2.21	2.21	2.18	2.21	2.24	2.27	2.33	..	..
China	0.64	0.65	0.76	0.9	0.95	1.07	1.13	1.23	1.32	1.39	1.4	1.47	1.7	..
Russian Federation	1.04	0.95	1	1.05	1.18	1.25	1.29	1.15	1.07	1.07	1.12	1.04	1.24	..

*Source: OECD Factbook 2011: Economic, Environmental and Social Statistics*

The 1990s are the years that R&D intensity is very low, in contrast the 2000s are the years that the R&D intensity approached its previous level. In European Union the R&D intensity lost ground till 1997, and after 1997 could not reach its previous position. Turkiye showed the biggest bounce between 1990-2002. The R&D intensity was 0.32 in the beginning of the term but till the end of 2002 the rate

doubled to 0.66 and in 2005 the rate was 0.76. Hence, the R&D intensity of Turkiye constitutes to only the one second of average R&D intensity of EU (2,52), and one third of average R&D intensity of OECD (3,19). When we look at the table 1, we may see that the biggest increase belongs to Israel.

*Table 2. The foreign trade of countries (Export – billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	64.7	71.3	89.2	110.8	117.7	134.2	156.7	172.8	131.4	..
Belgium	190.3	215.8	255.5	306.4	334	369.1	430.9	477.2	370	411.1
Canada	261.1	252.6	272.1	317.2	360.6	388.2	419.9	455.6	315.3	386.7
Czech Republic	33.4	38.5	48.7	65.8	78.2	95.1	120.9	142.6	110.7	..
Denmark	50.1	55.7	64.6	74.7	83.3	91.6	109.2	115.6	92.5	96.8
Finland	42.8	44.7	52.5	60.9	65.2	77.3	90.1	96.9	62.9	69.4
France	289.6	304.9	358.1	413.7	434.4	479	539.4	594.9	464.1	511.7
Germany	572	615.6	748.5	911.8	977.1	1122	1328.8	1466.1	1127.5	1271.1
Iceland	2	2.2	2.4	2.8	3.1	3.5	4.8	5.4	4.1	4.6
Ireland	77.4	88.3	92.9	104.3	110	108.8	122	127.1	116.9	118.3
Israel	29.1	29.5	31.8	38.6	42.8	46.8	54.1	61.3	47.9	..
Italy	244.3	254.2	299.5	353.5	373	417.2	500.2	539.6	406.7	447.5
Japan	402.6	416.7	472	565.7	594.9	646.7	714.3	781.4	580.7	769.8
Korea	150.4	162.5	193.8	253.8	284.4	325.5	371.5	422	363.5	..
Netherlands	175.5	175.3	227.3	290.5	320.1	370.2	476.8	506	402.6	..
Norway	59	59.6	67.9	82.5	103.8	122.2	136.4	172.7	114.7	131.4
Slovenia	9.3	10.4	12.8	15.9	17.9	21	26.6	29.3	22.3	24.2
Spain	116.1	125.9	156.3	182.7	192.8	214.1	253.8	279.2	223.1	..
Sweden	76.3	82.9	102.4	123.2	130.3	147.4	169.1	183.9	131	158.1
Switzerland	82.1	87.9	100.7	116.8	130.9	147.9	172.1	200.8	172.5	195.6
Turkey	31.3	35.8	47.3	63.1	73.5	85.5	107.3	132	102.1	114
United Kingdom	272.6	280.6	307.7	349	384.4	448.4	440	461.6	352.4	404.7
United States	731	693.2	723.7	817.9	904.3	1037	1162.5	1299.9	1056.7	1277.1
EU27 total	..	..	..	..	1307.3	1441.8	1703.1	1929.3	1527.4	..
OECD total	4342	4500.9	5179.7	6174.9	6758.6	7664.9	8807.1	9759.8	7598.3	..
China	266.1	325.6	438.2	593.3	762	968.9	1220.1	1430.7	1201.6	1577.8
India	43.9	50.1	59.4	75.9	100.4	121.2	145.9	181.9	176.8	..
Russian Federation	99.9	106.7	133.7	181.6	241.5	301.2	352.3	468	301.8	373.1

*Source: OECD Factbook 2011: Economic, Environmental and Social Statistics*



*Table 3. The foreign trade of countries (Import İthalat- billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	69	71.4	91.5	111.3	120	134.3	156.1	175.4	136.4	..
Canada	221.6	222.4	240.2	273.8	314.4	350.3	380.6	408.8	321	392
Czech Republic	36.5	40.7	51.2	66.7	76.5	93.4	116.8	140.3	102.9	..
Denmark	44.3	49.3	56.2	66.8	75	85.3	104.3	109.8	82	84.5
Finland	32.2	33.6	41.6	50.7	58.5	69.4	81.8	92.2	60.9	68.2
France	293.9	303.8	362.5	434.2	476	529.9	611.1	695.5	540.5	599.2
Germany	486.3	490.1	601.8	718.2	779.8	922.2	1059.3	1204.2	938	1066.8
Ireland	51.1	52.3	54.2	62.3	70.3	76.6	86.7	85	62.6	60.5
Israel	33.3	33.1	34.2	41	45	47.8	56.6	65.2	47.4	..
Italy	236.1	246.6	297.4	355.3	384.8	442.6	511.9	553.2	414.7	486.6
Japan	348.6	337.6	383.5	455.2	515.9	579.1	622.2	762.5	552	694.1
Korea	141.1	152.1	178.8	224.5	261.2	309.4	356.8	435.3	323.1	..
Netherlands	169.9	163.4	209	257.7	283.2	331.5	421.3	458.2	352.6	..
Norway	33	34.9	39.9	48.5	55.5	64.3	80.3	90.6	69	77.3
Slovenia	10.1	10.9	13.9	17.6	19.6	23	29.5	34	23.8	26.4
Sweden	63.5	67.1	84.2	100.5	111.4	127.1	152.8	167.3	120.2	148.4
Switzerland	84.2	83.7	96.4	110	126.6	141.4	161.2	183.6	155.4	176.3
Turkey	41.4	51.3	69.3	97.5	116.8	139.6	170.1	202	140.9	185.5
United Kingdom	338	359.4	393.5	468.1	515.8	598.4	624.7	638.6	484.7	558.6
United States	1180.1	1202.3	1305.1	1525.3	1732.3	1919	2017.1	2164.8	1601.9	1966.5
EU27 total	..	..	..	..	1465.1	1671.9	1966.6	2287.7	1670.9	..
OECD total	4688.2	4840.2	5594.6	6690.7	7496.2	8535.9	9639.4	10766.6	8075.4	..
China	243.6	295.2	412.8	561.2	660	791.5	956.1	1132.6	1005.6	1396
India	50.7	57.5	72.4	99	140.9	178.2	218.6	315.7	266.4	..
Russian Federation	41.9	46.2	57.3	75.6	98.7	137.8	199.7	267.1	170.8	217.4

Source: OECD Factbook 2011: Economic, Environmental and Social Statistics

Not enough R&D investment will make the countries dependent on foreign environment. Foreign dependency will result in foreign trade deficiency. Disregarding the other conditions (low level of exchange rates, custom policies and etc.), the most important reason we face is the pro-

vision of the same products produced in the country from foreign countries at the best quality or at the best price. The reason is the foreign countries produce those products with advanced technologies and at very low price.

*Table 4. The foreign trade of countries (Gross foreign trade - billion dollars \$)*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria	-4.4	-0.1	-2.3	-0.4	-2.2	-0.2	0.5	-2.6	-5.1	..
Canada	39.4	30.2	31.8	43.4	46.1	37.9	39.2	46.9	-5.8	-5.3
Chile	2.6	2	3.6	9.4	10.4	22.5	23.5	8	13.7	..
Czech Republic	-3.1	-2.2	-2.5	-0.9	1.7	1.7	4.1	2.3	7.8	..
Denmark	5.8	6.4	8.4	7.9	8.3	6.3	4.9	5.9	10.5	12.3
Finland	10.7	11	10.9	10.2	6.8	7.8	8.3	4.7	2	1.2
France	-4.3	1.1	-4.4	-20.5	-41.6	-50.9	-71.8	-100.6	-76.4	-87.5
Germany	85.7	125.6	146.8	193.6	197.3	199.7	269.5	261.9	189.4	204.3
Ireland	26.4	36	38.7	42	39.7	32.2	35.3	42.2	54.3	57.8
Israel	-4.2	-3.6	-2.4	-2.3	-2.3	-1	-2.5	-3.8	0.6	..
Italy	8.1	7.6	2.1	-1.7	-11.9	-25.4	-11.6	-13.6	-8	-39.1
Japan	54	79.1	88.5	110.5	79.1	67.7	92.1	18.9	28.7	75.7
Korea	9.3	10.4	15	29.4	23.2	16.1	14.6	-13.3	40.4	..
Netherlands	5.6	11.9	18.3	32.8	36.9	38.7	55.6	47.8	50	..
New Zealand	0.4	-0.7	-2	-2.8	-4.5	-4	-3.9	-3.8	-0.6	0.8
Norway	26	24.7	28.1	34	48.3	57.9	56.1	82.2	45.7	54.1
Slovenia	-0.9	-0.6	-1.1	-1.7	-1.7	-2	-2.9	-4.7	-1.6	-2.2
Spain	-38.8	-40	-53.4	-76.5	-96.8	-115.9	-137.5	-139.5	-64.4	..
Sweden	12.8	15.9	18.2	22.8	18.9	20.3	16.2	16.5	10.7	9.7
Switzerland	-2.1	4.2	4.2	6.8	4.4	6.5	10.9	17.2	17.1	19.3
Turkey	-10.1	-15.5	-22.1	-34.4	-43.3	-54	-62.8	-70	-38.8	-71.6
United Kingdom	-65.4	-78.8	-85.8	-119.1	-131.4	-150.1	-184.7	-177	-132.2	-153.9
United States	-449.1	-509.1	-581.4	-707.4	-828	-882	-854.6	-864.9	-545.2	-689.4
EU27 total	..	..	..	..	-157.8	-230.1	-263.5	-358.4	-143.5	..
OECD total	-346.2	-339.3	-414.8	-515.8	-737.5	-871	-832.3	-1006.7	-477.1	..
China	22.5	30.4	25.5	32.1	102	177.5	263.9	298.1	196.1	181.8
India	-6.8	-7.4	-13.1	-23.1	-40.5	-57	-72.7	-133.9	-89.6	..
Russian Federation	58	60.5	76.3	106	142.7	163.4	152.5	200.9	131	155.6

Source: OECD Factbook 2011: Economic, Environmental and Social Statistics

## Conclusion

R&D, as one of the important issues of export incentives, is indispensable issue for increasing the competition and production power of the countries. Together with high expenditure, R&D is a such kind of investment that the returns are very high. Not enough R&D investment will make the countries dependant on external countries.

The other issue in determining the importance of R&D investments for countries is taking into consideration the R&D expenditures as the base of countries' development level. There is a tough contest in R&D among the western countries. But in comparison with developed countries the developing countries are falling behind developed ones because of lack of resources and not understanding the importance of R&D activities.

In innovative countries the 50% of national competition power lies on R&D capacity. The quality of public institutions take up 25% of competition power and the other 25% belongs to macroeconomic stability. In innovative economies that are close to technological borders the the only source technological development is innovation capacity based on R&D, the countries that are very far from technological borders the source of technological development is either the innovation based on R&D or technological transfer.

In a globalized economy, the countries that want to national competition power must turn into dynamic competition advantage based on R&D, high innovation capacity, high competition power, high added value production. To attain these the governments must create and develop stable political and macroeconomic environment, invest in human resources for gaining skilled employees, foster the informational and technological infrastructure of the economy by directly or indirectly supporting R&D expenditures, protect the investment climate.

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## Innovation and Small Business in Georgia

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### Abstract

This article seeks to contribute to the debate about the role of small and medium enterprises (SMEs) in innovation which is considering as the only way to increase their efficiency, their share in the value added and GDP. The brief statistical analysis and conducted survey reveal the real picture and key challenges in Georgia. Recommendation to reorient policy towards small innovative business was developed.

**Keywords:** Innovation, small business, Georgian SMEs.

**JEL Classification:** M21

### Introduction

In Economics innovation has been recognized as an engine of high profitability from the beginning of 20th century by Schumpeter (1934) who underlined that an innovative new product tends to face low competition at the point of introduction and therefore earns relatively high profits.

Nowadays the rapidly growing importance of knowledge for welfare puts increasing focus on firms' and countries' ability to innovate as the only way for competitiveness, economic development, and economic growth.

There is a consensus among economists that small and medium-sized enterprises (SMEs) are important both for job creation and GDP growth. But the question – how innovative small businesses are – is still disputable.

This article seeks to contribute to the debate about the role of Georgian small and medium enterprises (SMEs) in innovation which is considering as the only way to increase their efficiency, their share in the value added and GDP.

### 1. Innovation in Theory and Practice

What constitutes innovation is a complex matter, and measuring and comparing innovation is a subject area still very much under development. Two types of innovation models might be considered as basic: traditional (conventional) linear model of innovation and evolutionary-innovation models. Traditional theory has viewed innovation as closely related to science and technology. In this linear model, innovation begins with research, followed by development, which in turn leads to production, and finally to marketing (Figure 1).



**Figure 1.** The traditional linear model of innovation

**Sources:** Marjolein, et al; 2006; p. 429

The model has been criticized on several directions. In particular, there are no feedback loops in this system; as practice shows innovation is inevitably an iterative process of trial and error and incremental adaptation at every step, etc. (Marjolein, et al; 2006; p. 429). As a result, evolutionary view of innovation was developed, denoted as the coupling model and the chain-linked model. A particularly important feature of evolutionary-innovation models is the recognition that active involvement by end-users throughout the process is crucial for success. In other words, a central claim of innovation theory states that making users active partners leads to a greater uptake of new products and services, because users' needs are better satisfied.

Besides the model approach, innovation is analyzed as a comprehensive system that includes “sub elements - universities, enterprises, politics, capital and labour market” (Small firms, 2006; p.3) or innovation arises from complex interactions between individuals, organizations and their operating environment.

The European Commission defines innovation very broadly as “the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organization, and the working conditions and skills of the workforce” (European Commission; 1995; p.1).

Thus, summarizing it might be said that in practice innovation can take many diversified forms, including commercialization of science and technology as well as the

development and implementation of new ideas more generally, as in the form of organizational change or inventing new ways of doing things. (Napier, Serger, Hansson, 2004; p.28).

In this article innovation is defined generally and broadly – as the design of a new product or service (or a greatly improved product or service) as well as the successful bringing of the new product or service to the market.

## 2. Innovation and Firm Size

So, which firms, large companies or SMEs, are more innovative? Literature reveals a number of factors that affect firms' innovative capabilities (Napier, Serger, Hansson, 2004; p. 29-31). They include:

- access to knowledge,
- the ability to transform knowledge into competitive products and services,
- the willingness to innovate (in terms of products, processes and organizational changes).

In more detail, access to knowledge might be measured by using indicators of national science base, private sector R&D, expenditure on R&D, number of scientific publications, number of researchers, human development indicators, etc.

The ability to transform knowledge into products and services is characterized by human capital, competitive private sector, access to capital, education statistics, patenting activity, venture capital supply, FDI, etc., as well as growth and development of SMEs in the country - the indicator that has a special importance for our investigation.

The willingness to innovate depends on political and macroeconomic framework conditions (GDP growth, inflation, corruption, informal economy, etc.), entrepreneurship, incentive structures, collaboration between private sector and academia, clustering and international networking activities, the like.

There is a no consensus among economists regarding the role of SMEs in innovation. The theory that connected firms' ability to innovate to their size was firstly developed by Schumpeter (1950). Initially he stated that small companies were in better position due to their flexibility in comparison to the large companies with their bureaucratic structure. Some year later he changed his view and argued that large firms were responsible for a disproportionate share of innovative output because they had better resources and more market power. Similar conclusion was made later based on the analysis of wide range of innovation indicators and rates in the United States (Acs, Audretsch, 1988), (Acs, Audretsch, 1990). In Turkey the proportion of innovative companies also increases with firm sizes. Particular, while the propensity of undertaking technological innovation activity is around 20% for SMEs (firms with 10-49 employees), it doubles to 40% for the firms with

250-999 employees and 59% for the firms with 1000 or more employees (Napier, Serger, Hansson, 2004; p. p.64). One possible explanation could be that larger firms have the required resources to perform and develop innovative activities, whereas smaller firms don't. SMEs tend to lack the financial resources, the technological or management know-how, investment in organizational change, so forth.

But smaller firms may be more conducive for implementing changes due to their smaller size and more flexible organization. Moreover, it has been recognized that GDP composition by sectors is a matter. In particular, while large firms tend to have innovative advantage in some industries, such as pharmaceuticals and aircraft, small enterprises are more innovative in other industries, like computers and process control instruments. In Turkey, for example, most innovation is found within computer and electrical machinery with more than 60% of the firm carrying out innovative activity, whereas only around 10% of firms in textile, furniture and leather industries where SMEs are prevailed are characterized as innovative. In 1991 in the United States, small firms produced 55 % of innovations and provided 25 per cent of the jobs in high-technology industries (Şenturk, et al; 2008).

Considered in terms of innovations per employee, small firms are found to contribute about as many innovations as their larger counterparts in the United States in manufacturing, and the innovative activity of U.S. small manufacturing firms far exceeded that of large firms (Acs, Audretsch, 1990). These findings emerged not just for the United States but for the Netherlands, the United Kingdom, and Italy (Thurik, 1999; p.176).

Another interesting fact is that while private R&D expenditures contribute more to the innovative activity of large firms and SMEs have limited opportunities of R&D that require additional expenses and specialized staff, the spillovers from university research are more important for small-firm innovation. These effects might also include re-engineering products or services, exploring innovative distribution or sales techniques, or developing new and untapped markets. Spillover effects were found in American studies as well as in the European cases (Ibid).

Therefore, now it is internationally agreed that SMEs" represent an important source of innovation. They tend to occupy specialized market "niches" and follow competitive strategies that set them apart from other companies." (Promoting, 2007; p.2). Small enterprises and large companies play somewhat different roles in innovation. SMEs are more market oriented and less research-driven, quicker to respond to new opportunities and more oriented to small incremental advances. They play a vital role in pioneering and developing new markets and providing product diversity and innovation in existing markets, characterized by high risk/reward ratios.

To assess the situation in Georgia, we have to start



with a brief description of country’s SME sector profile.

### 3. Georgia: SME Sector Profile

Since statistical information on Georgian SME sector is relatively fragmentary, it is difficult to analyze trends over time. However, some data provide a snapshot of its relative place in the national economy. In particular, since 2008 the share of SMEs in the total number of businesses has been about the same and counted 95-96 percent of total business enterprises (GeoStat)<sup>1</sup>. In 2011 according to the number of operating enterprises, SMEs prevailed in most fields of economic activity, especially they were leading in hotel and restaurant sector (98,5%); real estate (98%); agriculture, hunting, foresting (98,7%); wholesale and retail trade (96%); transport and communication (92,5%); construction (96%); education (96%), etc., and even in manufacturing (96%). Large enterprises were concentrated, just in some industries, for example, in electricity, gas and water supply (37%) (GeoStat).

Since 2008 the share of SMEs in total turnover was about 16-17 percent or, in other words, large enterprises contributed around 83 percent and more of total turnover. In 2011 SMEs prevailed just in some kinds of economic activities, for example, in real estate and renting (53%), in fishing (60%), and in education (56%) (GeoStat).

The similar situation exists in output creation. While in 2004-2005 medium and small enterprises produced around 1/5 of country’s output, in the following years including 2011 their share declined to 14-18% (GeoStat). In other words, most part of output, 82 percent and more, has been produced by large enterprises. As for output by kinds of economic activities, in 2011 large enterprises produced most part of output of leading sectors of Georgian economy, for example, 72% of output in agriculture, 89 % in manufacturing, 73% in construction, 68% in hotel and restaurants business, while small and medium enterprises produce most part of output in fishing (74%), real estate and renting (53%), education (55%), etc.

Another important indicator of economic activity is value added. Since 2006 most part of value added (80% and more) has been produced by large firms (GeoStat). Specifically, in 2010 small and medium enterprises produced 46,6% of value added in agriculture, 15,1% in manufacturing, 29,5% in construction, etc.

An important measure of economic efficiency is labor productivity per employed person. In 2008-2011 productivity of labor of employed person of large enterprises was higher than that on average in the country, while productivity of labor of employed person of small and medium enterprises was significantly lower. For instance, in 2010 in medium enterprises it was more than two times lower and in small enterprises about three times lower than that on average in the country (GeoStat).

Analysis of employment by the size of enterprises shows that in 2003-2008 SMEs employed about half of total labor force, dividing approximately equally between small and medium enterprises. In 2008 employment shrank significantly in large as well as small and medium enterprises (by 6.4, 15.6 and 11.8 percent, respectively) and from 2009 the economic situation has improved and in 2010 the number of employed increased in large enterprises (by 4,5%) as well as in medium and small ones by 17,3% and 29,5%, respectively (Quarterly bulletin, 2010. II; p.33). In 2011 SMEs employed around 40% of labor force (GeoStat).

### 4. Survey

We applied reduced form evidence or the survey tended to measure output rather than activities and input. The survey was conducted in January-February 2012 among 60 small firms in Tbilisi. Respondents were selected through convenience sampling. 60 questionnaires were distributed and 39 of them returned; response rate is 65 percent. Response rate is quite reasonable.

The survey starts from the question - how innovation is important to a firm. The vast majority of the respondents (94.3%) believe that it is important.

Despite this optimistic consensus, practical results are very modest. In particular, new products/services were developed about by every third firm (37.1%) while 40% of respondents are indifferent to this type of innovation; only 31.4% of surveyed firms implemented new technology (40% were indifferent) despite most part of the respondents (62.9%) agrees that there was significant increase in technology used in Georgia last ten years; only 28.6% of surveyed firms developed new business processes (25.7% were indifferent). Moreover, the survey highlights a remarkable fact that just 17.1% of respondents cooperate with universities in terms of innovation and most majority (74.3%) does not. Figure 2 summaries the results.

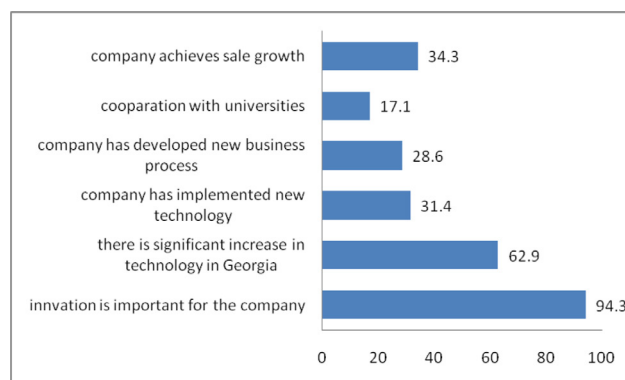


Figure 2. Survey questions and the share of positive answers (in percent to total)

Now it is not surprising that only about one third of surveyed firms increased sales (34.3%) and most part of firms could not achieve sales growth (42.9%). Overall, Georgian SMEs remain in a challenged position with regard to innovation and long-term competitiveness indicators.

### 5. Promoting Innovation in Georgian SMEs

It goes without doubt that SMEs innovation promotion policy is an integrated part of the government policy. Some countries have accumulative experience on SME promotion policy and innovation policies design which goal is to facilitate the commercialization of scientific and technological advances. For instance, in Turkey they were first initiated in the 1960s with the creation of the Scientific and Technical Research Council of Turkey (TÜBİTAK), the purpose of which was to prepare and co-ordinate implementation of science and technology policies in Turkey. From 1997 the emphasis has been put on original innovation systems, their dissemination, stimulation of innovation activities and supplying support for the innovation activities of SMEs (see, for example, (Small; 2004), (Napier, Serger, Hansson, 2004).

Georgian government policy towards small business is a special issue and partly we have discussed it (Papiashvili, Ciloglu, 2012). Now just core directions will be outlined. First of all, it should be special emphasized that in Georgia there is no special policy towards small business because there is a belief that successful macroeconomic policy creates favorable environment for making any business in the country no matter the size of enterprises (Strategic; 2011). At the same time, the policy is oriented on foreign direct investments (FDI) that means GDP growth. But as we have shown (Papiashvili, Ciloglu, 2012), poverty and unemployment are still the most painful issues for most Georgians and GDP growth not always contributes to their solving Particularly,

- Last decade unemployment rate has been stably high. Specifically, it was 16.5% in 2008, 16.9% in 2009, 16.3% in 2010 (GeoStat).
- At first sight, Georgia's unemployment rate is at around the mid-level for emerging countries. But in reality it understates the labor picture as many people who are considered to be 'employed' for statistical purposes are also underemployed – that is, they are hindered by insufficient pay, irregular or seasonal employment, and have few options for increasing their economic mobility.
- As the surveys show, for example, International Republican Institute poll, the most important issue for the Georgian citizens is still unemployment (59 percent of the respondents) (Poll: Georgia's, 2009).
- Brief analysis of economic growth of Georgia finds out that, despite the successful FDI policy and im-

pressive GDP growth in 2005-2007 (GeoStat), and the 2010 recovery of growth, there is still a limited pool of job opportunities available.

- Moreover, Georgian policymakers have realized that unemployment is not only economic but political problem as well (Snip, 2011).

Under these circumstances, we do believe that Georgian government has to reorient the policy focusing on the unemployment as the most serious country's contemporary issue. Due to the fact that SMEs is world widely recognized as an engine of employment, Georgia needs special SMEs promotion policy. Generally, Georgian government role must begin with providing meaningful tools for financing, marketing, and technological support of SMEs but the top priority is the development of human capital.

Based on the listed above factors that affect firms' innovative capabilities, we see several areas for improvement and for Georgian government initiatives:

- ▶ Access to knowledge might be improved though the development a system of education/trainings for operating individual entrepreneurs.
- ▶ Ability to transform knowledge into new products, services, processes or ideas depends on the link between business advisory services, on one side, and SMEs' owners and managers, on another. Business incubators are excellent tool of assistance of SME sector development and SMEs innovation.

Indeed, marketing a new product or service requires planning, finance, advertising and market research, production and control capabilities, and knowledge of wholesaling, retailing and pricing. These activities require special skills that each successful business owner has to have or has to learn. In most cases they should be taught, and the government can provide advice on how and where to learn more about them. Clustering new business development close to universities or to large businesses may be sufficient to generate innovative thinking. Only government can coordinate co-operation among SMEs, large-scale enterprises, universities, professional organizations and public institutions. Only government can identify the best technology and best practice, and organize the sharing this information through trainings, seminars, and conferences.

### Conclusion

In knowledge-based economy innovation is recognized as one of the crucial component of firms' and countries' competitiveness, economic development, and economic growth.

Now it is internationally agreed that not only large companies but small businesses as well represent an important source of innovation. Turning from "gross" innovation indicators, such as private sector R&D, expenditure on R&D, number of scientific publications, number of re-

searchers, human development indicators, etc. to more specific, for example, innovations per employee and/or innovation in different sector of economy, small firms are found to contribute about as many innovations as their larger counterparts in many countries (for instance, in the United States, the Netherlands, the United Kingdom, Italy, Turkey, etc.). SMEs have their market “niches” more orienting on market development and less on research, on providing product diversity and innovation in existing markets.

In Georgia the SME sector potential in terms of job creation, value added, productivity of labor is used partly. According to the most recent 2011 statistical estimates, the SME sector accounted: 96% of the total number of enterprises, 40% of total employment, 20% of value added, roughly 18% country’s output and 17% of turnover. Therefore, while SMEs dominate the economy in terms of number of enterprises, they evidently operate with comparatively little capital equipment generating relatively low levels of output, turnover, and value added.

The conducted survey shows as well low innovative potential of Georgian SMEs in terms of new products/services developed, implementation of new technology, development of new business processes, etc. Overall, Georgian SMEs remain in a challenged position with regards to innovation and long-term competitiveness indicators. These facts we can interpret as unused hidden reserves of the development of Georgian economy.

We believe that Georgian government SMEs oriented policy would change the situation. SME policies should be aimed at enabling a critical mass of SMEs to be innovative, to compete internationally and to grow, rather than at necessarily preserving existing firms. Since the technological requirements for a new product or service may be complex, unique and costly to each individual innovation, the second part of the innovation process, i.e. bringing the new concept successfully to the market, with government support may be efficient. The crucial point of the policy must be the orientation on the development of human capital that will result in improvement of access to knowledge though the development a system of education/trainings for operating individual entrepreneurs, on one hand. On another, an ability to transform knowledge into new products, services, processes or ideas will be increased. In this case business incubators are excellent tool of assistance of SME sector development and SMEs innovation.

## Notes

1. To obtain this information we officially addressed National Statistics Office of Georgia (GeoStat)

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# Getting into the Essence of Deposit Insurance System: Determinants of Positive Expectations of Georgian Depositors toward DIS

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## Abstract

Since the implementation of deposit insurance system economists have been arguing about its efficiency. Those who support the idea of stabilizing impact of the system over banking environment tend to demonstrate its benefits for banking institutions, while the critics of DIS reveal the facts to affirm the negative consequences of the system faced by commercial banks. This paper is to consider the primary objective of DIS or its goal of social protection. Deposit insurance system was not designed to safeguard banking institutions but the depositors of banking institutions. Therefore, the key determinant of efficiency of DIS must be the facts demonstrating protection of depositors by the system. The best model of DIS definitely must be developed by the scholars to make it most effective for banking environment, but still if depositors feel protected under the system, it must be settled that DIS justified the expectations. The paper is to demonstrate the elements of DIS making depositors feel safe. Specifically, the behavior of Georgian depositors through coverage limit is examined to check their expectations under this element. Requirements of Georgian depositors concerning reimbursement procedures are also examined to determine what makes them feel protected.

**Keywords:** Banking system, deposit insurance, social protection, coverage limit, reimbursement procedures, Georgia

**JEL Classification:** G 21, G22, C12

## Introduction

Deposit guarantee schemes provide explicit deposit protection and ensure that if a bank fails, depositors will be able to recover at least portion of their deposits (Cariboni, Branden, Campolongo, & Cesare, 2008). The principal objective of designing deposit insurance system was protection of depositors from probable loss by compensating their deposits in an event of bank failures and bankruptcies. Although protection of depositors by DIS is principle objective of developing the system, promoting the banking stability by deposit guarantee schemes should also be considered. However, these two objectives of the system have very strong positive connection; banking stability can be achieved under DIS only if depositors will have positive expectations toward the system and feel safe about their savings.

Some key elements of DIS ensuring positive expectations of depositors toward the system are coverage limit, reimbursement procedures and the cases of compensation observed after the bank failures. Therefore, careful consideration of these elements and their institutionalization in a way to enhance public confidence is of a central importance.

Although DIS is not implemented in Georgia yet, I still think that it is only the matter of time and the system is going to be put in practice, as the process is indispensable part

of economic development. Moreover, the project was already developed by the Financial Committee of the Parliament of Georgia and the National Bank of Georgia in 2005. The project has been rejected by the Georgian Parliament, however I assume that Georgian banking environment, because of its current stability, is now ready than ever to implement the system. Before the process of implementation it is critically important to carefully examine Georgian depositors' attitude toward the system and their requirements concerning different essential elements of DIS that make the process of implementation successful. The article is to examine behavior of Georgian depositors under DIS through coverage limit and their requirements concerning reimbursement procedures. Taking into account these requirements will develop Georgian depositors' positive expectations toward the system and therefore will make the process of implementation effective in the country.

## 1. Literature Review on Social Protection by Deposit Insurance System

Core Principles for Effective Deposit Insurance Systems, issued by the Basel Committee on Banking Supervision and International Association of Deposit Insurers (IADI) in 2009, states that the first step in adopting a deposit insurance system is to specify appropriate public policy objectives that it is expected to achieve. The princi-



pal objectives for deposit insurance systems are to protect depositors and hence to contribute to the stability of the financial system (Basel Committee on Banking Supervision; IADI, 2009).

According to Financial Stability Forum (FSF) deposit insurance protects insured depositors against the consequences associated with the failure of a bank but it is not designed to protect banks from failing. Still well-designed and well-understood deposit insurance system contributes to the stability of a country's financial system by reducing the incentives for depositors to withdraw their insured deposits from banks. Public attitude and expectations play a particularly important role in reinforcing the credibility and the effectiveness of DIS. Thus, policymakers should ensure that the public view all components of the deposit insurance system as credible. The level and the scope of coverage, the speed with which insured deposits are repaid will affect the ability of DIS to strengthen public confidence and thus to enhance stability of the financial system (FSF, 2001).

Principle 17 of Core Principles for Effective Deposit Insurance Systems, covering reimbursement and recoveries, indicates that depositors should be given prompt access to their insured funds by the DIS. Therefore, depositors should have a legal right to reimbursement up to the coverage limit and should know when and under what conditions the deposit insurer will start the payment process, the time frame over which payments will take place, as well as the applicable coverage limit (Basel Committee on Banking Supervision; IADI, 2009).

To let depositors know the applicable coverage limit in advance is a critical point for ensuring high level of confidence among population (Coutu, 2008). However, it is also the subject of intensive discussions whether insurance coverage should be established at all or not. The reason of disputes is undermined positive effect of DIS through this limitation. If depositors are not fully reimbursed there might be the risk that positive expectations of population toward DIS will decrease. However, imposition of insurance coverage serves the purpose of strengthening market discipline. Depositors are motivated to observe bank performances when part of their saving is still exposed to risk. Consequently, bank management knows that they are watched by depositors and undertaking excessive risks may cause deposit outflows. This forces commercial banks to restrict themselves from following risky strategies.

Coverage limit has another positive function of improving competition in the banking environment – depositors are not restricted to keep their savings in different banking institutions when they exceed the limit of coverage at one bank account. As a result they are fully compensated when deposits are distributed among several commercial banks. This helps to evade concentration of funds in one and the same relatively famous and large banking

institutions.

Therefore, coverage limit is among those important elements of the system that ensure positive impact of DIS over the state of the banking environment and is recommended to be imposed. Schich (2008) & Velikova (2006) state that it is critical to establish coverage limit for insured instruments. The essential point is to choose the optimal level of coverage. Coverage must be sufficient to prevent destabilizing banking runs, but not so extensive as to eliminate all effective market discipline on the bank's risk-taking (Schich, 2008; Velikova, 2006). Vast international experience says that optimal insurance coverage correlates with the GDP per capita with a coefficient from 1 to 2 (Tourbanov, 2005). Sometimes the coverage ratio is recommended to be higher for developing countries (Demirgüç-Kunt, Karacaovali, & Laeven, 2005). International Monetary Fund also uses one or two times per capita GDP as the general rule in advising countries on appropriate limits for deposit insurance coverage (Blinder & Wescott, 2001).

To follow recommendations, GEL 10 000 should be imposed as coverage limit of deposit insurance in Georgia to get favorable effects. This assumption is based on the official statistical data of 2011 that Georgia has GEL 5421.4 of GDP per capita (National Statistics Office of Georgia, 2011).

Based on the literature review the questions concerning the behavior of Georgian depositors and their expectations toward DIS especially through coverage limit in case of the implementation of the system have emerged:

1. Will imposition of coverage limit of GEL 10 000 undermine positive expectations of Georgian depositors toward DIS?
2. What reimbursement procedures are required by Georgian depositors to ensure their positive expectations toward the system?

The answers to the questions above will help to foresee probable effect of DIS over the behavior of Georgian depositors, to anticipate their expectations toward the system and therefore, to estimate the perspective of DIS in Georgia to meet its primary objective of protecting depositors.

## **2. The Effect of Coverage Limit over Expectations of Georgian Depositors toward DIS**

The effect of insurance coverage limit over positive expectations of Georgian depositors toward DIS was examined by questioning depositors about their behaviors through coverage limit and without it. Namely, the number of depositors running to the banking institutions under coverage limit and under full coverage was measured. 500 of the Georgian population from different regions of Georgia were questioned. The questionnaires were randomly distributed among the population. Georgian depositors were

asked about their behaviors under two conditions: trough coverage limit of GEL 10 000 and full coverage. The questions were formulated as below: 1. would you withdraw your savings from bank account in times of crises if DIS operated in Georgia through GEL 10 000 coverage limit? 2. Would you run to your banking institution for early withdrawal in times of crises if DIS operated in Georgia through full insurance coverage?

According to the responses of the population under the study about half of the respondents, around 0.54 % or 272 people, would immediately run to banks to withdraw their savings in case of any political or economic instability if deposits up to GEL 10 000 is compensated. The rest of respondents prefer to wait just a little to see further developments on the market. Situation has slightly changed under full coverage. The number of depositors running to commercial banks for early withdrawal has decreased by 31, or 241 respondents replied that they would withdraw their savings in case of uncertainty under full coverage.

The data from the survey about the effect of coverage limit was tested through z test for differences in two proportions, also called confirmatory data analysis. The purpose of testing was to see whether imposition of coverage limit undermines positive expectations of Georgian depositors to DIS or not by increasing the number of runs to banking institutions.

To conduct testing, sample population 1 is assumed to be 272 people and sample population 2 refers to 241 people. The proportion of sample population 1 in the total sample size of 500 equals to 0.544 ( $p_1=0.544$ ) and the proportion of sample population 2 – 0.482 ( $p_2=0.482$ ) when total sample size is 500 people again.

z testing for differences in two proportions was conducted to test the hypothesis below:

$$H_0: p_1 - p_2 > 0$$

$$H_a: p_1 - p_2 \leq 0$$

The null hypothesis states that GEL 10 000 coverage limit increases the number of Georgian depositors running to the banks for early withdrawal in times of crises (coverage limit undermines positive expectations of Georgian depositors). Alternative hypothesis is that impositions of coverage limit does not have any negative effect over expectations of Georgian depositors toward the system or does not increase the number of depositors' runs to banking institutions. Not to reject the null in favor of alternative hypotheses the difference between two sample proportions must be positive or more than zero.

Hypothesis testing was conducted at the 5 % of significance level, or  $\alpha$  (alpha) is assumed to be 0.05 ( $\alpha = 0.05$ ), which means that testing results are true at 95 % of confidence.

## Z Test for the Differences in Two Proportions

### Testing H0: imposition of coverage limit in Georgia increases panic runs to banking institution.

Proportion 1: 0.544    Sample size 1: 500

Proportion 2: 0.482    Sample size 2: 500

Hypothesized difference (D): 0.12

Significance level (%): 5

#### z-test for two proportions / Two-tailed test:

Difference	0.062
z (Observed value)	-1.838
z (Critical value)	1.960
p-value (Two-tailed)	0.066
alpha	0.05

#### Test interpretation:

H0: The difference between the proportions is equal to 0.12.

Ha: The difference between the proportions is different from 0.12.

p-value is greater than the significance level  $\alpha = 0.05$ , one cannot reject the null hypothesis.

The risk to reject the null hypothesis H0 while it is true is 6.60%.

According to the testing results p-value is greater than the level of significance  $\alpha$  ( $p\text{-value} > \alpha$  or  $0.066 > 0.05$ ), thus, null hypothesis fails to be rejected. It means that there is more than 5 % risk (6.60% in this case) of type I error or chance that null will be rejected when actually it is true. Null hypothesis can be rejected only when there is less than 5 % risk of rejecting null by mistake.

Observed value of z falls below the lower critical value of z ( $z_{\text{observed value}} < z_{\text{lower critical value}}$ ) that increases the risk of rejecting the null by mistake up to 6.60%.

Hypothesized difference equals to 0.12, which means that testing results at 95% of confidence allow number of Georgian depositors running to the banking institutions for early withdrawals to increase by 12% if GEL 10 000 coverage limit is imposed under DIS in Georgia. When hypothesized difference becomes 13% null can be rejected in favor of alternative one, or testing results at again 95% of confidence do not allow the number of Georgian depositors runs to commercial banks to increase by 13% through GEL 10 000 of insurance coverage limit. Therefore, significant increase in the number of Georgian depositors' runs to commercial banks under coverage limit is not supported by testing results.

Such a minor increase in the number of Georgian depositors running to the commercial banks for early withdrawal may be caused by the scope of the coverage limit offered (GEL 10 000). The savings of only few depositors may exceed that limited amount of coverage limit in Georgia. Moreover they are to be allowed to divide their deposits among different banks not to exceed the limit of insurance coverage.

12% of depositors running to the banking institutions for early withdrawal of their savings after imposition of coverage limit are also important to observe under the study. This category of depositors does not give up the process of observations and force commercial bank management to think before undertaking excessive risks.

### 3. Requirements of Georgian Depositors Concerning Reimbursement Procedures

Georgian depositors highlighted some essential points which they named to be critically important to gain their positive attitude toward the system. The points apply to the process of reimbursement.

Georgian depositors require to be informed about the time frame over which payments will take place. The issue was named to be even more essential if DIA does not plan to make immediate payments and the loss of depositor is to be compensated gradually.

The role of DIA during the process of liquidation of banking institution is another critical issue required by Georgian depositors to be clearly defined by the project. Depositors prefer the process of reimbursement by DIA to take a start immediately after commercial bank is declared insolvent. The process of liquidation of banking institution usually lasts long. Therefore, not to make depositors wait the compensation can be carried out using the Agency insurance funds. Expenses faced by DIA in the process of compensation will be repaid after all assets of banking institutions are liquidated by NBG agents.

The process of reimbursement after bank failure is required to be described in details by the project of DIS. Detailed description of the process largely supports promotion of public confidence and helps to assure depositors about compensation. Requirements concerning the description of the process of reimbursement include the following: 1) depositors require to know precisely the steps of the process of reimbursement which they will have to undertake in order to be compensated. Namely, when to claim for compensation and how to apply to DIA for reimbursement; 2) In the process of reimbursement DIA is required to provide full information about delays of compensation or when exactly depositors are to be compensated.

### Conclusion

Testing results enable to conclude that coverage limit of GEL 10 000 is less expected to significantly undermine positive effect of DIS if it is implemented in Georgia. Although the null hypothesis of increasing the number of Georgian depositors running to the banking institutions for early withdrawal under GEL 10 000 coverage limit could not be rejected, the above conclusion still can be assumed to be objective. The assumption is based on the same result of testing which showed that null hypothesis could not be rejected at 95% of confidence only if 12% of increase in the number of runs is allowed. Testing results do not allow increase in the number of Georgian depositors' runs by 13% and in this case null hypothesis could be rejected in favor of alternative one at the same 95% of confidence.

12% is not a considerable figure compared to the results of testing carried out before. According to it null hypothesis of increasing the number of Georgian depositors after implementation of DIS could not be rejected at 95% of confidence. Testing results allowed the number of Georgian depositors to increase under DIS by 50% (Khundadze, 2010). Considerable number of respondents under the study not trusting banks before DIS expressed their positive expectations toward DIS through demonstrating willingness to deposit their savings. These positive expectations are essential to preserve as it is the most important factor making the system effective. Therefore, the system should be carefully designed and implemented not to disappoint depositors and not to be distracted from the primary objective of social protection.

As coverage limit is believed to be the element essential for successful implementation of DIS through strengthening market discipline and reducing the problem of moral hazard, its imposition should be recommended in case if DIS is implemented in Georgia. Moreover, testing results did not prove coverage limit of GEL 10 000 to significantly undermine positive expectations of Georgian depositors toward DIS.

GEL 10 000 is an optimal amount of insurance coverage limit for Georgia, as through this amount of coverage limit only minor increase in the number of depositors' runs were observed under the study. It means that positive expectations of Georgian depositors will not be significantly undermined by this amount of coverage limit. At the same time not all depositors gave up the process of observation through GEL 10 000 coverage limit and this category of depositors keep up the market discipline after implementation of DIS through forcing commercial banks to reserve themselves from following too risky strategies.

The only requirement of depositors in Georgia concerning coverage limit apply to being clearly informed about the limit of the compensation in advance. Otherwise they did not show any inconvenience due to the limitations.



To enhance their positive attitude toward DIS Georgian depositors also demanded full information about the process of reimbursement in advance. Particularly, the time frame of compensation, delays of compensation, the steps to undertake to be compensated and the parties taking responsibility to reimburse. Knowing these details in advance showed to promote confidence of Georgian depositors. Thus, it is recommended to meet these requirements when DIS is designed for Georgian context.

Before implementation of DIS in Georgia it is essential to consider all those elements of the system that ensure positive attitude of depositors toward the system. Therefore, taking into account all above conclusions and recommendations are critically important to make Georgian depositors feel protected when the system is implemented in Georgia and consequently to ensure efficiency of the system.

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# Managing Change in the Competitive World

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## Abstract

In order to be competitive in the market any institutions needs to adapt to contemporary demands of the customers and the market itself. A change at every stage of development is essential for any organization, which aims to succeed in reaching the goal it serves. With the changing environment around one needs to adapt to new waves of changes and innovations especially when they are directed from some regulating government bodies to stay functioning in the system. To be an appropriate player of a unit system an organization needs to follow the rhythm of mostly unpredictable or unclear changes. To do so, an organization personnel needs to be flexible for changes and this is a major problem when we deal with organizations that have a long history living with “good old” rules. The paper discusses the difficulties of meeting the change and taking the challenge of transformation. It discusses the common processes and the characteristics of the winners of the change based on change analysis directed by a management.

**Keywords:** Change management, change agent, change leader, frame of change, organizational values, change actions, employee motivation.

**JEL Classification:** O32

## Introduction

In order to be competitive in the market any institutions needs to adapt to contemporary demands of the customers and the market itself. A change at every stage of development is essential for any organization, which aims to succeed in reaching the goal it serves. With the changing environment around one needs to adapt to new waves of changes and innovations especially when they are directed from some regulating government bodies to stay functioning in the system. To be an appropriate player of a unit system an organization needs to follow the rhythm of mostly unpredictable or unclear changes. To do so, an organization personnel needs to be flexible for changes and this is a major problem when we deal with organizations that have a long history living with “good old” rules. The paper discusses the difficulties of meeting the change and taking the challenge of transformation. It discusses the common processes and the characteristics of the winners of the change based on change analysis directed by a management.

## Main Arguments

Changes in an organization may include variety of aspects starting from globalization, innovative technology, automatization or revolution in information and communication technologies. In our case the change process was initiated by the management to meet the industry norms, namely to receive the accreditation from the Ministry of

Science and Education of Georgia. The personnel readiness and their attitudes did play a major role in the process. We divided the results received from the series of surveys into recommendations for each stage of management, namely the planning, the organizing, the implementing and the controlling stages.

Here we concentrated on the shift from tactical to strategic management, when each individual member was to think globally. (Susanto, 2008) The readiness of the personnel to think globally was a defining factor from the start and we believe that this gave the course to the whole change process. For employees change is always related to resistance and it is more a psychological aspect than the material. An organization has to deal with old methods and employees resisting to change their style of work for new one, regardless how easy and simple the new styles may seem.

Essentially, we discuss the following steps that need to be taken at the planning process of the change, which were divided into three most important stages. We believe that without a well planned process, it will not be possible to visualize the change and if the planners fail to do so, they will not be able to assess the real process and therefore the change will be doomed to the failure, causing the disappointment and the mistrust of the employees to other possible changes. (Austin, 2009)

Firstly, Management, while planning the change, needs to reconceptualize what is possible by creating a new frame of analyzed needs. If we fail to do so, the employees



will have difficulties in perceiving the reason of change. (Mathews, 2009) Assessing the capabilities and the skills of the employees together with the material potential of an organization help create a visual concept of the company and makes it easier to match it to desired shape, helping to plan the changes. After completing the new frame, the second target of the organization should be the change of actions and not the values. Usually what happens when values are changed instead of the actions is that members of the organization feel alienated from an organization even though they have worked there for several years. This usually results in high turnover and failure in change process. Even if management sets the best frame and actions to reach the change goals, still it needs to communicate the new frame by linking it with accepted stakeholder goals, especially the goals of the employees.

Secondly, evaluating the potential to change is as important as the planning itself. Without understanding the real potential of the workforce at the organization, it is very hard to make any projections for the future change. In our case the employees believe that the change process itself was underestimated and thus the skills and the expertise of the employees were the scarce resources that lead to the difficult days of change process. (Peus, 2008) One additional quality manager was not enough for the process to have the guaranteed success and the heads of the departments had to work days and nights to complete the given tasks within the time. Resource allocation was an error that led to the most problems, because the time period was not enough together with the usual process going on and scarce supplementary resources like computers and other printing facilities.

Thirdly, the hardest part of a change process is its implementation. Our employee survey showed that among the many factors affecting the change process the most important were: profound understanding, objective appraisal of resources (in our case the human resources) and simple-agreed objectives. Here we stress once again the importance of correct communication in helping the employees understand the process better, providing them the feedback and the motivation to try harder in the process itself. Employees did admit that they did not feel themselves as a part of a process that would benefit them as the first stakeholders, but they felt that they were just the implementers of the ministry-director balance of power, so the lack of the profound understanding made them lose time in going along the change actions. (Warrick, 2009) The skills of the employees to implement the change were not thoroughly measured, namely the computer skills of every teacher, so that at the end the heads of department and the quality manager had to spend hours doing the task that was supposed to be done by the employees individually. Most of the time the employees had difficulties visualizing the goals for some of the change actions and it took

the personal characteristics of the leaders to convince and make the employees visualize the actions of change and the process itself.

At last, controlling mechanism of change in our case was a defining factor in raising the motivation of the employees towards change. The fear of failing in the process of change was high because it would be reflected on the decision of the contract renewal. Instead of being motivated, the employees were somehow scared of losing the jobs and that is what kept them going. We believe that periodical control mechanisms would help the employees better meet the deadlines of the change actions and thus would make it less difficult for the heads of the department and the quality manager to lead the employees towards the change.

Before giving the recommendations we would like to point out the leadership aspect of change and point out some features of the leaders that led the team to the success. We believe that without a great effort on the side of these people, the organization would have failed the process of change due to not being ready to change, the incorrect evaluation of the potential of the employees and the incorrect visualization of the change and its objectives. The following characteristics of the leaders were considered to be vital in the change process according to the employee surveys: high commitment of leaders, trust in leaders and courage to take the first steps.

Commitment of leaders was arising mostly from the high sense of responsibility that they had in front of the management as a whole. The effort that was given by the leaders, in our case the heads of the departments most of the time encouraged the team members and gave them motivation to follow the leaders. Trust in the leaders was strengthened by the trust in the knowledge and the competence of the leaders. Choosing the leaders according to their competences was the right step from the management side and we believe that the confidence in the professionalism of the superior kept the employees motivated. The last but not the least, or even the most important was the third factor, which was the courage to take first steps. In every organization, the employees lack the courage to make first steps into development or improving their working styles, and especially when we talk about changes and the changes related to the industry norms and standards, not many employees are willing to take chances and try to initiate something new. The risks of failure here include not only the financial losses, but also the image and the license of the whole organization. In our case, we believe that the leaders had the courage to try new things and come up with better solutions that were recommended from the above, meaning the ministry. Having seen the leaders take steps, the employees too were motivated to do so and as a result the organization received an outstanding outcome.

## Conclusion

After having analyzed the data received from the employee surveys and the interviews with the leaders of the change, the following recommendations for change management were outlined. We have set the series of recommendations for step by step management and believe that they are basic for all kinds of change and will need a little modification for a concrete purpose.

On the planning stage the following needs to be done:

1. the new desired frame should be created by bottom up approach, when each individual employee contributes to the formation of the frame, this way the level of participation increases and employees feel themselves more committed to the organization change;

2. the new frame will need the change of actions not the values, so we recommend that the action be based on the old values. Justifying new actions in a new way in interpreting the old is the best solution not have the employees alienated from the core values of the organization;

3. understanding is the halfway to success so each change agent together with the change leaders should communicate the new frame successfully. When having left some questions unanswered, the employees tend to postpone the task because not being able to perform it associated with the lack of skills and they prefer not to stress on themselves being not capable to do the task. Better communication within the departments may save a lot of time of leader subordinate individual consultations.

On the organizing stage the following needs to be done:

1. when organizing a major change involving the transformation of the employees with well defined core values and styles of actions, one needs to evaluate the potential of the workforce, their skills and expertise needed for the change process. Simple skills that lack within the employees may lead to failure in change, so we recommend the management to assess the competences of its employees objectively and include the training and consultation within the planning stage of the change;

2. Failure to evaluate the potential of the employees may lead to the incorrect resource allocation, which together with the time limit may cause the failure to meet the projected deadlines. In our case the computer and other printing resources became scarce together with the time available to use them, so the departments had to work extra hours on the weekends and evenings to reduce the traffic while using the resources.

On the implementing stage the following needs to be done:

1. It is hard to influence an employee to take major steps when there is a lack of understanding of the process as a whole and its importance to the organization, as well as each individual in the organization. We recommend that

the talks about the ongoing process continue while the tasks are being performed and the progress show to the employees, believing that this is a very motivating tools for employees;

2. In the difficult times like change, we believe that a good appraisal of employees will be an extra motivator for the employees. The employees that find the courage to change and make the steps towards something that is not familiar and clear are already the champions so they need to be appraised time to time along with the implementation process to feel more motivated.

3. Objective based performance is the best direction when making changes. The routine work of the employees is easy and they tend to follow the old routine again and again, refusing to any action changes. So simple-agreed objectives are the best solution to prompt each employee on every stage not to deviate from the course taken.

On the controlling stage the following needs to be done:

1. The fear of the failure resulting in losing the job was a strong factor that kept the workers going, but we believe that the second the employees will react to this kind of control negatively, and the change process next time will make the organization lose its employees, especially the key employees who once were successful in the change process. We recommend that more positive and regular control mechanisms be included in the controlling process.

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# An Overview of Admission Criteria of United States Colleges and Universities

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## Abstract

In this study, general admission criteria of United States colleges and universities are reviewed based on the required specifications and priority levels.

In general, US colleges look at academic record, e.g. presence of core curriculum and challenging courses in high school such as Advanced Placement (AP), G/T (Gifted and Talented), Dual-credit or Honors courses, etc. so there is no need to enroll in remedial courses when admitted; consistent high class rank and grades (GPA-Grade Point Average) in high school; standardized test scores such as SAT (Scholastic Aptitude Test) Reasoning, ACT (American College Testing), SAT subject, PSAT/NMSQT (Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test), and state mandated standardized tests, etc.; interviews; counselor and teacher recommendations; out-of-class activities in terms of depth of involvement, taking initiatives such as leadership, creativity, service or work; personal essays; demonstrated interest; work experience and internships, ability to pay, race/ethnicity, alumni relations, residence.

Based on these admission criteria students can apply to public or private colleges via different types of admissions, e.g. early, regular, rolling, open or deferred admission.

**Keywords:** Admission criteria, core curriculum, testing, US colleges and Universities.

**JEL Classification:** A21, A22

## Introduction

The National Association for College Admission Counseling conducted a survey of their members in 2005 to find out what factors affected their admission decisions (As cited in NACAC’s Research to Practice Brief, 2007);

1. Grades in College Prep Courses (AP, Pre-AP, Dual-Credit, etc.) - 74%
2. Admission Tests (SAT, ACT) - 59%
3. Grades in All Courses / Grade Point Average (GPA) / High School Transcript - 54%
4. Class Rank - 31%
5. Personal Essays - 23%
6. Counselor Recommendation - 17%
7. Teacher Recommendation - 17%
8. Demonstrated Interest - 15%
9. Interviews - 9%
10. Work Experience / Activity Involvements - 8%
11. State Exams (Regents scores) - 7%
12. Subject Exams - 7%
13. Ability to Pay - 2%
14. Race/Ethnicity - 2%
15. Alumni Relations - 2%
16. Residence - 1%

## 1. College Admission Criteria in Detail

In this section, college admission criteria are examined in more detail in the order of priority as revealed by NACAC’s survey (As cited in NACAC’s Research to Practice Brief, 2007).

### 1.1. Grades in College Prep Courses

Grades in college core courses such as AP and Dual-Credit and other challenging courses such as Pre-AP, G&T and Honors courses ranked the first affecting college admissions (As cited in NACAC’s Research to Practice Brief, 2007). College core courses, which are also called remedial courses if they are not enrolled and passed in high school and enrolled at the college level, are a group of courses in a variety of areas, such as arts and sciences, which make up the general education requirements for all students at an institution regardless of their major (Ignash, 1997:20). Students enroll in and pass these courses in high school avoid remedial courses when they are admitted to college gaining from time and finances. 63 percent of college freshman students are placed in remedial and developmental classes. Remedial classes do not count towards college graduation requirements; however cost money (Andruss, 2012). These courses usually are (as cited in Texas General Education Core Curriculum, 2012);



- A) English (four years or more)
  - I. One English year credit each for English 9, English 10, English 11, English 12 for 4 years in high school.
- B) Mathematics (three years or more)
  - I. One year credit each for Algebra I, Algebra II and geometry
  - II. One-half year credit each for trigonometry, calculus (not pre-calculus),
  - III. Other math courses beyond Algebra I
- C) Social Sciences (three years or more)
  - I. One year credit each for American history, world history and American government
  - II. One-half year credit each for economics, geography, psychology or other history courses
- D) Natural Sciences (three years or more)
  - I. One year credit each for earth sciences, biology, chemistry and physics
- E) Foreign Language (two years of the same language)
- F) Many colleges may also require additional courses in
  - I. Mathematics,
  - II. Fine and Performing Arts
  - III. Computer Science

### 1.2. Admission Tests (SAT, ACT)

As a method of comparison, colleges require standardized tests such as the Scholastic Aptitude Test (SAT) and American College Testing (ACT) (Nicholson, 1982:24-25). Scores of these tests ranked the second among the college admission criteria in NACAC's survey (As cited in NACAC's Research to Practice Brief, 2007). Colleges evaluate admission test scores in terms of ranges that the scores are within. Besides the SAT and ACT, some schools also require the SAT Subject Tests in subjects of the student's choice. Any of these tests can be taken more than once (Conley, 1987:37-38).

### 1.3. Grades in All Courses / Grade Point Average (GPA) / High School Transcript

GPA is the average of grades of the classes taken in high school. An indicator of the student's overall scholastic performance, the GPA is computed by totaling the number of grade points earned in each course, e.g. A=4, B=3, etc. and dividing the sum by the total number of credits that are taken. Grades in high school courses as displayed in high school transcript or Grade Point Average (GPA) were found to be the third most important factor affecting college

admissions in NACAC's survey. Colleges evaluate grades in terms of consistency or improvement; thus a high GPA maintained throughout high school as well as an improving GPA as the student nears university level are both positive factors affecting student admissions. Besides, many colleges recalculate GPA based on AP or Honors courses, core versus elective courses, and other factors (Wu, 2012).

Additionally, in some cases, GPA can be the most important factor affecting student's college admission. Texas public colleges or universities for instance must automatically admit the student if the student's GPA at the end of junior year place him/her in the top 10 percent of senior graduating class. University of Houston for example gives automatic admission to top 20% even in a practice began in fall semester of 2006. Although, GPA is calculated at the end of the junior year, it is still important to improve grades in the senior year since colleges are impressed by an upward trend (Admissions for the Top 10%: Everything you need to know, 2012).

### 1.4. Class Rank

Class rank is the student's place in the class followed by the total number of students in the class (Latham, 1987:38), e.g. 8th out of 59. Class rank is the fourth most important admission criteria for colleges and is even more important when applying for scholarships (As cited in NACAC's Research to Practice Brief, 2007).

### 1.5. Personal Essays

Most colleges require one or more essays on specific topics. More and more universities ask for a "personal statement" where background, interests, and objectives are stated. Essay plays especially a very important role when applying for a selective college, since through essay student can himself or herself apart from other applicants demonstrating individuality and excitement (Undergraduate admissions by U.C., 2012).

Personal essays are the fifth most important admission criteria for colleges (As cited in NACAC's Research to Practice Brief, 2007). Good organization, coherent sentence structure, correct spelling and grammar, and careful proofreading are necessary to write a successful essay. Essays must be authentic and shall answer the application question describing the true self without narrating the transcript or résumé.

### 1.6. Counselor and Teacher Recommendations

Some colleges require at least one letter of recommendation from a high school teacher, counselor, or other adult who knows the student well. Some schools prefer academic teachers, while other schools accept coaches'

or advisors' recommendations. Usually the person writing the letter sends it directly to the college and sometimes school counselor sends them with the transcript (Johnston & Shanley, 2001:18-26).

Weight of both counselor recommendations and teacher recommendations in college admissions were found as 17% each ranking them as the 6th and 7th most important factors in college admissions (As cited in NACAC's Research to Practice Brief, 2007). Together, recommendations appeared as the fourth important factor after GPA and before class rank. Nearly all colleges require a letter of recommendation from high school guidance counselor.

On the other hand, students obtain teacher recommendations, however unlike high school guidance counselors since there is more than one teacher that the students are in contact with, they may approach the teachers of their choice to ask for recommendations based on how well the teacher knows the student; whether the teacher taught the student for more than one course; whether the teacher sponsored an extracurricular activity in which the student was involved with; whether the student gets along with the teacher; whether the recommendation is required/recommended from a specific subject-area instructor for instance if the student declared an intended major.

Students should request a recommendation from the high school guidance counselor and teacher(s) at least 2 weeks in advance providing them the recommendation form and information on the college, a copy of the application, a copy of academic resume and an envelope that is addressed and stamped (Williamson, 1994:14-16).

Academic resumes commonly include GPA; college prep courses, e.g. Honors, AP, dual-credit, etc. that are both completed and in progress; scores of standardized tests (SAT, ACT, PSAT, state standardized tests, etc.); out-of-school activities in terms of length and contribution; awards, honors and recognition; special talents, e.g. sports, arts, music; part time jobs; educational and career goals; and family background (Preparing Your Child For College: A Resource Book for Parents, 2000).

### 1.7. College Interviews

College interviews ranked ninth among the college admission criteria (As cited in NACAC's Research to Practice Brief, 2007). Not every applied college will offer interviews but it is a requirement especially for competitive colleges. Even if it is not required, it is still a good idea to set up an interview because it gives the student a chance to stand out in a large pool of applicants by demonstrating interest and make a personal connection with someone who will have a voice in deciding whether or not the student will be offered admission (Cochran & Cochran, 1997). Considering that demonstrating interest is the eighth most important factor among college admission criteria, a suc-

cessful interview may place the student well ahead of others competing to be admitted to the respective college. Both factors combined make up the fourth important criteria even before class rank, thus very important.

College interviews can be either evaluative or informative. Interviewer may be an admissions officer, alumnus or a professional interviewer. Some schools may offer alumni interviews in the area, where student lives, thus may be more convenient. Interviews should be scheduled early in your senior year, otherwise getting an appointment before application due date may not be possible. Students should prepare for an interview by doing basic research about the college. During the interview, the theme is usually student's interests, extracurricular activities, books read, and meaningful reasons for applying for that college (Wolf-erman, 1993: 3-4). Interview workshops are commonly available in the spring and fall semesters in the college & career center of high schools provided by the high school guidance counselor to students (Johnston & Shanley, 2001: 18-26).

### 1.8. Work Experience / Activity Involvements

Commonly students are asked to list their part-time jobs, community and school activities such as clubs, athletics, school organizations, community work, etc. Colleges mostly look for the contribution to school and community, rather than large numbers of activities (Chimes, 1987:19-21). Colleges evaluate out of class activities such as work experience and volunteer services in terms of the following aspects;

- a) Depth of involvement – variety and how long
- b) Initiative – leadership
- c) Creativity, service or work

### 1.9. Ability to Pay

Ability to pay the college tuition ranked thirteenth among the college admission criteria (As cited in NACAC's Research to Practice Brief, 2007). This usually refers to the scholarships that the students are awarded. Any student awarded with any sort of financial aid has advantages over his/her peers that is in the form of financial help, scholarships, grants, student loans, work-study or their combination. While student loans for instance have to be paid back by the student after graduation, scholarships do not. Scholarships are typically given to students who demonstrate or show promise of high achievement in areas such as academics, athletics, music, art, or other disciplines (McClure, 2001: 28-29).

Free Application for Federal Student Aid (FAFSA) is the common financial aid application used by all colleges and universities and usually is the first step for grants,

scholarships, and awards other than FAFSA as well. Once filed, the Department of Education processes it and the information is sent in the form of a Student Aid Report (SAR) to the student's home as well as up to ten colleges that the student listed on the form. There is no charge to students for completing the FAFSA. The SAR provides the EFC (Expected Family Contribution), which is the amount that the government states a family can contribute to educational expenses and figured by a congressionally determined formula. A college or university will use the EFC to determine financial need and what federal, state, and institutional aid the student is eligible to receive. Another key term determining student's eligibility for financial aid is the Cost of Attendance (COA), which is the total cost of attending a postsecondary institution for one academic year, including tuition and fees, housing and food for the period of enrollment, books and supplies for education, travel costs directly related to attendance, child care expenses, and costs related to a disability (Dalton, 1999:18-30).

Meeting the deadlines is important to receive financial aid. Priority admission deadlines apply for major financial aid programs such as Free Application for Federal Student Aid (FAFSA) and Scholars Excellence Program, while for all others there is a regular admission deadline. Also, students participating in the free and reduced lunch have access to four application fee waivers that they can take advantage of when they apply up to four colleges. Students participating in the free and reduced lunch have also access to fee waivers regarding the fees of college core curriculum courses tests, such as Advanced Placement (AP) test fees and admission test fees including PSAT/NMSQT (Preliminary Scholastic Aptitude Test/National Merit Scholarship Qualifying Test).

## 2. Types of Colleges

There are more than 3,850 colleges, universities, and trade schools in the United States (As cited in Types of Colleges and Universities in the U.S., 2012). To be able to find the right college, students should determine what type of college they are mostly interested in. Basic types of colleges are as follows (As cited in Types of Colleges: Your Options after High School, 2012);

### 2.1. Two-Year Colleges

These colleges are also known as community colleges and they offer programs that can be completed in a year or two. Unlike universities, community colleges do not have on-campus housing. However, there are some advantages of attending to a community college such as lower costs, convenient locations and open admission. There are two types of these programs:

#### 2.1.1. "Transfer" programs

Transfer programs help the student to transfer to a four-year college and eventually to get a bachelor's degree. Also, 'Associate in Arts' degree may be obtained from the community college when about 60 hours are completed and the requirements are met.

#### 2.1.2. "Terminal" programs

Terminal programs are mostly in professional technical programs such as nursing that result in a certificate (one-year program) or an associate in applied sciences degree (two-year programs).

### 2.2. Four-Year Colleges

Four year colleges offer more comprehensive education. They have extensive resources, technical facilities, a distinguished faculty and on-campus housing-also known as dormitories or residence halls. A Bachelor's Degree, also known as undergraduate or baccalaureate degree can be earned at four-year colleges. Four-year Colleges are divided into colleges and schools, e.g. College of Education, School of Visual Arts, and are called 'Universities'.

### 2.3. Public/Private Colleges

On the one hand, public colleges receive most of their funding from the state or local government. Therefore, they are less expensive than private colleges. However, higher tuition is charged to out-of-state students since they do not contribute to the tax pool. On the other hand, private colleges require more fees and tuition because they are not publicly funded.

### 2.4. Church Affiliated Colleges

Public institutions are not allowed to have religious affiliations because of the constitutional separation of church and state. But, private colleges may be church related. Some of these private institutions may require attendance to religious classes of some kind.

### 2.5. Single-Sex Colleges

All four-year public colleges and most private schools are co-ed. In terms of single-sex colleges, there are about 50 specifically for men and about 70 specifically for women. Some may enroll a few men or women.

### 2.6. Ethnic Minority Colleges

Historically Black Colleges and Hispanic-Serving



Institutions offer an opportunity to attend an educational community in which they are part of the majority.

### **2.7. Agricultural, Technical, and Specialized Colleges**

These colleges mainly focus on specific careers such as Art, Music, Health Science, Bible, Business, Seminary and Teaching. They might be a good choice for very focused and idealistic students but not for those that haven't decided on their major.

### **2.8. Other Programs**

#### **2.8.1. 3+2 Program**

3+2 program is a combined degree program at two cooperating institutions; the first three years at an undergraduate school and the final two years at an institution providing specialized study; degrees are awarded from both.

#### **2.8.2. Cooperative Education Plan (Co-op)**

Cooperative Education Plan (Co-op) is a program offered by some colleges that lets a student combine work and study, usually extending the time required to complete a degree. Co-op programs are either “alternating”, work and study in alternating terms or “parallel”, work and study scheduled within the same term; which is also based on collegiate calendars. Colleges have various calendars as follows;

##### **2.8.2.1. Semester System**

In the semester system, which is the most common calendar, academic year is divided into two relatively equal periods of approximately 16 weeks.

##### **2.8.2.2. Trimester System**

Trimester system is a calendar which divides the academic year into three equal periods.

##### **2.8.2.3. Quarter System**

Quarter system is similar to the Trimester System, but usually includes a fourth, summer session.

##### **2.8.2.4. 4-1-4 System**

In 4-1-4 system students carry four courses during the fall session, one course during the “January Term” (sometimes in an off-campus situation), and four courses in the spring session.

### **3. Types of College Admissions**

U.S. colleges offer various admission options. Students apply colleges using the available admission options before the admission deadlines and colleges that do not use rolling admission notify students of their decisions by “College Notification Date”, which is on or around April 15. Students reply to college offers of admission and submit a tuition deposit to secure a place in the freshman class by the “Candidate Reply Date”, which is on or around May 1 (As cited in Candidates Reply Date: May 1 Countdown Begins, 2012). Afterwards, students receive admission letter and receive financial aid award letters and based on these they send in deposits to reserve a space in the college they get admittance and send their final transcripts. Admission options commonly implemented in U.S. colleges are as follows;

#### **3.1. Automatic Admission**

Legislation provides in certain states that all accredited high school seniors graduating in the top 10 percent of their class receive automatic admission at the public universities of that state, e.g. Texas (As cited in Admissions for the Top 10%: Everything you need to know, 2012). However, Top 10% law guarantees admission to the university but not does not guarantee acceptance into a particular college of study or department. To be eligible for automatic admission, a student must:

- a) be the resident of that state or eligible to pay resident tuition;
- b) enroll in college no more than two years after graduating from high school;
- c) submit an application to a public university for admission before the institution's application deadline.

Students admitted through this route may still be required to provide SAT or ACT scores, although these scores are not used for admissions purposes. Students must also take the THEA test, unless exempted from the test requirement. After a student is admitted, the university may review the student's high school records to determine if the student is prepared for college-level work. A student who needs additional preparation may be required to take a developmental, enrichment, or orientation course during the semester prior to the first semester of college.

#### **3.2. Common Application**

The common application provides an opportunity for students to complete one application for multiple schools. It saves time and is viewed as comparable to a regular ap-

plication. Two examples are as follows;

### **3.2.1. Common Application to Private Colleges**

277 private colleges give equal consideration to the Common Application at [www.commonapp.org](http://www.commonapp.org) and also to their own application form. Following are required for this type of common application (As cited in *The Common Application for Undergraduate College Admission*, 2011);

- a) Application
- b) SAT Reasoning/ACT, some req. SAT Subject Tests
- c) Essay
- d) Teacher Recommendation
- e) School Report
- f) Midyear Report
- g) Supplemental forms

### **3.2.2. Common Application to Public Colleges**

Common Application for universities within a certain state helps students to submit their applications for most of the universities located in that state. Such an example is The State of Texas Common Application at [www.apply-texas.org](http://www.apply-texas.org), which helps students to submit their applications for 43 colleges or universities in Texas. ApplyTexas Freshman Application form includes following sections (As cited in *Apply Texas 2008-2009 Code Book*, 2008);

- a) Biographical information including subsections of racial background with choices of White, Hispanic or Latino, American Indian or Alaskan Native, Black, Asian or Pacific Islander; parents' educational background; parents gross income; educational data including high level courses taken such as Dual Credit, AP, Honors, G/T courses and admission test results, e.g. ACT, SAT, TOEFL, IELTS.
- b) Residency Information
- c) Activities including four subsections of extracurricular activities that are student clubs; community or volunteer services; Talents, Awards and Honors; Employment, Internships and Summer Activities
- d) Essays
- e) Application Fee

### **3.3. Deferred Admission**

Via deferred admission an accepted student is allowed to postpone enrollment for a year (Henderson, 2008).

### **3.4. Early Admission**

Via early admission programs either Early Action or Early Decision that are offered by about 400 colleges in

U.S. a student of superior ability is admitted into college courses and programs before completing high school following completion of the junior year of secondary school. These programs allow early application usually in November and an admission decision from the college well in advance usually by December or January (As cited in *Types of College Admission– Summary Table*, 2011).

#### **3.4.1. Early Decision Plan**

In early decision plan students make application in early fall of senior year usually by mid-October and notification is sent by mid-December; and if accepted, a commitment-to-attend is usually required along with withdrawal of other college applications even if they receive little financial aid. A student may apply to only one college under Early Decision. In other words, agreeing to an Early Decision means that the student will be attending that college in the fall. Although you can apply to only one college for early decision, you may apply to other colleges through the regular admissions process. Students are more likely to be accepted because colleges have higher admission rates for Early Decision applicants (*Types of College Admission*, 2011).

#### **3.4.2. Early Action Plan**

Early action plan is similar to Early Decision, but if a student is accepted, he or she has until the regular admission deadline to decide whether or not to attend, thus it is not binding. Students must apply usually by Nov 1st and get the admission decision by December and usually have until May 1 to respond to the offer of acceptance. The disadvantage is that students have a busy fall semester because all application documents typically are due in early to mid-November. Many colleges may still be applied via early action plan unless the early action plan offered by the college is single choice early action, in which the student can only apply to one school but is still not required to attend if accepted. In general, colleges have higher acceptance rates for Early Action applicants (Grove, 2012).

### **3.5. Late Application**

Through late application students can apply late, even in summer months after high school graduation. Once colleges accept enough students, additional late applications will not be considered. Students should remember, the later they apply, the less likely they will be accepted and the less likely they will qualify for financial aid (*Undergraduate admissions by U.C.*, 2012).

### **3.6. Matriculation Admission**

In matriculation admission students apply to a college as degree candidates (Henderson, 2008).

### **3.7. Open Admission**

Via open admission virtually all high school graduates are admitted, regardless of academic qualifications. These are usually community colleges (Types of College Admission – Summary Table, 2011).

### **3.8. Regular Admission/Application/Decision**

Regular admission or regular application or regular decision is the most common option offered to students. A deadline is set when all applications must be received, and all notifications are sent out at the same time. Students must apply usually by Jan 1st and decisions are normally rendered by early April. Advantages are that students have additional months of time to complete and submit application materials and they do not have any restrictions on the number schools to which they can apply. However, students are less likely to be accepted because colleges have lower admission rates for regular admission applicants than for early decision and early action applicants. Also, students will not find out if they are accepted until April (Types of College Admission, 2011).

### **3.9. Rolling Admission/Decision**

Rolling admission is a procedure by which admission decisions are made on a continuous basis and sent within about 3-4 weeks after receipt of completed application material, thus there is no strict application deadline. In other words, the admission offices at these schools review and decide on applications on a first-come, first-served basis until there are no openings left. Public schools are more likely to have rolling admissions than private schools. Also the later the students apply, the less likely they will be accepted and the less likely they will qualify for financial aid (Grove, 2012).

### **3.10. Wait List/Alternate List**

Through wait list or alternate list option, applicant receives a response indicating that his/her application is acceptable, but the limit of accepted students has already been reached. Wait listed students may be admitted to the applied college after May 1, if space becomes available (Kuther, 2012).

## **4. College Application Checklist**

Each sent out application consists of most or all of the following components (Moll & Wright, 1998: 12-23);

- a) Paper or online application form
- b) High school transcripts
- c) Test scores (SATs, ACTs, APs)
- d) Letters of recommendation
- e) Essays
- f) Activities résumé
- g) Interviews
- h) Application fees
- i) Financial aid forms, e.g. Free Application for Federal Financial Aid (FAFSA)

There are responsibilities that lie on the student, parent(s), teacher(s) and counselor to send complete application packets.

### **4.1. College Application Process/Student Responsibilities**

#### **4.1.1. Application Form**

Students must be sure of writing their full name and social security number correctly on each page of the application form answering all the questions.

#### **4.1.2. Admission Test Results**

Students send in admission test results, ACT and/or SAT scores, directly from the testing agency to the institution(s) that are being applied. Scores are sent for free to four schools that the student identify when registering for the ACT or SAT. Most high schools receive official score reports which can be attached to the transcript.

#### **4.1.3. Recommendation Letters**

Students should request and follow up on three letters of recommendation letters; one from the counselor and the remaining two either from two teachers or from one teacher and one coach or advisor.

#### **4.1.4. Transcripts**

Students should complete one transcript request form for each school or scholarship that is applied. All transcript forms must have parent signature(s). Students should allow usually two weeks for their transcript requests to be processed and mailed by the high school guidance counselor. Some colleges may accept official hand-delivered transcripts from the student for faster processing.

#### 4.1.5. *Financial Aid*

Students should complete Free Application for Federal Financial Aid (FAFSA) online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov) or mail in the form by January 31st as soon as the legal guardian(s) of the students receive all W-2 Tax Forms, which include financial information needed to fill-in the FAFSA form. The Free Application for Federal Student Aid (FAFSA) must be completed before any federal, state, or campus-based aid can be awarded however, it may not be submitted sooner than January 1st. FAFSA is not mailed to the college; thus each college may request the student to fill out a separate form for themselves.

Also, students should start to explore scholarship opportunities through websites and the Counseling Centers as soon as from October.

Additionally, when visiting colleges, student should ask representatives about financial aid that is available from the applied college and the process for obtaining it.

#### 4.1.6. *Sending Out Other Materials With The Application Form*

Student should complete and mail the application along with a check for the application fee if not paying by other means such as a credit card. Personal essays and activities resume should be sent along with the application form if required.

#### 4.1.7. *Other Preparations*

Students should prepare themselves for their dream colleges throughout the high school years and especially during the junior and senior years when submitting their college applications. For this reason student should;

- I. challenge themselves by taking rigorous courses including at least 3 years of math;
- II. read and write as much as possible both in and outside of school;
- III. familiarize themselves with the SAT/ACT so they know what to expect on test day;
- IV. familiarize themselves with the different types of questions on the ACT/SAT, the directions for each type of question, and how the test is scored;
- V. take PSAT/NMSQT for instance since PSAT/NMSQT will be the best preparation for SAT;
- VI. attend extra-curricular activities;
- VII. have volunteering/community service;
- VIII. have summer jobs/internships;
- IX. attend summer college programs

#### 4.2. *College Application Process/Counselor Responsibilities*

High school guidance counselor mails in the following documents regarding students' applications;

- a) Letters of reference from counselor and two teachers/coaches/advisors.
- b) Official transcript and test scores
- c) Secondary school report form
- d) School profile

High school transcripts must include the class rank information. Official transcripts must arrive at the college in a sealed envelope. Prospective student athletes eligible for scholarships must submit transcripts to the NCAA Clearinghouse.

#### 5. *Which College to Choose/Students' Decision Making Process*

Important factors to consider in admission process are as follows (Smothers, 1997:28);

##### 5.1. *Narrowing Down the List of Colleges*

Narrowing down the list of colleges to apply to the ones that would like to be reached make the application process simpler and more focused for the student. Students may choose for instance 1-2 colleges that they dream of as their upper limit; 1-2 colleges of which the minimum requirements they match one to one and other 1-2 colleges of which they exceed the minimum requirements as their safe choices, not to be left outside.

##### 5.2. *College Admission Test Requirements*

It is important to review college admission test requirements of the colleges of choice including the optional writing test when deciding on colleges which to apply eliminating the colleges that are out of range of the student's reach in terms of admission test scores.

##### 5.3. *Application Deadlines and Application Fees*

Application fees do not compare to tuitions, however they make up of a good amount of money when there are many applications, which may be a lot for a student who does not get enough financial assistance from parents and also does not have a job.

Application fees range from \$0 to more than \$75 with the average being \$30. Many colleges offer a free or discounted fee for applying online. Online applications usually require a credit or debit card payment. Application fees are sometimes waived at open house programs or other special events. Colleges waive the application fee for fami-

lies with financial need via applications through The College Board, NACAC and high school counselors.

#### 5.4. *Types of Applications*

The type of admission that the college offers can also be one of the factors affecting student’s decision whether to apply a certain college or not. For instance, it is a plus if the college accepts Common Application, however even so if the college that accepts common application requires supplemental forms thus may not be as easy as the student predicts. Texas Common Application is such an example since it requires one of the state-approved assessment tests to be taken such as THEA, ASSET, ACCUPLACER, OR COMPASS that are not used for admission purposes; however must be had prior to enrolling unless exempt.

#### 5.5. *Content of the Application*

Despite mostly having similar content, sometimes an application that does not require one or two components may ease the application for a student, especially if the student is running out of time meeting the deadlines. In this regard, it becomes important whether the application requires personal essays, e.g. for Music, Theatre or Art majors a portfolio or audition may be part of the application requirements; college interviews, whether they are just suggested or required and whether they are available from an alumni in the region or must be with a staff; financial aid opportunities, deadlines and the required forms.

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# The Application of the Mixed Reality Concept in Business Education (case study of Environmental Policy)

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## Abstract

The paper is devoted on the application of the Mixed Reality (MR) project of training businessmen in the environmental aspects of decision-making process. The lessons present a hypothetical area before and after industrialization and the environmental effects of it. Next several groups are formed corresponding to the sources of pollution. They have to decide which instruments to apply (Command-and-Control and economic instruments) for reaching least-cost solution. The paper analyses the experience of visualization of these lessons by means of MR concept. The collected observations are tested by factor analysis technique to outline the basic relationships. It demonstrates high educational effect of the application of MR concept. The results of the study are expected to help the instructors interested in the whole process of introducing MR approach starting with applying video clips in their practice and proceeding with more advanced educational technologies and techniques.

**Keywords:** mixed reality, environmental policy, virtual perception, efficiency of education, video.

**JEL Classification:** D61, I21, Q58

## Introduction

The effect of information on the adequate identification of the modern challenges nowadays changes significantly with an increasing role of the virtual instead of visual perception. Spending hours per day before the monitor modifies significantly our psychology of information insights. The decision-making process is facing the difficulties of the complicated reality, in which the recognition of the proper orientations is often overflowed by the lack of suitable presentation of the information needed to make correct and adequate decisions. The concept of mixed reality takes into account the present perception of information and tries to put the decision-makers in a rational distance between the real and virtual environment to rationalize the decision-making process by proper visualization.

The aim of the study is to present and discuss the effects of the application of Mixed Reality (MR) concept on teaching the emergence of environmental policy in the context of overall regional development. It reports the initial results of initiated project including broad spectrum of educational scopes – starting from teaching students in Environmental Economics and extending the area of training post high educational classes. As the preparation of such visualization is time and resource-consuming activity, various combinations of traditional and modern technologies are tested with the aim to find optimal combination of both kinds of technologies within an academic hour. By traditional technologies we mean oral presentation, board writing and using printed-based teaching materials, while

the communication systems as electronic mails, blogs, etc. combined with PowerPoint illustrations and video materials are regarded as modern technologies.

The paper is based on our experience of using modern educational technologies for more than 10 years with increasing application of short video clips. They are produced taking into account the international setting of students, for most of which English is not a mother language, correspondingly that there are natural barriers of the understanding of the teaching material. During the last years we carry out systematic observing of the effect of the application of modern technologies in various economics classes related to environmental, cultural, development and other issues for international groups of students. Special attention is paid of the fact that often the language of instruction is not the mother language of the students and how it affects their level of understanding. We are deeply convinced in the benefits of the MR concept for better solution of the indicated above educational problems although it requires at this time serious amount of startup resources.

The paper is organized in the following way. First we present the literature survey. Next we comment the quality of data collection and propose a theoretical model, which we test mainly by means of factor analysis. The problems arising during the observation are presented in the discussion part. Finally we conclude.

## 1. Literature Survey

Principally the MR concept is not new. It is preceded



by the idea of virtuality continuum according to which we are somewhere between the extremes of real and virtual environment in the range of augmented reality and augmented virtuality. The first formulation of MR are dated back to the beginning of 1990s in the works of Paul Milgram and Fumio Kishino (Milgram, Koshino, 1994) defining it as "...anywhere between the extrema of the virtuality continuum." Constanza et al (2009) indicate that MR paradigm "proposes to overlay our real-world environment with digital, computer-generated objects". They underline that by its nature, MR is "a highly interdisciplinary field engaging signal processing, computer vision, computer graphics, user interfaces, human factors, wearable computing, mobile computing, information visualization, and the design of displays and sensors".

In terms of these considerations next we concentrate on the typical modern academic setting with continuous education and mixed groups of international students, for some of which the language of instruction creates serious problems of in-depth understanding. Among the other instruments to solve the problem is the application of modern educational technologies with the aim to reduce as much as possible the language barrier.

The optimal combination between traditional and modern technologies and the differences among students in the level of knowledge of the language the course is taught are issues that are not widely discussed in the literature. With the intensifying process of internationalization, more and more classes consist of students of various cultural background. This creates additional barriers to the efficiency of education, as they reduce the level of understanding of the taught material. To find outcome of these problems first of all they need to be properly identified and next to devote additional investments for their solution.

Kelly (1988) indicates that investment in modern technology is among the lowest in education, compared with other sectors. While in many industries the investment in technology accounts for \$50,000 per worker per year, in education it hardly reaches \$100 per teacher per year. This creates serious barriers to the modernization of education as most of the technologies are expensive and require sufficient level of technological awareness for effective implementation into the educational process.

Indeed, in the past few years many new computer technologies were widely introduced in the classrooms of most universities in the world. The application of the office software packages for preparing a variety of materials both by teachers and students is already common. On-line and distance education with the application of advanced technologies has also become widespread. Certainly this enhances the level of understanding and increases the efficiency of education.

There is one principal question however related to the training of businessmen in international level. For most

students in many of the classes the language of instruction is not their mother language. This is especially important for social sciences, where the creative thinking is condition sine qua none for reaching deep level of comprehension. Such a level is reached when the information given during the lesson is not only remembered for the exams and quickly forgotten after, but when it represents knowledge, which remains as a stock of accumulated experience needed for the future work after the end of the training. The practice indicates that such effect is strongly fostered when the educational process is adjusted to the everyday acceptance of information by the students, that is by combining the traditional teaching with the inclusion of suitable video illustrations (pictures, video clips, etc.) during the teaching process. Such a combination of traditional teaching techniques, computer presentations and video illustrations is expected to create maximum learning effect. The problem is how to merge all these techniques to reach optimal educational effect in combining oral-based, printed-based, screen-based and video-based teaching materials.

The practical solution of this problem is not easy, evidence of which is the big variety of attitudes to it among the researchers. Tella (1996) indicates that for example "The FL (foreign languages – note A.D.) teachers' relation to technology is an issue fundamentally concerned with epistemological, ontological and axiological questions not always explicitly expressed when discussing the pros and cons of modern information and telecommunication technologies". The authors have observed such a range of attitude to this problem varying from very enthusiastic to complete dislike.

This fact exacerbates the difficulties of the educational link between teacher and students and also among students within the group. Assuming there is an enthusiastic attitude to the application of the modern educational technologies, one reaches the next barrier – the lack of suitable training among the educators and the need of financial support to pay for the training and preparing the lessons using the necessary software. A suitable example are the endeavors to apply television for educational aims. As Secules T., Herron C., and Tomasello M. (1992) underline "If used correctly, television can bring educational opportunities into the classroom that student can experience on no other way". The same assumption can be formulated for the other modern communication technologies applied in education.

Whatever is the attitude of the teachers to including video materials in education we have to recognize the fact indicated by Goodman S. (2003) that "The image – still and moving, black-and-white and color, chemically developed and electronically scanned, broadcast and downloaded, analog and digital – has been transforming and overshadowing the printed world".

Another important aspect of the problems is the motivation among the students for acquiring new knowledge.



In general, motivation is defined in the literature as “the product of interaction between events and things in the social world and interpretation of those events in the people’s psychics” (Strauss 1992). The motivation to acquiring new knowledge can be formulated as the product of interaction between the new information and the interest in it on one hand and the interpretation of this information in the students minds depending on their judgment about its usefulness and relevance for their everyday life needs on the other hand. From this perspective it seems high motivation can compensate the barriers created by the non-native language of instruction. The next step is the finding of the optimal combination between traditional and modern educational technologies to reach maximum educational effect.

The search of such optimality is not a new endeavor. By the end of 1980s a Barrabee (1989) proposes a method of including combination of various teaching techniques available by that time for improvement of educational process. Allen (2001) puts forward methods, which “lend themselves to integration with present as well as future multimedia server platforms, to whose continued evolution they should contribute in a powerful way. Nowadays this problem arises due to the strong progress in the information technologies and still broadly used methods of traditional teaching. Many examples of this kind can be indicated illustrating the intensive efforts of the search of optimality in combining various modern educational technologies to reach maximum learning effect.

It is necessary to underline since the very beginning that the author position is not against the traditional teaching, but for complementing it with the achievements of the modern technologies for facilitating the teachers. The experiments with both groups of technologies produce very positive effects especially in the case of non-nativity of the language of instruction. This bundle of problems still is only partly analyzed in the literature.

As far as the object of discussion is reaching of the deep learning effect inevitably many other problems are involved as for example the nativity of the language of instruction, the studies the motivation to acquiring a new knowledge, etc. Most of them require multidisciplinary approach with the involvement of experts in various fields of education.

## 2. Data Collection

In the light of indicated above discussion MR project was initiated related to the emergence and construction of environmental policy in an industrialized area. It was preceded by a broad experimentation with application of diverse multimedia techniques in various classes for teaching Economics. The project was aimed at giving visual perception of the evolution of environmental policy to the students following the logic: poor area - need of industrial-

ization to increase the standard of living - pollution coming with the industrialization and thus reducing the quality of life. Within this framework the students have been divided in several (6) groups corresponding to the sources of pollution. A reconstruction plan has been presented to them and they had to choose among alternatives looking for the least cost solution.

Beside phenomenological observations used to improve the structure of the course and the teaching materials to it, a questionnaire was constructed and distributed among students to collect data necessary for shedding light on various aspects of the efficiency of teaching the course. A comparison was made on the learning effect with and without using video clips. Various forms of clips were tested in an attempt to outline the features of a new genre, which we called educational clip. This was expected to be a short video material with duration around 5 minutes illustrating in attractive way the problem of discussion, which is supposed to be something new in the educational process.

To reach good educational effect such clips are to be of a good quality, which at this stage is very difficult to realize. The main difficulty comes from the requirement to combine the good knowledge of the teaching materials with proper understanding of the capability of the modern technologies of visualization plus the ability to produce an interesting art product. It needs serious material support and a team of multidisciplinary experts in various fields of science and art.

With the available resources the project was initiated and data collected for analyzing the effect of the initial stage. Various econometric techniques were used to outline the basic relationships of the observations. The conclusions from this observation are to be used for making the next step - organizing practical courses of training businessmen, which are decision-makers in real conditions.

From altogether 29 students in the first presentation of the course 22 responded by giving complete answers of the questionnaire. As the rest of the interviews (7) have missing answers they are excluded from the further analysis.

## 3. Models and Methods of Research

The learning level of the lessons was measured subjectively and objectively - the students indicated in the questionnaires their own estimation of the level of understanding of the lessons from the application of various combinations of multimedia. It is clear that the understanding of “the understanding” is different among the students depending on many factors, which creates unavoidable biases of the estimations. That is why we included an objective measure - the grade they receive on the final exam (This idea has been proposed by Prof. Dr. Mehmet Orhan from Fatih University).

To assess the effect of applying various forms of video clips into the teaching process, a model was constructed, in which the following variables have been formulated:

- UNDERSTAND reflecting the level of understanding of lessons.

- MOTIV to express the motivation of the students to increase their knowledge in the subject of instruction.

- CLIPFORM to reflect the application of the various forms of video clips. The following forms of educational clips have been experimented:

(a) CLIPFORM1. At the initial stages animated video slides, graphs and diagrams downloaded from Internet have been included into the lessons. Their preparation is easy and does not require very advanced software. This form works well when there is a need of explanation of the construction of relatively complex schemes and mechanisms.

(b) CLIPFORM2. Recording the lectures, thus allowing students to watch them as some additional teaching material was the next step in introducing modern technologies in the lessons. The merit of this form was that the students had the opportunity to look at the lectures repeatedly and to concentrate on the topics, which could be initially less understandable. Alternatively, for some lessons the students had the opportunity to watch video of the same topic prepared by other instructor publicly available over the Internet. As a rule students prefer to have their own

teacher's lecture recorded than that of the other instructor.

(c) CLIPFORM3. The observations indicated that the highest educational effect have the clips prepared in form of a short movie resembling the clip productions in the entertainment industry. While this form is expected to allow reaching the highest pedagogical effect, it is expensive and requires a team of professional film makers for its realization.

- DURATION. We expect the duration of the clip also to have influence on the level of understanding and the final grade. The variable was introduced to reflect the effect of the duration of the clip on the level of understanding and the final grade.

- CLIPSPERHOUR to measure the effect of the number of clips per academic hour. Initially only one clips has been used by the end of the lesson to summarize the discussions. Gradually other clips have been included within the academic hour on the most difficult and debatable problems. The maximum number of clips experimented in the lesson was 3 clips with duration of about 5 minutes.

- GRADE to reflects the final result of the application of MR project of teaching the principles of environmental policy. The detailed descriptive statistics of the basic variables in the model are given in Table 1.

*Table 1. Descriptive statistics of the variables*

	Understand	Grade	Motiv	Clipsform	Duration
Mean	4.095238	2.738095	3.714286	2.333333	3.190476
Median	4.000000	2.500000	4.000000	3.000000	3.000000
Maximum	5.000000	4.000000	5.000000	3.000000	5.000000
Minimum	2.000000	0.500000	1.000000	1.000000	2.000000
Std. Dev.	0.889087	1.056161	1.055597	0.856349	1.030488
Skewness	-0.622218	-0.129109	-0.714710	-0.688943	0.455040
Kurtosis	2.553310	2.069419	3.306213	1.778926	2.139044
Jarque-Bera	1.529634	0.816076	1.869881	2.965896	1.373306
Probability	0.465419	0.664954	0.392609	0.226968	0.503258
Sum	86.00000	57.50000	78.00000	49.00000	67.00000
Sum Sq. Dev.	15.80952	22.30952	22.28571	14.66667	21.23810
Observations	21	21	21	21	21

All variables, except CLIPFORM, are 5-scale Likert ranking (Trochim, 2006, Uebersax, 2006) from very low to very high. The CLIPFORM variable is including the indicated above three forms and is used next to construct dummy variable of each form; namely CLIPFORM1 for using clips with pictures and animated diagrams, CLIPFORM2 in which clips are used where the teacher speaking and summarizing the lessons is recorded, and CLIPFORM3 based on own-produced art-style clips with scenes, pictures, 3D effects, diagrams, etc. (used in increasing degree in the lessons).

The conclusions from the descriptive statistics are:

1. The level of understanding of the lessons with using teaching materials prepared by means of modern technologies is above the average, but below the desirable maximum level.

2. The motivation of the students in the sample is higher than the average, which is a good precondition for increasing the learning effect of multimedia application.

3. The declared level of understanding is higher than the grades, which means that the students are overstating their level of understanding.

The presented above consideration are just one among many possible examples of studying the effects of experimenting with various multimedia technologies. No doubt numerous models can be constructed to test the influence of other approaches on the level of understanding of the lessons with a mixed group of students.

#### 4. Finding and Results

Many components of the presented above scheme of application of modern technologies in education are well known. The production of documentary educational films for example is already an established activity. The best example in this direction are probably the works of George C. Stoney recognized as “a veteran film maker of over a hundred documentaries, a lifelong media activist” Stoney G. C.(2011). There are many sites, which provide various forms of educational video materials beside the most popular Google’s source YouTube. From this perspective our endeavors are not pioneering. Pioneering are probably the efforts to integrate the video clips of a suitable size, duration and orientation within the direct educational process to reach maximum level of understanding by students for which English is not a mother language.

Parallel to the experimentation empirical data have been collected to investigate the efficiency of this organization of the lessons. As a starting point we tested the reliability of the data calculating such indicators as Cronbach’s alpha, which accounts for our sample 0.558, and is an evidence of moderate reliability. The Hotelling’s T-Squared text is 1727,899 at F equal to 140.392, which confirms the above conclusion. The results of the interclass correlation coefficient are presented in table 3 as an additional evidence of the moderate reliability of the data. It is quite normal as it is related to a starting work and the number of observations is naturally low to construct more comprehensive models.

*Table 3. Intraclass Correlation Coefficient*

	Intraclass Correlation(a)	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	,123(b)	,028	,299	2,264	20,0	160	,003
Average Measures	,558(c)	,207	,794	2,264	20,0	160	,003

Average Measures ,558(c) ,207 , 7 9 4  
 2,264 20,0 160 ,003

Two-way mixed effects model where people effects are random and measures effects are fixed.

a Type C intraclass correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

b The estimator is the same, whether the interaction effect is present or not.

c This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

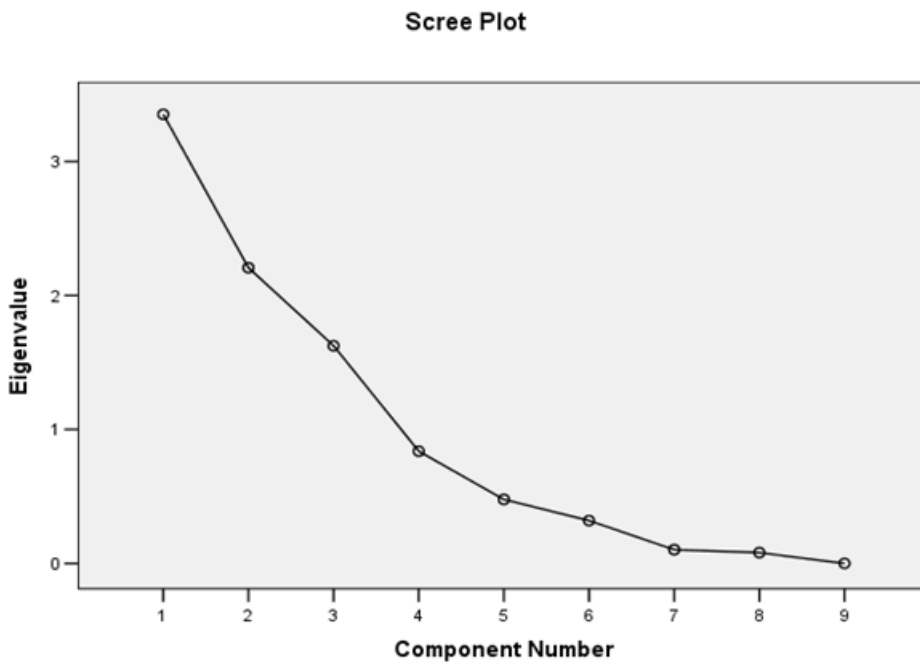
This was the reason to continue next the analysis with structure detection. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.499, indicates that our results are moderately useful as the proportion of variance in the variables that might be caused by underlying factors is in the lower boundary of the criteria. The Bartlett's test of sphericity shows values less than 0.05 of the significance level, which is an evidence that a factor analysis may be useful for our case. In table 4 we present the total variance explained, which includes 3 factors with eigenvalues more than 1. They explain 77.9% of the variance, leaving 22.1% of the variation unexplained.

**Table 4. Total Variance Explained**

Factor	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3,054	38,170	38,170
2	1,694	21,172	59,342
3	1,487	18,588	77,931
4	,826	10,330	88,260
5	,468	5,846	94,106
6	,311	3,882	97,988
7	,102	1,270	99,258
8	,059	,742	100,000

Extraction Method: Principal Axis Factoring.

The scree plot presented in table 1 confirms the choice of three components, but reveals the lack of a distinct boundary of the choice of eigenvalues.



**Figure 1. Scree Plot of the components.**



Various regression models have been tested, which due to the low statistical significance of the regression coefficients in most of them are not reported in the paper. It is obvious that more observations are needed to construct more sophisticated models.

As these are initial results of the observation they should be interpreted cautiously. Years of experimenting are needed to formulate robust conclusions of the effect of multimedia application. Still many details remain unclear, many problems and alternative solutions- debatable. Such a problem as the relationship instructor - students is another example among the many others, which can modify the effect of applying modern technologies and may not always produces positive results. All these problems expect their future solution.

## 5. Discussion

Despite the positive experience in the start of the application of MR for teaching the principles of environmental policy to international group of students there are many problems left to be solved in future. There is no doubt that the process of introducing modern technologies in education is not a question of fashion and will continue to expand. The interest in the introducing MR in environmental education is also expected to increase as the natural world protection plays and will play important role in the socio-economic growth and development. This course becomes more attractive due to the application of complex of modern technologies including on-line education combined with presenting the teaching materials in a form of video-textbook.

The anonymity of the on-line communication creates some danger of losing the discussion elements in the classes. There is a need to complement the teaching process with new forms of discussion. For example, it is expected to complement the discussion of the problems with adding a blog open for debating of the current environmental economic issues. Students actively participating in this blog will be encouraged by receiving extra points for providing interesting and meaningful proposals.

Although there is a lack of statistical evidence the observation indicates that not all forms of clips significantly increase the educational effects of teaching. The students accept with greatest interest clips, which are close to the clips they watch in other areas. Regrettably the free good educational clips are very rare, most of them either reproduce lectures or presented primitively prepared teaching materials, which cannot compete with the attractiveness of the everyday clips in the musical, advertising and other areas.

Here comes the other important question. There is a direct link between the cost of preparing the clip and the educational effects of utilizing it. Still the good quality ed-

ucational clips are mostly result of the enthusiastic work of the educators that an outcome of reasonable funding. As an example one can compare the cost of preparing an attractive musical clip with the analogous educational clip with the same duration. To reach high learning effect obviously the first problem to overcome is to make the clip attractive to watch. This requires first of all good knowledge of the capabilities of the modern software plus the necessary art skill. The approximate calculations indicate that provided the necessary software is available (Adobe, Autodesk suites for example) the production of a good quality clip of duration of about 5 minutes costs approximately €2000. This is not as much as it may appear. Produced on cooperative base and distributed among universities networks the benefits of such expenditures would exceed the costs in future.

## Recommendations and Conclusions

To improve the efficiency of the application of modern technologies in education a complex of measures is needed. First of all the educational administrations should give priorities to the introduction of multimedia in education and enhance the endeavors in this direction. As it may face the resistance of the teaching staff especially among the less young generations, there is a need to prepare and facilitate this process by arranging specialized units (laboratories, schools, etc) to provide not only teaching materials suitable for inclusion into the academic lessons, but also to train the educators how to use them effectively. The overcoming of these hardships in the traditionally conservative academic staff is not an easy task.

The Ministries of Education, the national and international organizations of education should adopt programs for supporting the introduction of modern technologies for the inclusion of various forms of multi and cross-media into the educational process. As such projects are expensive, this activity should be systematic and properly organized in networks to bring about the expected educational effects.

The past year experience in teaching the creation of environmental policy to non-native English speaking students indicates that the application of suitable clips has high educational effect. The highest effect was reached with well documented clips supported by a suitable voice and music illustrations. This is however a costly activity, which needs serious financial support.

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# Life Cycle Assessment as a Tool to Support Sustainability Oriented Decision-Making in Business Sector

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## Abstract

The objective of the paper is to identify the role of life cycle assessment as a tool of sustainable development implementation, its use in business sector and its role in sustainable development education. The attempt has been made to identify the range of LCA use in business sector on the basis of the results of two surveys that were made in Poland in 2011. The general conclusion of the research results presented in the paper is that the business sector does not realize the whole range of possible LCA use and its potential to match their decisions with environmental issues. One of the key reasons for that is lack of knowledge and skills on LCA and its use.

Therefore, the paper tries to explore possible fields of education where LCA could become vital element of sustainable development education. Author proposes three fields of higher education to introduce LCA as an important element of education. The focus should be on introducing LCA with the orientation appropriate for each of the studying fields and linking knowledge with practical skills of LCA use.

**Keywords:** Life cycle assessment, sustainability oriented education, decision making in business, sustainability implementation tools

**JEL Classification:** Q56, Q01, M14, I23

## Introduction

The word sustainability has become widely used right after it appeared in United Nations' World Commission on Environment and Development report titled “Our common future” and known also after the name of its author as Brundtland Report. According to Brundtland the definition of sustainable development is “meeting the needs of the present without comprising the ability of future generations to meet their own needs” (WCED, 1987) and has at least three coequal components: economic growth, social cohesion and environmental care.

The challenges that the concept of sustainable development has laid upon human civilization are numerous and demanding. The number of those who should respond to them include all kind of entities: governments, international regulators, sector associations, companies, research and development units, NGOs and many others. In order to transfer the sustainability priorities into value systems of those actors it is necessary to support it with implementation and monitoring tools.

In business sector, the key efforts should be concentrated on helping companies to run sustainability implementation process much further upstream. In building capacity for sustainability, companies must accept that a constant state of change is becoming the status quo. There-

fore, there is a constant need to support many different actions and strategies in order to follow the changes and stay competitive. The role of regulators, business environment organizations or research and development sector is to provide the companies with appropriate tools and instruments to deal with that challenge.

## 1. LCA in environmental toolbox for sustainability implementation

Life cycle assessment (LCA) should be recognized as a tool to transfer the concept of sustainable development to the process of management of business entities. The general perception of sustainable development concept attributes it with three equivalent principles: economic growth, social cohesion and environmental protection. LCA scope and methodology makes it perfect tool for investigating environmental aspects of sustainability oriented decision-making processes. The issue of transferring sustainability principles to companies starts with evolving them into concepts and ideas how to approach them from business perspective. The concepts are quite diversified and include such claims life-cycle thinking, industrial ecology, eco-efficiency, cleaner production rules or dematerialization. The logic of constructing environmental tools for sustainability implementation is presented on Figure 1

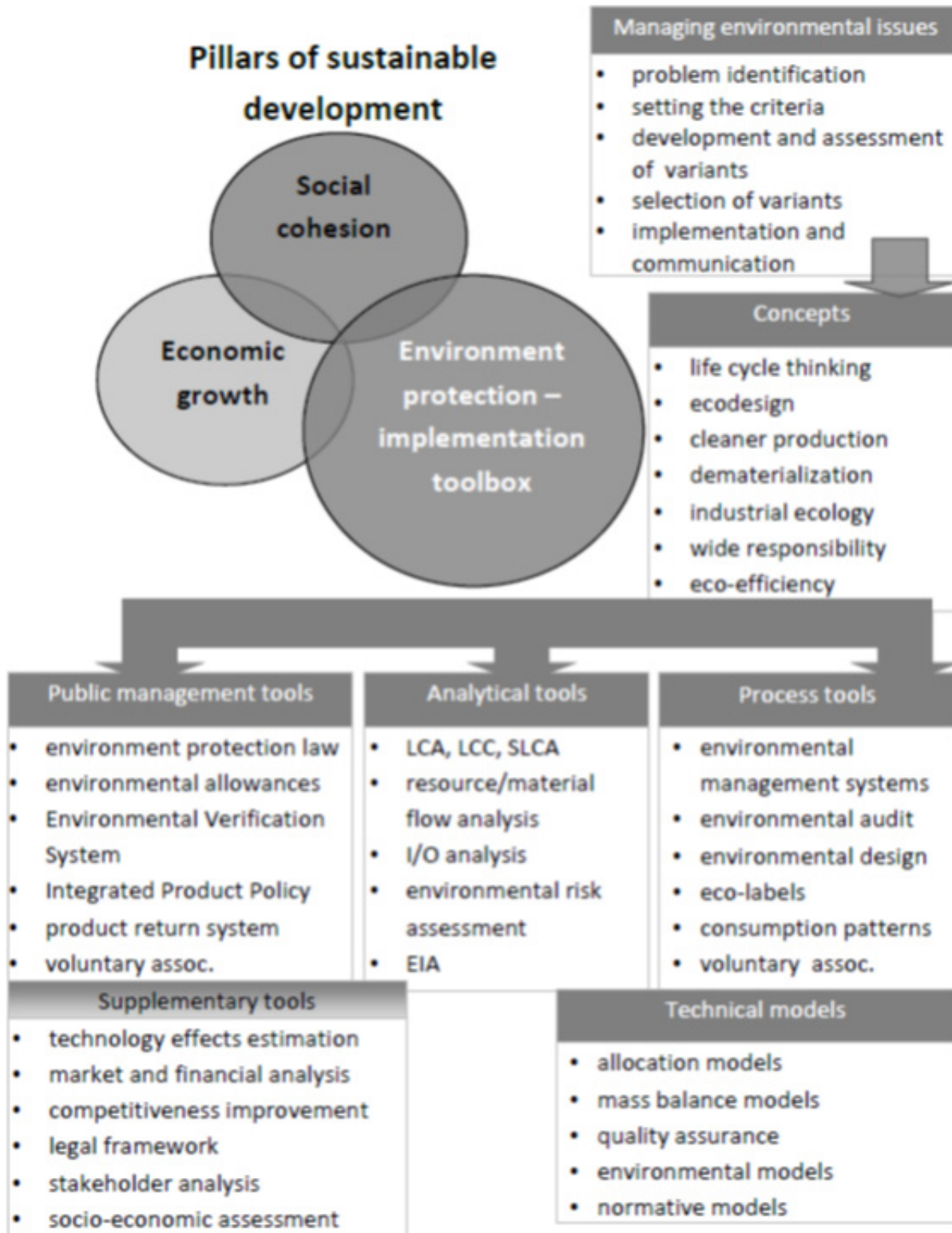


Figure 1. The logic of constructing environmental tools for sustainability implementation  
 Source: based on Nitkiewicz (2010: 19)





These concepts need really rich toolbox in order to be successfully implemented. Possibilities here are divided into three groups: (1) public management tools, (2) analytical tools and (3) process tools. All the environmental tools, especially analytical ones, are based on certain assumptions and models that describe the relationship between the industrial activities and environmental impacts. Technical models are still being developed in order to project the actual impacts of human civilization on environment. Additionally, there is a vast group of supplementary tools, that are referring to different aspects of sustainability but could strongly contribute to its environmental aspects (Nitkiewicz, 2010: 19).

LCA is a key part of analytical tools group, constituting stand alone tool, also, it is a base for hybrid tools, such as Life-Cycle Costing or Social LCA. The focus is on LCA and LCA-related tools that are used in the process of measuring and mitigating environmental impacts of industry and human civilization.

Process tools are internally or externally operated tools that aim at improving environmental aspects of company’s activities that could be used occasionally or in a systemic manner. There are some complex managerial instruments like environmental management systems or specific purposes oriented instruments like eco-labels.

## 2. The basics of life cycle assessment

As mentioned above, LCA is one of sustainability monitoring tool and decision support instrument. Its usefulness is related to one of the most important priorities of sustainable development that is to decrease the pressure of industry and human civilization on environment. There-

fore, the tools that enable the measurement of these impacts of different kinds of investments, products or undertakings are strongly needed in order to model and optimize environmental impacts (Adameczyk and Nitkiewicz, 2007).

Life-cycle could be defined as “Consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal” (ISO 14040: 2006). Therefore, life-cycle assessment should be described as a “compilation and evaluation of the inputs and outputs and the potential environmental impacts of a product system throughout its life cycle” (ISO 14040: 2006).

Primarily, LCA was dedicated to assess environmental impact of goods, but its capacity and flexible structure has significantly enlarged its possible use. Today, LCA is used not only for assessment of products but also processes organizations, technologies or strategies. The widening LCA use is closely connected to process of evolution of these tools in the direction of becoming more complex in assessing production processes. The basis for this evolution has been established by reference not only to production phase but also to the pre- and post-production phases that are very often indirectly connected to the product itself.

A simplified scheme of the product life concept is presented at Figure 2. Scheme content as presented here is usually referred to as a “life cycle,” as it includes loops between the several life phases. Examples of such loops are the reuse and recycling of post-consumer products (originating in the end-of-life phase) or recycling of production scrap (Kot and Grabara, 2009). The full arrows represent material and energy flows, while the dashed arrows represent information flows.

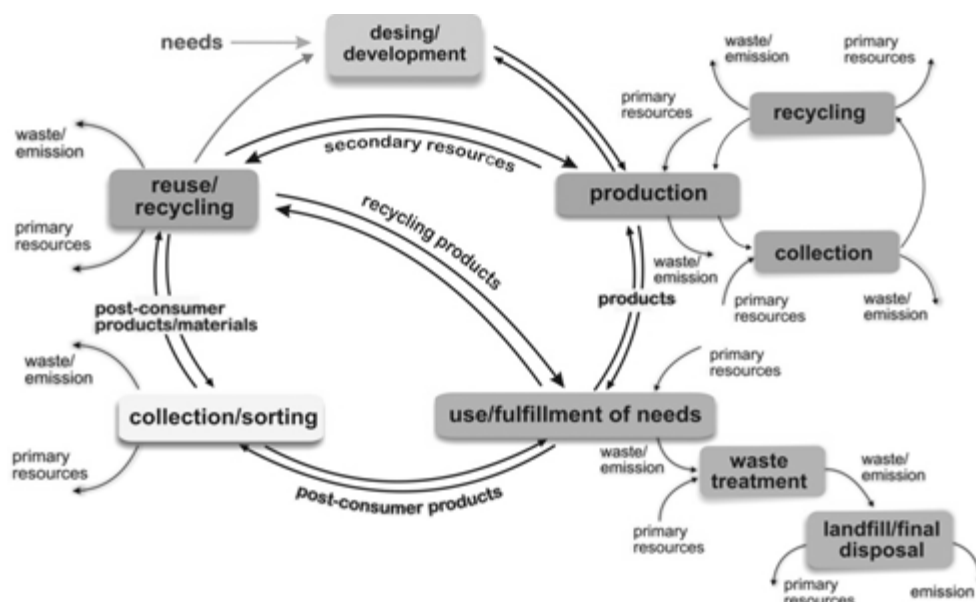


Figure 2. Schematic representation of a generic life cycle of a product  
Source: based on Rebitzer et al. (2000: 5)

Life cycle assessment is a methodological framework for estimating and assessing the environmental impacts attributable to the life cycle of a product, such as climate change, stratospheric ozone depletion, tropospheric ozone (smog) creation, eutrophication, acidification, toxicological stress on human health and ecosystems, the depletion of resources, water use, land use, and noise—and others (Rebitzer et al., 2004).

Translating physical material and energy flows into environmental impact categories is widely considered as one of the biggest challenges of LCA procedure. This key issue faces a lot of problems while being dealt with. The most problematic aspects of LCA are resulting from the need of relating appropriate burdens with appropriate environmental impacts in the right time and place coordinates. That is the reason why choosing impact categories, spatial diversification, local specificity, environmental dynamics or time horizon are key issues to be dealt with while running LCA (Reap et al., 2008).

### 3. The use of LCA

LCA methodology creates a basis for identification and hierarchization of environmental impacts and to settle the best possible ways to mitigate them and to improve natural environment quality. The key assumption of LCA is to measure potential impacts on environment in every stage of life-cycle (Wach, 2002: 91):

- extracting resources
- production of materials, components and energy
- main production
- distribution
- use
- waste management, utilization, recycling

Analyzing every stage of life-cycle enables the performance of complex comparisons, defining different kind of environmental threats posed by producing and using given object. The key advantages of LCA are as follows (PKN, 2005):

- documenting the potential impacts on environment in every stage of life-cycle,
- analyzing the possibility of appearance of mutually correlated impacts in a way that potential mitigation measures do not poses dangerous side-effects – avoiding the transfer of impacts,
- settling the priorities in planning and designing,
- enabling the comparisons of different solutions for

the same problem or different way in realizing given process.

The results of LCA facilitate the decision-making process and indicate the object which is the most environmental friendly among others. This kind of message together with additional factors, like costs, societal needs, economic growth and many others, may be used to choose proper solution or to evaluate the consequences of such choices.

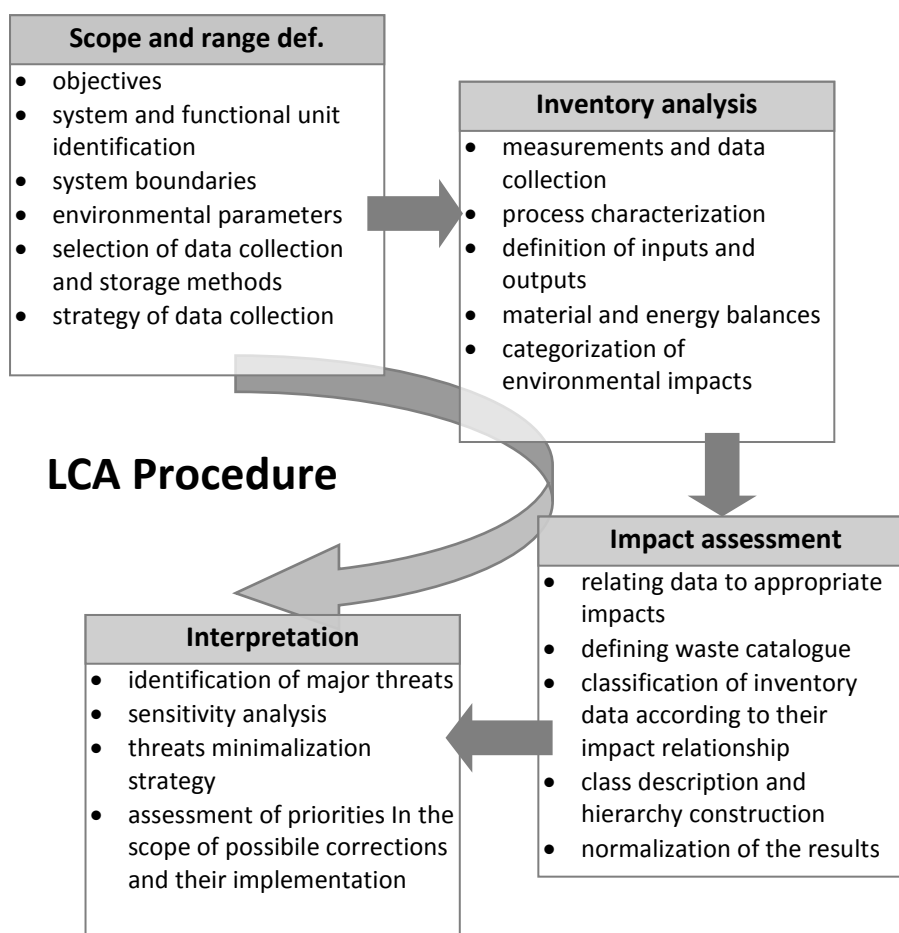
The role of LCA in modern organizations was underlined by introducing the series of quality standards – ISO 14040 – that systemize the current knowledge and practice in this field. The objective of ISO 14040 series is to create framework for making reliable and objective LCA (Kleene, 2005). The ISO 14040 series consists of the following standards<sup>1</sup>:

- ISO 14040:2006 „Environmental management – Life cycle assessment – Principles and framework”
- ISO 14041:1998 „Environmental management – Life cycle assessment – Goal and scope definition and inventory analysis”
- ISO 14042:2000 „Environmental management – Life cycle assessment – Life cycle impact assessment”
- ISO 14043:2000 „Environmental management – Life cycle assessment – Life cycle interpretation”
- ISO 14044:2006 “Environmental management -- Life cycle assessment -- Requirements and guidelines”
- ISO/TS 14047:2003 “Environmental management – Life cycle impact assessment – Examples of application of ISO 14042”
- ISO/TS 14048:2002 „ Environmental management – Life cycle assessment – Data documentation format ”
- ISO/TR 14049:2000 „ Environmental management – Life cycle assessment – Examples of application of ISO 14041 to goal and scope definition and inventory analysis”

Despite the fact that LCA is not yet methodologically unified, and despite the method used its implementation is made with 4 phases (Kowalski et al, 2007):

- defining range and scope,
- inventory analysis,
- impact assessment,
- interpretation.

Each one of aforementioned stages is realized through chronological sequence of decisions and operations. Simplified scheme of LCA procedure is presented on Figure 3.



*Figure 3. LCA implementation procedure*  
*Source: based on ISO 14040 (2006) and Wach (2002)*

The possible use of LCA and its results is very vast. The most important uses are directly pointed out in ISO 14040 (2006):

- identification of possible improvements of environmental aspects of products in different stages of their life-cycles,
- support for the decision-making process in industrial, governmental and non-governmental sectors,
- choice of important indicators in the evaluation of environmental activities and its effects,

- marketing.

The ISO 14040 standard indicates also that LCA use should not be limited to product life-cycles only. The range of the LCA research should be properly defined in accordance to its objectives and could easily focus on different aspects of production, services or other activities. To clear the things out it is advisable to categorize the use of LCA into following levels: strategic, organizational, product and process. The presentation of the relation between the categories is presented below on Figure 4.

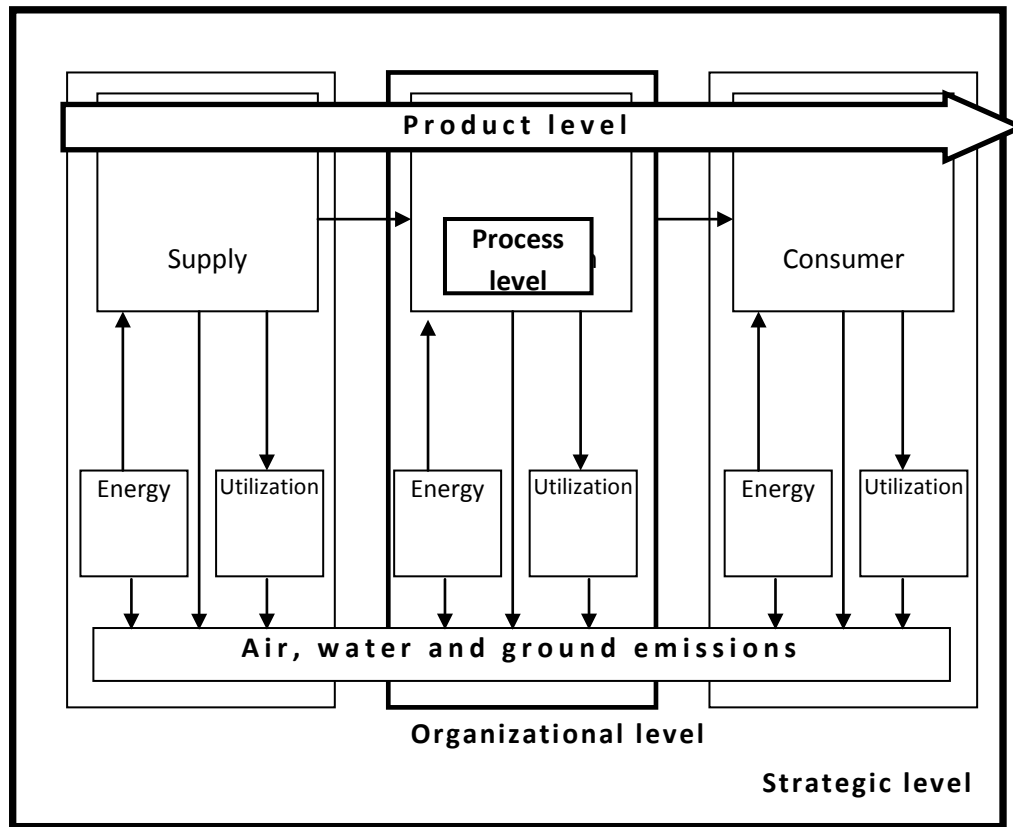


Figure 4. Interrelation between different levels of LCA  
Source: based on Braunschweig (2002)

Product level refers to the classic use of LCA and includes the assessment of given products impacts on environment. This kind of LCA is difficult simply because it includes not only information on material flows related to the product within one organization but also similar information from its suppliers as well as from its consumers. Despite these difficulties, LCA of products remains the most popular of LCA procedure use and creates the framework for the following uses.

Process level refers to LCA made on the single production process that is mostly an internal issue for given organization. This kind of approach is quite useful since it involves processes that are commonly used in different organizations and the results of assessment are universal.

Organizational level of LCA is dedicated to entities that wish to assess all its inputs and outputs. Most commonly it is used to build up environmentally based public relations. It is also strongly related to different management standards. The purposes for its use are many and include mitigation of environmental impacts, outsourcing and insourcing planning, eco-controlling and many others.

Strategic level of LCA relates to environmental impacts of given system. The approach used here is most complex and could be performed for different kind of purposes. One of such purposes is the evaluation of projects, programs or

policies on different levels. Strategic level LCA is capable of dealing with the complexity of such evaluations and have a great potential in providing sustainability-oriented results. The analysis of such use of LCA was made within the study titled “Elaboration of LCA methodology for the assessment of infrastructural projects” (Kulczycka et al., 2008: 55). The study was made for the purpose of building up the capacity for the use of LCA in the evaluation of structural funds financed projects. According to the final report from the study the potential of using LCA within the evaluation framework relates to (Kulczycka et al., 2008: 56):

- measuring total impacts on environment of existing and planned investments that would enable the performance of comparative studies and selection of alternative solutions or appropriate choice of components and materials
- identifying crucial factors of environmental impacts in specific cases that would enable to focus the improvement actions on highly influential factors and stages

There are some universal advantages of LCA use in the context of business decisions. These are the features that result from LCA characteristics and include the following (Lewandowska, 2006):

- flexibility,



- interdisciplinary approach,
  - wide range of use,
  - compatibility,
  - measurable results,
  - lack of time and space diversification.

Since LCA could be use on the level of products, processes, organizations or strategic level it also gives special boost for incorporating it into evaluation system in Poland.

On the other hand, there are also some drawbacks in the process of incorporating LCA into sustainability implementation monitoring. First of all, LCA is a tool highly oriented on environmental aspects and impacts and its use could contribute to narrowing sustainability implementation process to measuring environmental impacts only. Therefore, it is important to use LCA together with another instruments, measuring also economic, technical or social aspects of companies functioning. LCA itself, as a methodology offers some complementary tools, such as life cycle costing or social LCA, that could easily incorporate different issues in such assessments.

Secondly, LCA is a very complex tool and should be used accordingly to the accepted objectives and perspectives. Such details of business studies as the scope, aim, range or system boundaries should be specifically and individually prescribed to every single study.

Finally, the use of LCA gives the number of decisions to its users and these decisions should be objective, independent from specific group of shareholders and justified with the details of the study. The only way to guarantee these conditions is to rely these kind of assessments on ISO 14040 standards and to prepare LCA code of conduct in the context of evaluation studies.

#### 4. Research results on LCA use in business sector

LCA and its use in business sector becomes more and more popular but still it is rather occasional. In order to illustrate the issue of its use in business sector some research results are presented below. The research was made in Poland so it should not be generalized to European or global level. It is important to mention that Poland significantly differs from other European countries (especially those from Western Europe) in the area of ecological consciousness of companies. Nevertheless, the results illustrate trends and structures that could be also observed elsewhere but with different intensity.

Research results presented below are based on two surveys that were made in 2011. First one of them was made by Polish Agency for Enterprise Development (its organizational acronym in Polish language is PARP) within the framework of their project on “Sustainable Production Design” and is referred as PARP survey later in the text. Second survey was made by Department of Product Technol-

ogy and Ecology (its organizational acronym is DPTE) on Cracow University of Economics within the framework of their research project on “Ecology oriented actions within product policy of companies” and is referred as DPTE survey later in the text. Author of the paper is currently participating in DPTE project as a researcher.

The respondents of PARP survey were representatives of small and medium companies recruited on the base of their knowledge on the following issues (Anuszevska et al. 2011, 20):

- strategies and investment plans of a company,
- impacts on natural environment resulting from company functioning,
- implemented sustainable production design (in a case that any such solution was implemented).

The survey was made of the random profiled sample of 1000 companies classified as small and medium enterprises. According to the methodological expertise, self-employment based companies (with 1 employee) were excluded from the sample. Tab. 1 presents the structure of the sample with regard to the size of enterprises included in the survey.

*Table 1. Sample structure of PARP survey concerning size of companies*

Size of enterprise	Number of employees	Number of enterprises in the sample
Micro	from 2 to 9	500
Small	from 10 to 25	350
Medium	from 25 to 249	150
Total		1000

*Source: based on Anuszevska et al. (2011)*

Each one of size categories included companies from different branches and localizations in order to reflect actual structure of companies in Poland. The survey was made in winter/spring season 2011 by face-to-face individual interviews. The scope of the research was very vast and included also investigating some issues related to different aspects of business sustainability.

The survey made within DPTE project was rather small scale and included 61 companies located in małopolskie and śląskie voivodships mostly (central southern part of Poland). The sample was profiled and limited to production companies. No limitations were made concerning the size of a company. The respondents of DPTE survey were representatives of companies with knowledge on production, sales and environmental issues. Tab. 2 presents the structure of the sample with regard to the size of companies included in the survey.

*Table 2. Sample structure of DPTE survey concerning size of companies*

Size of enterprise	Number of employees	Number of enterprises in the sample
Micro	from 1 to 9	8
Small	from 10 to 25	12
Medium	from 25 to 249	20
Large	250 and more	21
Total		61

Source: own research within DPTE project

The survey was made in December 2011 by computer-assisted web interview (CAWI). The scope of the research reflected the topic of the DPTE project and included also issues related to different aspects of business sustainability.

It is important to mention some key differences between the 2 surveys. First of all, PARP survey was made on SME sample only, while within DPTE survey large companies were represented by more than 30% of a sample. Secondly, PARP survey was profiled, in a sector and localization manner, in a way to depicture the structure of SME sector in Poland. DPTE survey was profiled but only in a way to include production companies. Finally, PARP survey was typical big scale quantitative research matching the representativeness criteria while DPTE survey was rather type of qualitative research.

Both of the surveys covered many differentiated issues and LCA use was one of them. Both of the surveys investigated the issue of ecological drivers determining the

decision making process in companies. Nevertheless, the approach to drivers investigation issue was rather similar in both of the surveys and included such elements as: corporate social responsibility, environmental management systems, eco-labels, designing products and production processes, changing the functioning of a company or monitoring environmental issues.

DPTE survey went deeper into details concerning current use of LCA in companies, planned use of LCA and context of its actual and potential use. Therefore, its results will be commented in a broader way further in the text.

The forms of pro-ecological initiatives undertaken by companies are very diversified. PARP project investigated 13 different forms of such initiatives. Its structure with respect to company size is presented on Figure 5. It is clear that the use of LCA is the last option for the companies undertaking any pro-ecological initiative. Only 3% of companies admitted that they have used LCA in last 5 years.

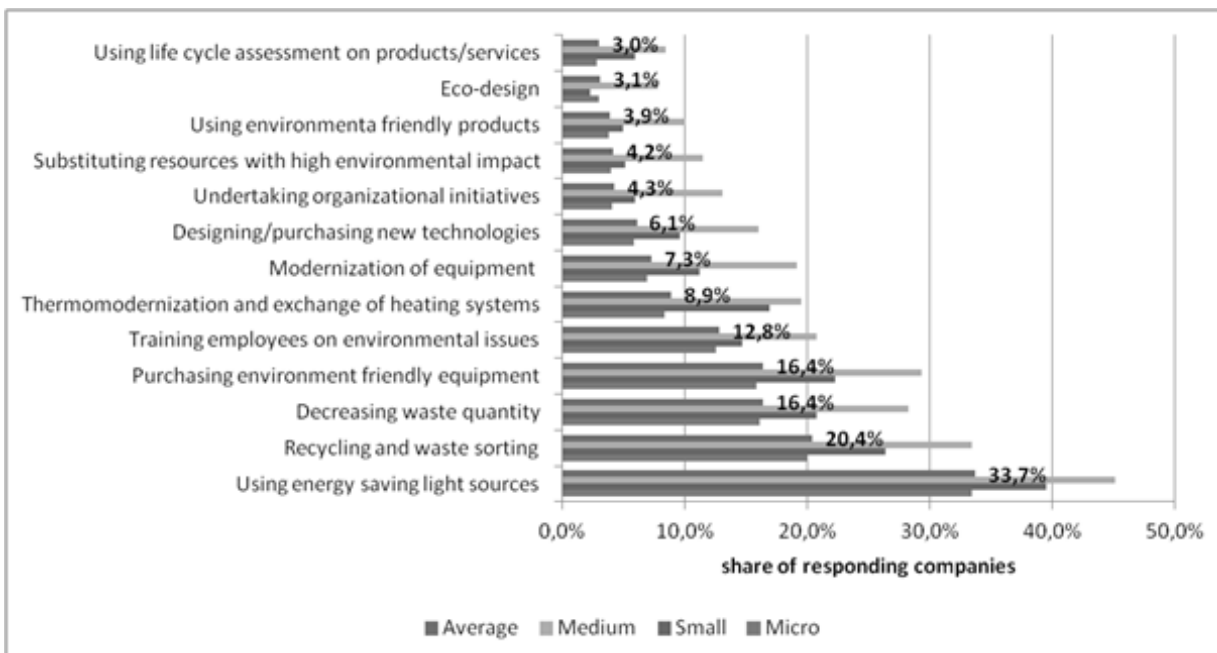
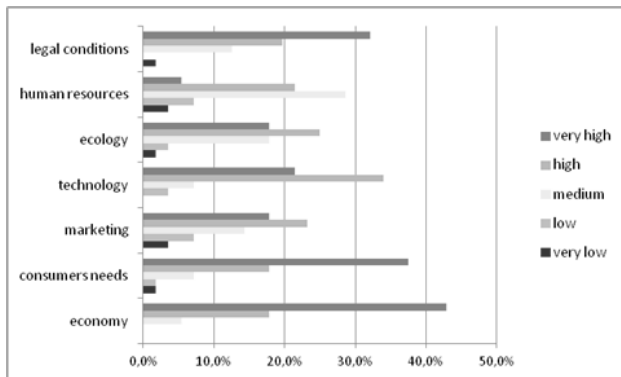


Figure 5. Forms of pro-ecological initiatives undertaken by SMEs in last 5 years with respect to company size [N=1000]

Source: based on Anuszezwska et al. (2011: 58-59)

Some more encouraging results are observed in the population of companies surveyed in DPTE Project. Figure 6 presents the perceived importance of factors determining decision-making process in companies. The importance is assessed in 5 point scale including very low, low, medium, high and very high importance answers. 7 categories of determinants are included in the study such as: economic factors (costs and incomes), consumers needs, marketing issues, technological factors, ecological factors, human resources issues and legal conditions. The categories are deliberately generalized in order to avoid confusion with bringing out too many of them.

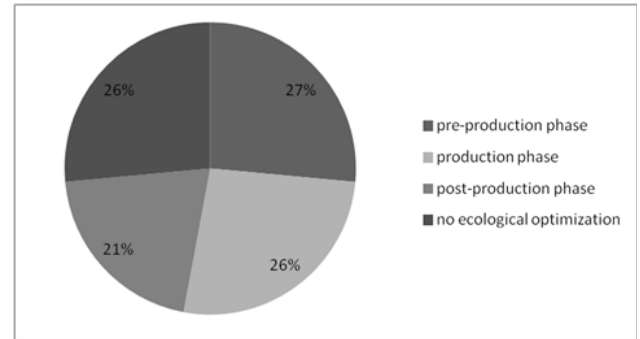
As shown on Figure 6 the most influencing are economic factors that have the highest share of ‘very high importance’ responses and no low importance indications at all. Similar results are achieved by consumers needs and legal conditions but with lower share of ‘very high importance’ responses. It is also worth to mention quite high share of ‘high importance’ responses for technological factors. It seems that technology plays a vital role in decision-making process but as a second choice determinant. Ecological factors achieve quite similar score to marketing issues with some decent share of ‘very high’ and ‘high importance’ responses and also strong share of ‘medium importance’ responses. It could be interpreted as the third row determinant that is used only in specific circumstances when other determinants are not clear enough to direct the decision or the decision variants are not different as far as more influential determinants are concerned.



**Figure 6.** The importance of types of determinants influencing the decision-making process according to DPTE research project [N=56; share of companies indicating given importance]  
 Source: own research based on DPTE survey

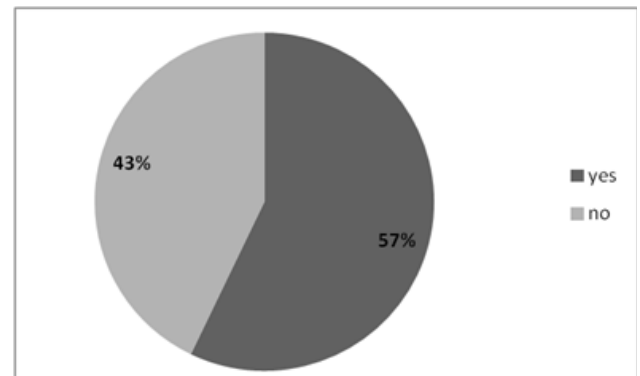
The companies were asked if they are practicing ecological optimization of their products and services. 25 out of 61 companies confirmed their engagement in running ecological optimization of their products and services. The issue of placing the ecological optimization was investigated in the next question. The structure responses for the question for which life cycle phases the optimization is made for is presented on Figure 7. It seems that ecological

optimization efforts are equally distributed among different phases of life cycle.



**Figure 7.** Undertaking ecological optimization of following product life cycle phases in responding companies [N=61]  
 Source: own research based on DPTE survey

The companies that have not been involved in running any LCA based assessment were asked about their plans to do so in the nearest future. The structure of responses on that question is presented on Figure 8. It seems that many of those companies that did not use LCA before are quite interested in doing so. The 57% share of companies willing to use LCA should be perceived as rather high.



**Figure 8.** Companies plans for LCA use in the future [N=35]  
 Source: own research based on DPTE survey

The companies responding that using LCA is not in their plans were asked to justify their decision. Most of the answers indicated lack of knowledge on LCA use and on its possible impact on decision making as the reasons of not getting interested in it.

The general conclusion of the research results presented above is that the business sector does not realize the range of possible LCA use and its potential to match their decisions with environmental issues. There are numerous possibilities to change it, with the use of different instruments such as: law and regulation, market instruments and economic incentives, raising awareness or improving education. The best possible solution is to use systemic approach to change the situation of LCA use and undertake actions with different instruments at the same time with

common objectives to be reached. The following part of the paper focuses on education but it is not only important nor the most important issue to be dealt with. It is just one of many issues that should be addressed in order to get visible engagement of business sector in the field of using LCA in decision making process.

### 5. LCA in sustainability oriented education

Since LCA methodology is based on systemic and interdisciplinary approach to the assessment of environmental impacts it needs knowledge background. At first, education on products and processes life cycles and the assessments of their environmental impacts should be one of the final stages of sustainability oriented education. Secondly, in order to keep high applicability of LCA, it should be incorporated in wider educational effort, preferably on university level. Finally, LCA oriented education should focus on combining theoretical knowledge with practical skills of preparing and running assessments, vivifying and interpreting them. Basing on the example of Polish higher education system, education on LCA and its use could be incorporated into the following studying fields:

- environmental engineering,
- management and production engineering,
- commodity sciences.

Aforementioned studying fields should offer full covering for LCA theoretical knowledge and practical skills. Of course it is not a closed list of studying fields and could easily be enlarged but it seems that these three studying fields offer the most appropriate context for LCA oriented education. Including LCA education on these studying fields is also highly desirable from the point of view of sustainability implementation process.

Supporting education with ICT is a necessity nowadays, not only in the scope of hi-tech use and complicated calculation procedures but also in common everyday life and economic practices. Incredible calculation power of modern computers facilitates the realization of tasks that a few years ago were considered impossible to be dealt with within reasonable workforce and organizational efforts, decent costs and acceptable time frame. Today, it is only matter of access to appropriate software and possession of skills to use it.

Similar situation could be observed while life cycle assessment is concerned. Describing life cycles, identifying material and energy flows, reporting emissions and wastes, and assessing its environmental impacts is quite complicated and requires a lot of data. Production, use or waste disposal phases in life cycles are changing dynamically in time and basing on the data collected once in LCA procedure is not enough to keep assessment results constantly useful. Moreover, the life cycle inventory data is highly sensitive for localization parameters and could not be generalized easily to different countries or economic systems. Therefore, life cycle inventory databases need to include enormous amounts of data. As a consequence, LCA software should be integrated with inventory databases in order to maintain its utility features. In fact, it is the case for number of LCA software that are distributed together with database access. Such combination needs to be also valid for education system that should train LCA adepts in using the software with appropriate inventory databases.

The studying fields could also be related to the range and scope of LCA use. Comparison of three LCA appropriate studying fields in the relation of possible range and scope of its use is presented in Table 3 below. According to the studying program of environmental engineering LCA oriented education should be focused on methodological issues of impact assessments and on training of LCA use with all its aspects and stages included. LCA use training should be done with example software. Knowledge and skills should be universal in its character and should rather focus on LCA itself and the context of its use. Management and production engineering studying field should focus on the use of LCA for production optimization and resolving environmental issues in organization functioning. This studying field is the most important from the perspective of decision making process in companies and has a high potential for incorporating environmental issues in the process. The focus of LCA education here should be switch to LCA applicability in business sector and its possible effects. Product level LCA should be the domain of commodity science education field. The knowledge should be oriented on product life cycles while training should prepare students to run such assessment. The overall educational effect should also transfer common understanding of LCA role in environmental optimization of products and processes.



Table 3. Scope of LCA oriented education in relation to given studying fields

Studying field	LCA level	Scope of education
Environmental engineering	Process level Strategic level	General knowledge on LCA and its use Training on LCA software use Identification of LCA range and scope Specific knowledge on LCA methodologies
Management and production engineering	Process level Organizational level	Knowledge and practical skills on LCA use in production process optimization Training on LCA software use on the process and organizational level Interpretation of LCA results and its use in decision making process
Commodity science	Product level Process level	Knowledge and practical skills on LCA use in product design Training on LCA software use on the product and process level

Source: own work

For each one of aforementioned studying fields education on LCA is indirectly present in its studying programs. It is a matter of time and some more focused effort to increase the presence of ecological issues in the programs. However, many contents of teaching programs related to optimization of processes, products or technologies could be easily fulfilled by LCA oriented education.

## Conclusions

It seems that sustainability implementation process in business sector reaches its pace and becomes more and more important for society and economy. In order to keep that pace and transparency of the process some complex monitoring and decision supporting tools should be used. Life cycle assessment has a big potential to become one of tools of sustainability implementation especially while environmental issues are concerned. But its use in business is still in its infancy, and as an example of Polish companies shows, it needs some strong support in order to pass through its use barriers. One of such support powers should be educating system that could incorporate LCA training in its programs.

## Notes

1. <http://www.iso.org>

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# How Brand Awareness Works for Success of Political Leaders

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## Abstract

Strong brand awareness leads to high market share in politics. Brand awareness can be regarded as a means through which consumers become acquainted and familiar with a brand and recognize that brand. (Keller, 1987: 316 – 333) according this on the basis of research, special matrix of Brand Awareness are established and described in this article. The Brand Awareness Matrix aims to support political theorists and practitioners to bring new or encourage already existed political figures to the top political arena. With the help of this matrix, they will have a possibility to plan their future according to the type of awareness they have already built. The time they spent in political or other markets influencing society and politics, should be taken into consideration as well.

**Keywords:** Matrix, politics, brand, awareness, political market

**JEL Classification:** M30, M31

## Introduction

Building brand awareness in all markets is as well important, as in political market it is essential for building brand equity. It needs various renowned channels of promotion such as advertising, word of mouth publicity, social media like blogs, sponsorships, launching events, etc. The process of branding has important steps; firstly it includes identity creation turning into some types of brand awareness, and reliable brand image. The article aims to support political theorists and practitioners to bring new or encourage already existed political figures to the top political arena and make them, using this matrix, to plan their future according to the type of awareness they already built and the time they spent in political markets or other markets influencing society and politics.

### 1. Building Brand Awareness

The concept of Brand awareness is well known in marketing but its practical use in political market is still under the question mark. Brand awareness is the probability that consumers are familiar about the life and availability of the product. It is the degree to which consumers precisely associate the brand with the specific product. It is measured as a ratio of niche market that has former knowledge of brand. Brand awareness includes both brand recognition as well as brand recall. Brand recognition is the ability of consumer to recognize prior knowledge of brand when they are asked questions about that brand or when they are shown that specific brand, i.e., the consumers can clearly differentiate the brand as having being earlier noticed or heard. While brand recall is the potential of customer to recover a brand from his memory when given the product

class/category, needs satisfied by that category or buying scenario as a signal. In other words, it refers that consumers should correctly recover brand from the memory when given a clue or he can recall the specific brand when the product category is mentioned. It is generally easier to recognize a brand rather than recall it from the memory (Keller, 2001: 14- 19).

Brand awareness is improved to the extent to which brand names are selected that is simple and easy to pronounce or spell; known and expressive; and unique as well as distinct. For instance - Coca Cola has come to be known as Coke.

According to political marketing study made in Post Soviet country – Georgia, in the capital Tbilisi, during 2010-2011 years, people who were interviewed by independent interviewers distinguished following types of awareness to political figures playing some roles in different Georgian political parties and unions:

1. Little awareness or no awareness to political figure.
2. Brand recognition awareness- This means that on mentioning the category, the customers recognize some brand from the lists of brands shown.
3. Brand recall awareness – meaning that people having category need, for example needing encouragement from political figure already recalling one or two political brands.
4. Top of mind awareness (Immediate brand recall) - This means that on mentioning the category, the first brand that customer recalls from his mind is top brand with great political chances (Percy, 2008).

The relative importance of brand recall and recognition will rely on the degree to which consumers make election-related decisions with the brand present or not. For instance - In a store, brand recognition is more crucial as

the brand will be physically present. In a scenario where brands are not physically present, brand recall is more significant (as in case of services and online brands) (Kotler, 2006). Building political brand awareness is essential for building brand equity. It includes use of various renowned channels of promotion such as advertising, word of mouth publicity, social media like blogs, sponsorships, launching events, etc. To create brand awareness, it is important to create reliable brand image, slogans and taglines. The brand message to be communicated should also be consistent. Strong brand awareness leads to high market share in politics. Brand awareness can be regarded as a means through which consumers become acquainted and familiar with a brand and recognize that brand (Keller, 1987: 316 – 333).

## 2. Marketing research made for political brand awareness study

In the study Focused (semi-structured) interview was used. This approach is used to gather qualitative data by setting up the special situation, allowing respondents in some time and scope to talk about their opinions on a particular subject. The focus of interview was decided by us. Respondents were selected in Face book as “No Politician Subjects” and “No Journalists”. The virtual social site allowed us to gather respondents and to turn them into focus group. 67 respondents were actively involved into interviews. Some 33 other respondents answered not in time frame allowed us to reject their answers. Our objective was to understand the respondent’s points to awareness of different figures, playing some role in politics. We used open ended questions, like “Tell me about your awareness to these persons?” and we were giving to respondent pictures of different political persons. After they were finding some of them without any awareness or with little awareness we have been asking them “please choose some figures from this another pack as a symbol to title group of people having spent little time in politics and having little awareness”. We were quite surprised that 78% of respondents were chosen “mouse”. To the respondent after that we are asking “which person you recognized easily as a political subject?” Respondents usually were choosing pictures of politicians, being recognized by them”. This already was “recognition brand awareness” and we know that this people should be also divided according time they spent in politics. To title with a symbol recognized political subjects for new entrants to politics the respondents choose

symbol of “Black Hippopotamus”, to five to ten year recognized political persons – our respondents chosen “cow”, but persons having spent more than 10 year to political scene and being recognized well, our respondents suggest picture of “Camel”, hence it is more patient. The next question to respondents was “which political subject you need to overcome economic, social, criminal, cultural problems of society?” This was already question to category need of respondents. They usually chose some well known political subjects. For such group we asked them to select pictures more closed to politicians, “just entered politics but having recall awareness”, respondents choose “White hippopotamus”, “having spent five to ten year and having recall awareness”, respondents choose “dice”, and “having spent more than ten years but having recall awareness” – respondents have chosen “chess”, hence they decided that such political subjects are very clever and experienced in strategies. The next question to respondents was “which political subjects from given you have always in your mind? For those political group just entered politics and having top mind awareness, respondents choose the face of “drowsy tiger”. For those who spent some time in politics with such status, respondents choose face of “Zorro”, but for political persons having spent in politics more than 10 years they choose the symbol “golden crown and laurel crown.

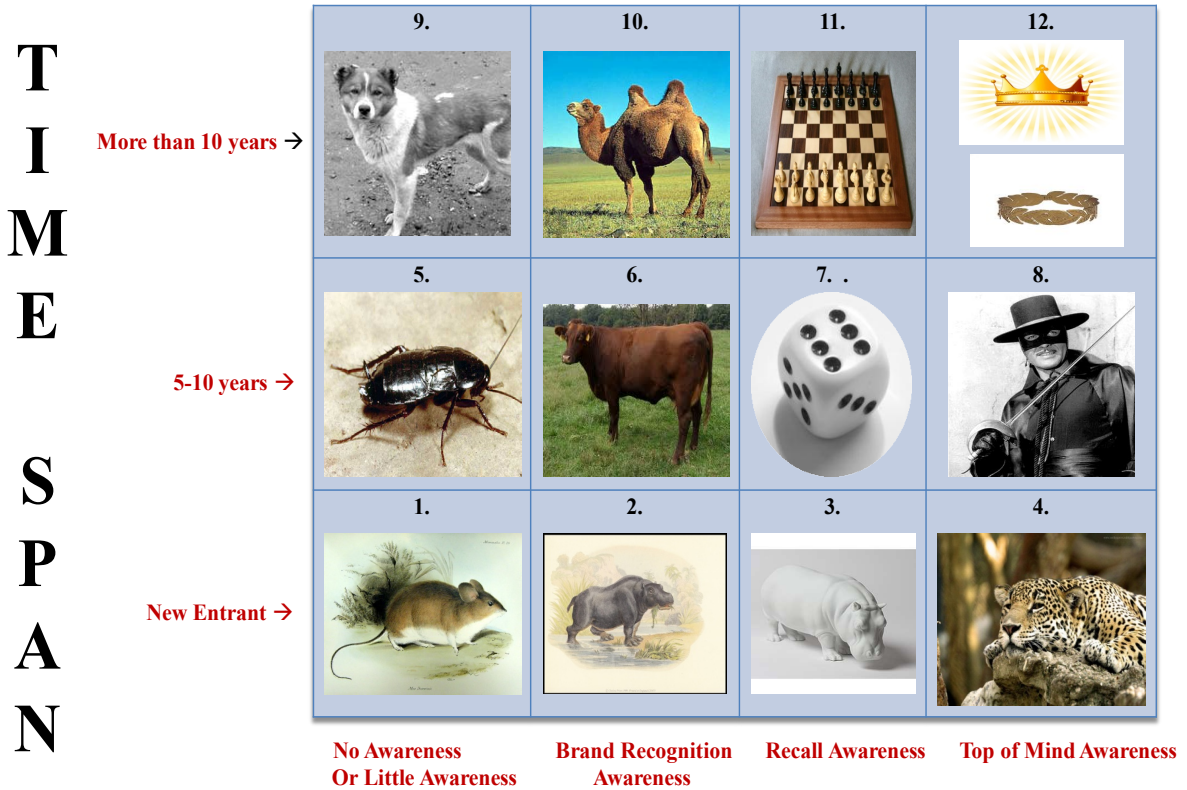
## 3. How the concept of Brand awareness should be employed by Political Marketing Management?

Having carried out above mentioned survey and shared the knowledge and advice of marketing experts, scientists, professors, and opinion of those people who have great knowledge and experience in the political marketing issues, we created the following matrix of success in political market and are pleased to suggest it to you.

### 3.1. Matrix of Brand Awareness

According the time spent by political figures in politics or in other markets affecting political decisions and awareness they built to society, we divided them in 12 different types and titled them by different names. This matrix allows us to make some suggestions to its nice players.

## Matrix of Brand Awareness as a Success Factor in Political Market



### 3.1. Matrix of Brand Awareness

According to the time spent by political figures in politics or in other markets affecting political decisions and awareness they built to society, we divided them in 12 different types and titled them by different names. This matrix allows us to make some suggestions to its nice players.

**Mouse** – A new entrant of the matrix is a beginner, which is on career path to somewhere. It should show distinguished characteristics. The political figures which are united under the image of “Mouse” need to work hard, and to show some market aggressiveness. They need to have purpose and mission. They should create themselves with their own method, use of marketing technologies is also important, and finally they must fight for gaining the place under the sun.

**Black Hippopotamus** – This is a new figure in the political market, which already has brand recognition awareness. Its appearance is really noticeable. The politicians which belong to the image of “Black Hippopotamus” have

good chances for going forward.

**White Hippopotamus** – Another political figure in our matrix is distinguished because of success in its previous business, sport, or art and this political figure achieved certain popularity in the eyes of the public. White Hippopotamus are unprofessional politicians, but noticeable persons. The Society monitors (observes) them and they really are able to achieve a great success if they set missions and purposes, and also the will to possess the whole political arena. Otherwise, they will be remained as a peaceful white hippopotamus.

**Drowsy Tiger** – Sometimes we call it newly waking up tiger. On Georgian example, such kind of personality can be well-known businessman and public figure Bidzina Ivanishvili which achieved greatest recognition because of his charitable activities. After setting or outlining their political program, such “drowsy tigers”, achieve great success in the political market, however, they have a need to overcome a resistance, due to those active politicians which see a great danger in them and they will do everything possible

to neutralizing this danger. (These opposing active politicians are likely to forget previous battles and unite to fight against him). Drowsy Tiger should understand the requirements of political market which exists in front of this figure (Tiger) and must be able to conduct a sophisticated battle against its opponents. This figure should not be deceived, because according to history, such kind of drowsy tigers don't achieve their goals in terms of wrong political management and wrong political marketing.

**Beetle** - Is a political figure with experience from 5 to 10 years. Despite its time spent in the political market, politicians under the image of "beetle" possess no awareness or little awareness. They are often associated with "beetle", because when this resident of the city appears, everyone is scared, but after disappearance everyone forgets about it. People carefully caulk cracks in order it (beetle) not to appear anymore. We would like to advice beetles to take aggressive policy on the market in order to increase self-awareness and gain public sympathy for a certainty.

**Cow** - Being in the political market for 5-10 years, this political figure possesses brand recognition. "Cow" has an opportunity to make its viewers surprise, on the one hand with its political experience and on the other hand with its feebleness. These political figures are not able to attract public attention and can't maintain this attention for a long period of time. All the time they are avoiding shows, media, and press. Often the public is unclear what they are doing. We would like to advice these political figures to take into consideration and understand that the public has tired from waiting, and they must make at least one heroic and clever job.

**Dice** - Possessing an excellent recall awareness, "dice" is in the political market for 5-10 years. When people need to get a category need, they remind about such kind of political figures. The same happens when the society needs a centrist politician with public administration and it immediately flares up their minds. You may be wondering why we called such kind of political figures the "dice". We call it because, very often, they are betting their political awareness into the failure of the government or the opposition. And such betting (in both cases) from their turn, socially damages the state and they look as gamblers in the eyes of the public. The society remembers them but they don't look at them seriously. We would advice such leaders to go away from this gambler position and use their political capital for real political purposes.

**Zorro** - this noticeable political figure is in the political market from 5 to 10 years. Everyone thinks about him and hope that he will save them; therefore, he has the image of Zorro and Robin Hood. The society expects a lot from him and over time he must show his goals to the public, identify his mission and objectives; the key is to find support, to act with maximum energy in order to achieve his goal, otherwise, on his next stage, competitors will make

him the second-class brand.

**Stray Dog** - Despite more than 10 years of political experience, its awareness is very low. Such political figure feels that it has lost a lot of time, nothing was discovered and provided in the market by this figure, and accordingly it is wandering like a stray dog. Their future is vague.

**Camel** - political figures which are united under the image of "camel" are prominent only in case if people find them with some formulated political leader or in a political group. They have great energy and political experience, but are not able and don't have skills to use this experience wisely. That's why it is necessary to use them under strict supervision and management in order to strengthen a political team.

**Chess-player** - chess-player in our matrix, is an experienced figure in political market, possesses recall awareness, but doesn't have carriage. Despite this chess player is distinguished with its clever ability to play chess. Political figures under "chess-player" image are deep-minded and possess variety of initiatives. In the free political market this figure has less chance of becoming president, but has an opportunity to become influential expert on political issues.

**CROWN**- at the Top of the Matrix is located Crown, which is submitted in two forms.

1) Laurel Crown- a political figure which is united under the image of "laurel crown" is the most recognized politician in his political segment, among right-wing politicians, left-wing politicians, or among centrists. He has ability to have great influence on the country's social, economical, or political life. Laurel crown can turn into Golden Crown.

2) Golden Crown - a political figure under the image of - Golden Crown - is a Top political governor of the country, supreme leader.

As an advice to Golden Crown, it can be said, that such leaders should finish their work with dignity, in order to turn again into "laurel crown", and to become the most esteemed political figures.

As for Laurel Crown, the figure under this image, if it has not been a top leader yet, it must once again remind its voters, about its missions and goals, organize its supporters, start fundraising very strongly, to find the money, to develop strategy using political marketing, and in case of compelling enough resources, it should have desire to turn into a Golden Crown.

## Conclusion

Having carried out above mentioned survey and shared the knowledge and advice of marketing experts, scientists, professors, and opinion of those people who have great knowledge and experience in the political marketing

issues, we created the following matrix of success in political market and are pleased to suggest it to you.

As a conclusion part of our article, we would like to say that the newly created matrix will be very effective for start-up politician, or experienced but struggling political figures who must plan their own political brand development, in order to go through all the steps that will pull them to the political arena and help them to reach higher position according our matrix.

If this start-up politician tries his best and his quest will be productive political activity, which is not limited to his career, in this case he will receive the most esteemed Honorary Award – Laurel Crown.

We assume that the matrix will be very effective and helpful for politicians for brand planning.

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# Dynamics of Globalization: Conflict or Compromise on Today's Democracies

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## Abstract

Even though we attribute globalization at the times of beginning of humankind in this study as a way to solve the problems that modernity faces, globalization related to the modern period. It has two fundamental reasons. The first reason is the ego-centered rational-individualistic and social opinion that appeared during the modernity period which was the result of revolutions of the time. These interpretations caused the crisis of unsustainable and ungovernable society in the democratic lives of societies. Globalization attempts to prevent these crisis by promoting the differences of societies. The second reason tied to this is that democratic system which has been attempted to develop from the beginning of humankind is more demanded in solving today's problems. Globalization in one hand is enhancing the participation ways by promoting pluralism in other hand it is supporting governed by the people approach that provides democracy to be sustained.

In this study the contributions of mutual global partnerships which are built to overcome the issues of the modern period in solving problems and sustaining democracy are discussed. In this extent the perceptions forms in understanding globalism in today's societies, the adequacy of civil society in solving global issues and its effectiveness in sustaining democracy are discussed from different approaches.

**Keywords:** Globalization, global problems, global solutions, democratization, civil society.

**JEL Classification:** F51, F53

## 1. Globalization: Definitions and Discussions

Globalization is a phenomenon that makes it necessary to redefine all our acquisitions and even change the definition of our developments that we gained throughout the history. Cowen who attributes the beginning of the globalization to the beginning of humankind in the world says that people's move to settled life from nomadism was out of desire to civilization but globalization is the desire to better life. Cowen points out two important factors that helped the spread of globalization to the world and he says these two factors are free trade economic system and the notion of democracy based on human rights (Cowen, 2004:194-200)<sup>1</sup>. In short globalization explains the changing face of modernity. Globalization as domestic, regional and global structural changes which construct all areas of life from economy to culture, from law to politics. Capital and labor market became widespread all around the world by the way of globalization.

Heywood describes globalization as a period and says that it is hard to explain globalization with a fact or action. Globalization explains a strategy, a period, an ideology and even a period about all areas of life. Therefore globalization is described by “unlimited world”, “bounding network relations of beyond limits”, “acts of crossing limits” and “relations on global scale” characteristics (Heywood, 2006:194-200). According to Heywood globalization which has contrasts such as localization, centralization, mono-

culturalism, homogenization is obscuring geographical borders, decreasing importance of nation-state and increasing transnational and supranational values. Globalization is deepening and spreading mutual relations and interactions on global scale with the way of bounding network relationship.

Transnationalism is a flow of people, ideas and goods among regions. Therefore it is a kind of globalized corporations such as money, information and science. It is a kind of brain circulation between homeland and their new diasporic places. It is an emigration from south to north and east to west to have a better life personally. At the same time it is a diasporic movement causing homeland technological, human and intellectual capital developments (Patterson, 2006:1891-1896). Shortly, transnationalism is a kind of collaboration between homeland and diaspora. Individuals have better conditions contributing homeland's contacts such as strategic, technological and diplomatic ways to make relationship global.

NGO's like Greenpeace, global environmental concerns are defined as transnational. Guarnizo and Smith states that transnationalism in today's global perspectives has four features as follows (Guarnizo and Smith, 1998:3-5); a.Capital globalizm destabilizing effects on less industrial countries, b.Technological revolutions on transportation and communication make nations's boundaries meaningless, c.Political discourses such as decolonization and the human rights are being universal and d.Social net-



works' expansion cause transmigration, economic organizations and politics global. The nation-states have some crises such as transnational capital, global media and emergent supra-national political institutions during globalization process. In that manner nation-states are being weakened by NGO's from above at the same time nation-states are facing many problems such as local resistances of informal sectors, ethnic nationalism and grassroots activism from below.

Held states that the idea of globalization is defined by the attributions to the end of nation-state, the death of power, 21 century's myth or the end of human kind. However he defines globalization as a two dimensional cosmic phenomena. While the first one explains local-national level, the other explains regional and global level (Guibernau, 2001:427-429). According to Held globalization affects the thoughts and lives of societies from local to nation level, from nation to global level with the way of network. Held accepts the decrease in effectiveness of nation-states but he states that it will not disappear, in contrary it will protect power with the connections of in-state and out-state groups and also it will increase and keep its legitimacy.

In addition Held believes that the cosmopolite developments and changes which we have in this globalization period will continue democracy by strengthening it. According to him the problems which nation-states can't solve or avoid solving will be done by norms of global level and institutions which institutionalize these norms. If global problems are left to powerful countries, it might deepen the imbalance in the world. Held thinks that modern states are not acting carefully in protecting human rights so that international organizations appeared such as International Criminal Court and International Human Rights Court. Therefore individual rights and duties are qualified in international level and by global communication network international institutions control nations which makes democracy live in a different dimension (Guibernau, 2001:429-431). The issues such as environmental problems, poverty and human rights violations affect all humankind. And it is too difficult to solve these problems at national level. Therefore in today's world nationalistic features of nation-states and all areas of life from ideas to real be exposed to changes. According to Held in today's world problems being internationalized and mutual international partnerships to solve these problems led us to have shared norms with global partnership governance network and cosmopolite democracy keep continued.

Mitterand qualifies 21st century as "global era" and focuses that the problems which appear in this period should be solved with the participation of developed and undeveloped countries together. Mitterand points out that to solve the problems of this age not only economic dimension should be considered but also cultural characteristics and political features should be considered. He says that help-

ing one another and mutual respect will make rich society and poor society closer. By creating economic security work performance of poor people will improve and democracy based on human rights will be sustained (Mitterand, 2003:229-231).

One of the factor of globalization is the widespread of technology. Technological developments connect nations to one another and the expansion of trade in terms of economy made production and consumption as being brands. Therefore the word globalization as "the world being a glocal village. Glocalism is a word comes from global and local means think globally and live locally. In another words some values like participation, pluralism, security, human rights and democracy are being globalized, values like sustainable development and liveable environment, participation, pluralism are being localized. If you can not any possibility to control the world then better you could control neighbourhood. Harmsworth states that glocal values are also making values global as follows (Harmsworth, 2001:4-6); The economic, political and social relationships are closer between globalization and cities. It results urban developments within the global context. There will be a dynamic relationship between cities and globalization in that local communities are becoming more important in the wake of globalization. And also human beings will understand globalization due to the urban lens in that city will be defined as mixed local and global values.

Harman thinks that in comparison of the previous social movements with the movements started in 1960s, like a "mental transformation". He states that the discussions on expansion of voting rights were speeded up in 1920s and in 1960s the discussions which were in favor of giving positive discrimination to disadvantaged groups within the society. According to Harman the period which started with 1960s youths stand against to authority created an important mentality change in the being monotypical which fills the main crisis area of modernization. The emphasis on norms and values rather than economics affected the pluralistic and different characteristics of societies. This period is a paradigm change which affects mentalities of societies. He stated that globalization is defined as the name of this paradigm change (Harman, 2000:134-135).

Heywood mentions two different ideological interpretations of globalization to have these paradigm changes. According to the positive approach (generally neo-liberal ideology) with globalization, problems will be solved and the better life conditions will be reached. According to negative approach (socialist and eco-socialist ideology) globalization has objective of solving the crisis which capitalism is facing, so that problems will be increasingly deepened. (Heywood, 2006:202-206)<sup>2</sup>. He points out that despite the different ideological approaches about globalization there is an increasing widespread globalization idea. Also he says that in solving the problems of today there is

more self sacrifice that Northern countries should commit and northern countries should be more tolerant to southern countries.

In Akkas study, he is discussing globalization from different ideologies and in today’s world which comes with the concepts neo-liberalism, multiculturalism, pluralism, localism, free trade economics, governance and network relationships expands values in societies. These values are as follows (Akkas, 2010: 3-7 and 21-23): Globalization effects people to behave harmoniously with nature to make less environmental problems. Patriarchal, oppressive and aggressive behaviours of nation-states will be softened by globalization. The acceptance of identification of cultural and identities people who are harmonious with each other will appear and people will incline to productivity and global partnerships which will share international system. So individuals will have a cosmopolite identity cause of transnational changes in the world. Hierarchic positions of people will be changed in modern societies by the implementation of idea “not to have more things, but to be more ourselves” with the help of globalization; discrimination of women, children, seniors, minorities will be eliminated. Also the consciousness will help people of undeveloped countries to think about being left behind and not having equal rights not as destiny but as exploitation and it will be educated that poverty and exploitation will be eliminated by being “yourself”. Human based technologies and cultural diversity will appear so that technological production and culture will localize. With an international governance, weapons of mass destruction will be controlled, the spread of chemical weapons will be prevented. With shared understanding the use of oceans and atmosphere, sharing of renewable and unrenowable sources and their consumption will be implemented together.

The ideology of globalization is based on the “rule of law” and “universality of human rights” principals which are the statements of neo-liberal politics. This ideology bases itself on individual freedom and predicts a pluralistic governance in which individuals participate. The expansion of neo-liberal ideology all around the world makes individuals as sovereign subjects against state. In this globalization gains the function of liberation of individuals against oppressive sovereign state (Dağlı, 1999:270). Thus global approaches which are nourished by neo-liberal values transforms conflict tendency of nation-states based on power to reconciliation with the undernational and transnational control mechanisms. In other words nation-states and its political statements to explain its conflict based “I and others” definition form which appeared in the modernization period is replacing with the greyish definition along with the global aproaches. Especially civil society is a color which makes political decisions greyish in global politics.

With weakening bipolar world order with reforms

started in Soviet Union and disarmament new world order was born based on international norms and moral standards with increasing demands to peaceful solutions. The new values interpretation is a global strategy which is spread out to world in economics, cultures, political and social life. Altan says that the new world order will grow along with a global conscience which sees all the people living in the world as neighbors and opposes any injustice wherever it was committed. Altan compares micro nationalism which was popular in the process of the new world order to a patient on a deathbed. The difference between the change of production development and mental transformation is delaying the transition to the new world order. As the given value towards individual human beings increased people will acquire global conscience and with the developments of global thought and life the world will become smaller. (Altan, 2011:145-150). The process of globalization will sustain with a conscious in which the human thought and life become globalized. The global conscious will constitute the ethical base of the new world order.

## 2. The Effects of Globalization on Nation-State Democracies’ Democratization

Globalization effects the responsibility of nation-state in many ways. Globalizational process affect social, political and institutional structures should be redefined which are appear in the period of change in societies. Regional organizations like European Union or international organizations like United Nations are increasing their strength which causes a change in the function of nation-state. The definition of democracy in national borders is to transform in to cosmopolit democracy while globalization is spreading all around the world (Held, 1996:353-356). State continues its existence by taking many elements which consist of in-state and out-state relation and interaction components. Briefly according to Held approach, economy by consumption culture, social life by network relations, communication and interaction by developments in information technology grow up. This situation differentiates the values of humankind and the functions of norms and institutional structures.

Nation-states and and its institutions which appeared in modernization period continue their legitimization policies on othering. Othering is putting individual, society and state itself on center and defining things which aren’t on the center as environment (Beck, 1999:25-26). In other words when institutions or individuals define themselves as centered they describe the remaning as others. When individuals and societies apply othering for things that are not like themselves they actually resort some ideological, religious and cultural definitions like east-west, believer-nonbeliever, secular-unsecular, right wing-left wing (Altın, 2003:2-5). Globalization can eradicate this kind of con-

trasts and can transform it to a new format in which differences can be accepted and tolerated.

Lipson states that the problems like drugs, terrorism, global warming, poverty, human rights' violations are beyond nation-states' borders. And he emphasizes that in solving these growing problems global governance based on global mutual partnerships should be built and effective decisions should be taken on the issues (Lipson, 2003:31). In addition Mandela points out that the problems such as health, nutrition, scarcity and lack of water are beyond states becoming increasingly more problems of humanity. He says that in solving these problems nation-states are most likely to follow their own national interest which causes problems become more severe. He believes that in solving these problems developed countries are the ones who are more expected to self-sacrifice; and he defines developed countries as "a pool of global light" and says that to process the global period in good health the waves of pool should spread from center to surroundings (Mandela, 2003:227-228).

Harman also points out global problems which threat all humanity such as poverty, environment, nuclear weapons, and human rights. It is difficult to solve these problems because some countries are rich, some are poor. He states that while rich countries reached better life standards and have developed technologies, poor countries are struggling for survival and this situation also means that the mutual partnerships to solve problems will not be effective as it is expected. Because both sides will provide more sources for armament for security of their countries. He points out that it is globalization of values which lay under the globalization of problems and says that in the world any kind of value being evaluated like material goods and societies becoming consuming bunch of people states will not self-sacrifice themselves for goodness of others (Harman, 2000:129-134). Without an ethic rooted, the mutual and participatory cooperation of societies on international level which are presented will not be enough in solving the problems that human being faced. International law is not connective to globalizational process. For example the decisions reached during the meetings of international organizations could bring an ethic responsibility among nations producing international norms. Therefore universality of law in the resolution of global conflicts by pointing out that without the globalization of law, global governance will never occur.

Cassese states that the global law will occur because communication is causing to understand problems, differences of any society are applied to resolve by global networks, democracies result in democratizations of societies by global instruments and the relationships between civil society and global institutions are strengthened by global governance. All these changes from local to global make development of global legal order (Cassese, 2005:989).

Moreover Cassese discusses global process is not continuing symmetrical. It is a relationship between glocal and global. As a glocal sense the states have still sovereignty but the nation-states are being transnational at the same time as a global level (Cassese, 2005:974-977). Global paradigms, institutions, governance, partnerships, networks make law global based on universal rights of human beings.

### 3. Civil Society's Contributions: From National to Global

New developments in the communication technologies strengthened the network and communication among people. With the help of networks the interactions among people are increased and as a result de facto global civil society became appeared. The universalization of human rights is strengthening the globalization and weakening the nation-state. As the relations between nations gain international character norms and values will contribute the creation of the supranational law. Civil society has an important role in democratization of the state and the spreading of the process of globalization. Civil society prevents the despotism of the government (Keane, 1988:79-81). In current times the disappearance of bipolar world order made the United States the only superpower of the world. Globalization is setting the global order. The universal values will be carried from individual to society and to humanity by the global conscience. As being the global ideology of the humanity, pan-humanism will become a shared value of the humanity via global civic networks (Altan, 2011:143-150). In short, it can be said that as the power of nation-state is shared with civil organizations in the process of globalization, the global world order will be founded by the global conscience from individual to global.

The global civil communities have achieved different levels of expertise due to the lack of relations with local or central channels, their volunteer status, and their ability to organize depending on their self-determined goals. Today global civil communities through networking strive to protect the universal gains of mankind from the local to global level. They also work to sustain democracy by creating equal opportunities for children, women, ethnically and religiously diverse or disadvantaged groups (Lytle, 2001: 121-122). Civil society is filling the space from local to global where the influence of nation-state is diminished and today it is gaining a global character via global networks. Here, the fundamental problem regarding civil society is that since the activities of civil society are quite complex the legal responsibility of their actions couldn't be defined. In addition, because the network relations of civil society are not known the relations between the activities in the society and state are problematic.

For example today's civil society is defined as being

nongovernmental voluntary organizations which have network relations from local to global. Volunteer organizations exist since the states appeared in the world scene. Today, the volunteer character of civil society is controversial when it is evaluated in terms of its variability, activity, and ability. Civil society being voluntary is possible if it has an intermediary role between citizens and the state and it contributes to solve the problems with the state (Hablemitoğlu, 2004:143-145). However as the size of the civil society increases its political influence gets increased and as it becomes a global actor it might have negative effects on democratization of the state and civilization of national actors.

## Conclusion

It can be stated that “first human being in moon”, “the discovery of America”, “Westphalia peace treaty”, “communicative revolution” and “World Wars” have important impacts on lives and thoughts of humankind. There is a mutual interest-information concept and people’s responsiveness is improved to the areas such as education, business world, religion, security and health which are important for lives of all in the last quarter of 20th century. To compare with past, this new situation can be called as a new era, a new social mentality, a global think and lives. It means that globalization as a mentality that reforms the world and by the way of globalization societies are faced with the structural change.

Human being is faced many problems such as environmental pollutions, terrorism, ungoverned of institutions, global partnerships and globalization is being an inevitable process for mankind to solve these problems as socially, physically and historically. Especially free trade and democratization of democracy (based on human rights and freedoms) spread globalization in all over the World. Globalization process can be discussed to support by liberal and neo-liberal ideologies with the help of global tendencies as United Nations, Organisation for Economic Co-operation and Development and World Trade Organisation. It can be true for today but will not be for tomorrow. In today’s world networks are highly developed supporting many different kinds of knowledge to people in which they are interrelated and interconnected. So ideologies and peoples’ self-interests are changed by universal values and rights. Moreover pluralism and panhumanism give rise to global conscience which make individuals and societies act and react according to universal rights and values without looking at ethnic, religious or self-interest personalities. As universal conscience increases, individuals and peoples of all over the world would try to feel and think the same as human being to solve problems together.

Globalism has effected to change nation, nation-state and traditional life of people from local to global by estab-

lishing global networks. Especially the reflections of global trade trends have effected bipolar world to be multipolar in which a new world order will never be established by one or two dimensions. The establishment of the new world order has two requirements to pass traditional habituation of individuals, societies and nation-states. One of them is to have universal norms and values according to democratisation of the world and secondly mentality of individuals has to change to a new way of thinking and life. It is stated that as democratic values are spreaded, panhumanism would help to develop a global conscious of individuals to make partnership by networks causing a better world to live together.

Human being is to realise the global problems. Different people with different regions of the world are coming together to discuss and think to solve problems that effected all over the world. Many transnational and international civil organizations are interconnected and many different kinds of partnerships are being established by networks. All these local, national, transnational and international connections make individuals, social groups and societies together to solve problems cause of global conscious. Panhumanism with universal norms and values make people to motivate to develop cosmopolitan democracy as universe.

Individuals’ and societies’ are greying by the new world order. Global order will be established by the partnership of mankind’s justice values and norms. Global conscious will be consisted of trust, candour, honesty, respect, reciprocal, tolerans, democratic belief, agreement, compromise, justice, equality, freedom, sanity, giving aid, comfort and empathy. Global ethic is multicultural. Individuals will not be defined by religious, ethic or nationalistic nature. They will have different preferences by belonging the Universe in which the person will be defined as cosmopolite individual.

Global society will have good governance. Good governance will become true from local to global by the cooperations and partnerships of states and networks such as non-governmental organizations, international and transnational organizations. Global society will be established between the governance of multi-dimensional civil organizations and national, transnational and international states. Nation-states’ roles will be changed in global order. Global governance from individual to society will have “think global, live local”. Leaders, rulers, administrators, governors, directors or officers will have not the imperious and oppressive characters but rather they will have more softened and persuasive characters. Decision making will be at global hand in which every part of global society will participate or at least participants will decide not to their wishes but to their global conscious based on panhumanism. If any state or civil society will react to global partnership then it will be called as inconsistent by global

order and by conscious of mankind. Therefore from local to global, from individual to society there will not be occur being othered. Having known human history, our hopes will more on compromise to establish a universal order with a global ethic.

## Notes

1. In his piece Cowen states that ideological, religious, ethnical expansionist conflict areas which happened in the period between 1850-1950 replaced with new world order after 1950 period; and in this period practices such as mechanism of free market, competition, investing to consumer products weakened the tendency of states to central planning and brought societies closer to each other. Cowen who says that the background of these developments are constituted by Marshall aids, petroleum in Islamic world, and attaching importance to consumer products regarding to improving life standards throughout the world states that with globalization of "...things" hopes to civilization are born; however tensions experienced are threatening the construction of global governance.
2. At the bases of socialist critics about globalization it is seen that "capitalism is legalizing and universalizing colonial relations". In this period losers are poor people; however winners are people who make decisions on economics (rich). While economic power is being globalized politics is being localized so all acquisitions of democracy will be disappeared. Global capitalism is being sustained by international organizations and civil society and being legalized by global governance. State which is weakening in national level is losing its all areas by opposing global capitalism. These lived progresses will bring global catastrophe. This is a natural disaster created by hands of people.

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## New Trends of management of European SME's. M-C Model.

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### Abstract

Business has undergone unprecedented changes over the last twenty years and these changes have significantly influenced corporate management processes. In many cases, time-tested principles turned into mere words. Planning and risk management systems that had been successfully used for years stopped working. Models that have been working for decades are failing not because they are inherently flawed, but because they cannot be applied in environments characterised by extraordinary changes. The fall of totalitarian regimes, the development of “third world” countries, new technologies and means of communication, affordable intercontinental transport, European economic integration and the consequences of the biggest economic crisis in recent decades have completely changed the established company management processes.

This article offers the readers a complex and interdisciplinary view of company management based on management theory, hands-on experience, managerial accounting and human resource management. Company management is perceived as a logical and cross-sector interlinked company process based on the M-C model, which is applicable in this form in most small and medium-sized companies. The aim of the article is to clearly explain basic company processes in small and medium-sized companies based on management and controlling and to describe their significance and interrelationship.

**Keywords:** Strategic planning, Operational planning, Controlling, Risk, M-C model, SME's.

**JEL Classification:** M 21

### Introduction

The M-C model is based on the fact that the basic management processes of small and medium-sized companies must be designed in two interconnected areas - management and controlling. Management is perceived as plans, targets, researches, missions and visions. Controlling is described as continuous monitoring and evaluation of targets, identification of deviations and proposals in the form of risk management. Management and controlling must be understood as decisive management activities (Havlíček, 2011).

Planning and controlling are very interconnected activities that have to be understood within the framework of the company management concept, not as independent and separate activities of the company departments. Orientation on long-term and short-term targets is the basic step towards successful company management. However, without good and timely suggestions, checks and searches for alternative solutions, this subject is exposed to risk. Determining measures to eliminate a problem means intensive interconnection with creation of operational and strategic plans. It is a closed process, in which the success of the entire company is significant, not just of the company department. (Havlíček, 2011). The ability to manage these processes means understanding the principle of company management.

It is a common managerial mistake to prefer soft skills to hard skills. Both approaches should be well-balanced

in practice. An unusually strong competitive environment shows that marketing, innovation and human resources management become decisive company activities. However, the world crisis clearly showed that business is especially about company economics, results, specific numbers and about the ability to react to changes in time and to indicate and manage potential problems expressed in an exact way. Knowledge of the market, competent employees and innovative abilities are of no significance if the company does not generate sufficient cash to cover at least its operational needs.

### 1. Strategic Management and Planning

To create a business strategy is a key managerial act resulting from proprietary objectives or the ambitions of owners and has a decisive influence on the determination of future position on the market. The strategy is the pillar for all other decisions, planning and implementation of operational targets<sup>1</sup>. Strategic targets are superior to all activities and internal company units and are the basis for operational plans and concepts of individual company units - departments, divisions or sections. The sales, marketing, finance, quality and innovation departments or the human resources department, for example, shall base the determination of targets and plans on the business strategy and objectives of the individual company units whose targets must be adapted to the main company strategic targets.

Every company must be able to define WHAT its

position and targets are (corporate strategy), while it has to respect the ambitions and requirements of the owners and involved parties (ownership strategy). Every business strategy defined at the level of top management makes sense only if it is transferred to the level of the individual departments (business, finance, marketing, production, innovation, etc.) and the long-term position of these departments (managerial strategy) is determined (Mallya, 2007; Kašík, Havlíček, 2009).

The main output of company strategic management is creation of a strategic plan. It describes the position that the company will be in several years down the line (Havlíček, 2011). It informs us about its vision, mission and suggests ways to achieve long-term targets. It is a big managerial mistake to believe that determination of the long-term direction of the company is a marketing practice good only for an annual report, a company profile or a trailer on the corporate website. Its importance goes beyond the various departments in the company. It is an indicator for many involved parties and stakeholders. It communicates with its environment and informs employees what they can expect from the company as a whole (Kašík, Havlíček, 2009).

### **Importance of strategic planning**

#### ***Basis of operational plans***

Any further operational planning (short-term sales, marketing, finance, innovation, human resources, production plans, etc.) are based on long-term management of the company, i.e. the strategy.

#### ***Owners***

Most owners, if not members of the management teams, usually do not monitor every step of the company. They usually focus on achieving long-term targets respecting their own ambitions and requirements.

#### ***Potential investors***

Many investors prefer long-term or at least medium-term effects from companies where they have placed their capital. Defining the management and their ability to defend the chosen strategy is one of the indicators for the final decision whether to invest in the company or not.

#### ***Banks***

The bank acts as a long-term investor. It provides the long-term loans, usually associated with investment activities of the company, due in several years, and requires from the client a strategic view as the first document to decide whether to grant credit or not.

### ***Existing employees***

Managers must be able to tell employees at all levels what the targets of the company are, what they can expect and what perspective they have. If you want to retain competent employees, you must be able to share with them what opportunities they will have in the company in the future. This is not possible without discussing the future position of the company.

### ***New employees***

In the past, the main concern of candidates used to be salary. Nowadays, however, the higher the position in the hierarchy of the company, the more candidates are interested in the opportunity for professional or career growth and the direction of the company as a whole. But this does not apply only to managerial positions. The better able we are to explain to employees the direction of the company, the more confidence they will have in it.

## **2. Operational management and planning**

When the general direction of the company is set, it is necessary to prepare the operational steps for implementation of interim, short-term targets. We do this through individual operational plans. It is usually prepared in the form of marketing, sales, financial and innovation plans or production and quality control plans, etc. Operational plans are fluid and are necessary for preparing financial budgets. They are usually prepared for one year (they correspond to the financial budget that is usually also prepared for one year) and they include measurable and clearly specified objectives corresponding to the department in which they are elaborated. The most important part of operational plans is a clear description of how to achieve the targets. We use tactical operational management tools such as marketing mix, quality policy, incentive systems or human resource management. Operational plans are the basis for the creation of the annual financial plans: revenue-cost (P&L plans), income-expenditure (cash flow plans) and the balance sheet plans. Managers of the individual departments are responsible for the above-mentioned plans. The connection to strategic targets should be given by the fact that the same managers are preparing the company strategy in teams.

The operational management, however, does not include only creation of plans, but also analyzes the individual departments on the basis of detailed macro environment, micro environment and internal environment research (Kotler, Armstrong, 2004). The time sequence is such that the environmental research is followed by an analysis of the department and then by the operational planning.

The operational plan usually includes determination

of targets, description of realisation of targets and implementation of control tools (management process gradually passes into the phase of controlling).

Importance of operational planning

Basis for creation of financial budgets

All operational plans (especially sales, production, innovation) create a basis for decisive operational plans of the company, which are financial plans, i.e. budgets.

Basis for purchase and production planning and other operational activities

As it is necessary to support budgets with other operational plans (sales, innovation, etc.), it is also important to interconnect them with the planning of business activities of individual departments. Preparing a production plan without a sales plan is as impossible as, for example, planning the purchase of raw materials several months in advance (which includes the purchase plan). On the contrary, a sales plan cannot be prepared without research and marketing plans.

Banks and other providers of working capital

Operational plans, particularly financial and sales plans, are the basic documents for negotiations with banks about conditions related to operational (short-term) loans. To approve the loans banks usually suggest so-called financial indicators based on the submitted plans that are necessary for renewing loans. The same system also exists in factoring or leasing companies.

Wider business area

The implementation of operational plans has a considerable marketing effect. Competitors, employees, the

media or various providers of sponsorship and donations watch very carefully what the position of the company is, even in the short term. For many, the company becomes a model within the benchmarking activities (inter-company comparison of key indicators); for many, the data are crucial for other business or media activities. The company writes its business card and it is necessary for the company to be able to properly comment on its results (positive or negative).

### 3. Controlling

In order to properly understand the nature of controlling, it is necessary to understand the link between strategic planning, operational planning, evaluation and risk management. Management activities depend on determination of the strategy (in the form of a strategic plan), followed by operational plans (marketing, sales, financial, human resources, innovation, etc.). Control of future deviations from the targets is the responsibility of the controlling departments (sometimes belonging to the the financial department) that in small and medium-sized companies are usually responsible for risk management arising from discovered discrepancies. Given that the plans (strategic and operational) must have defined objectives, controlling is also aimed at detection and subsequent elimination of deviations of specific strategic and operational targets. The links between strategic and operational management, controlling and risk management are expressed in Figure 1 (Havlíček, 2011).

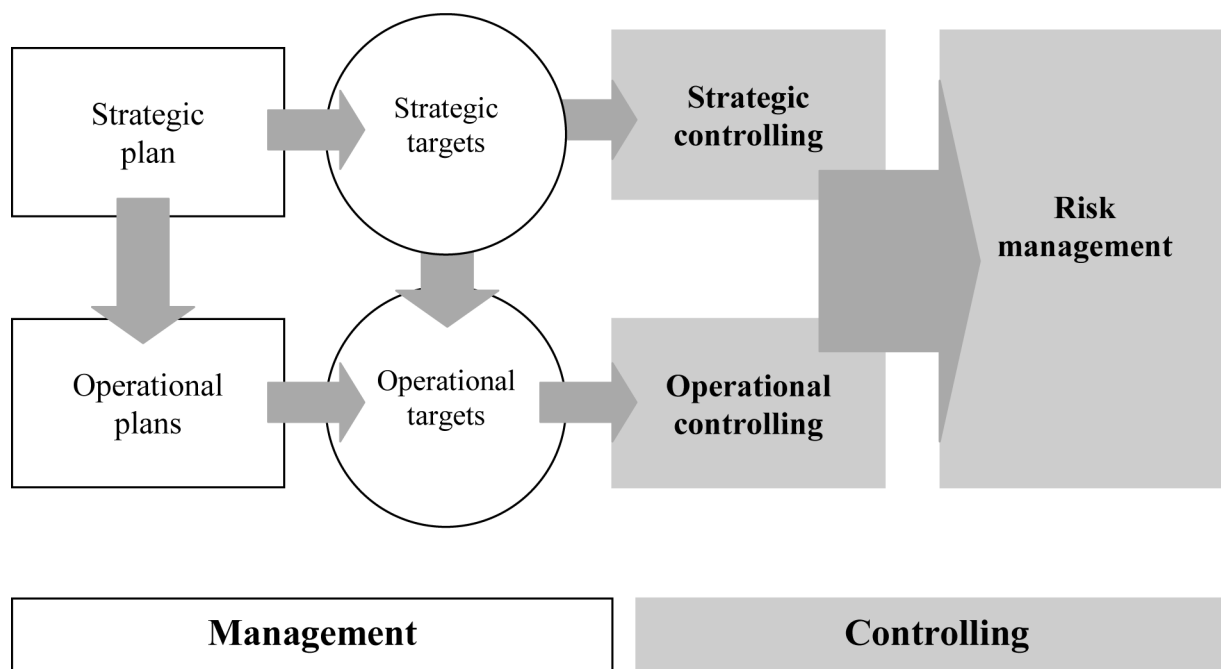


Figure 1. Business process management – relationship between management and controlling



In procedural management the first part of planning is usually called “management” (the white diagram in Figure 1) and the second part of the targets evaluation and risk management is called “controlling” (dark diagram in Figure 1). In the first case, it is management of the operational and strategic plans, targets, missions and visions, while in the second case, we perceive the proceedings more like monitoring, finding deviations, suggesting measures and elimination of problematic and critical situations.

The basis of controlling is therefore a comparison of the results actually achieved by planning, research, and subsequent settlement of deviations (Král, 2010). It has to determine priorities in order to solve a problem that prevents the company from achieving strategic or operational targets. It is oriented to the future. It is interested in the past in particular in the cases that provide incentives for future proceedings (Král, 2010). Depending on the future time and depending on the nature of the targets we distinguish the operational and strategic controlling.

### 3.1 Operational controlling

It is focused on the operational plans in term of 1-3 years and focused on operational planning, control and evaluation of indicators of the financial analysis based on the short-term plans of revenue-cost, income-expenditure and balance sheet items. Usually it is evaluated on the basis of quantitative parameters (Havlíček, 2011).

Operational controlling in small and medium-sized companies is linked to the fulfilment of the basic short-term targets with a direct impact on the financial indicators. These are set by the financial department or are based on the requirements of the bank that determines them as the financial indicators for operational loans. Ironically, in the absence of operational controlling in small companies this role is taken over by the bank giving the credit and it continually draws attention to unfulfilled key financial indicators. The failure of sales, marketing, production or other operational activities results in unfulfilled basic financial indicators. Measures must therefore be directed primarily to those departments. The progress of the operational controlling is described in Figure 2.

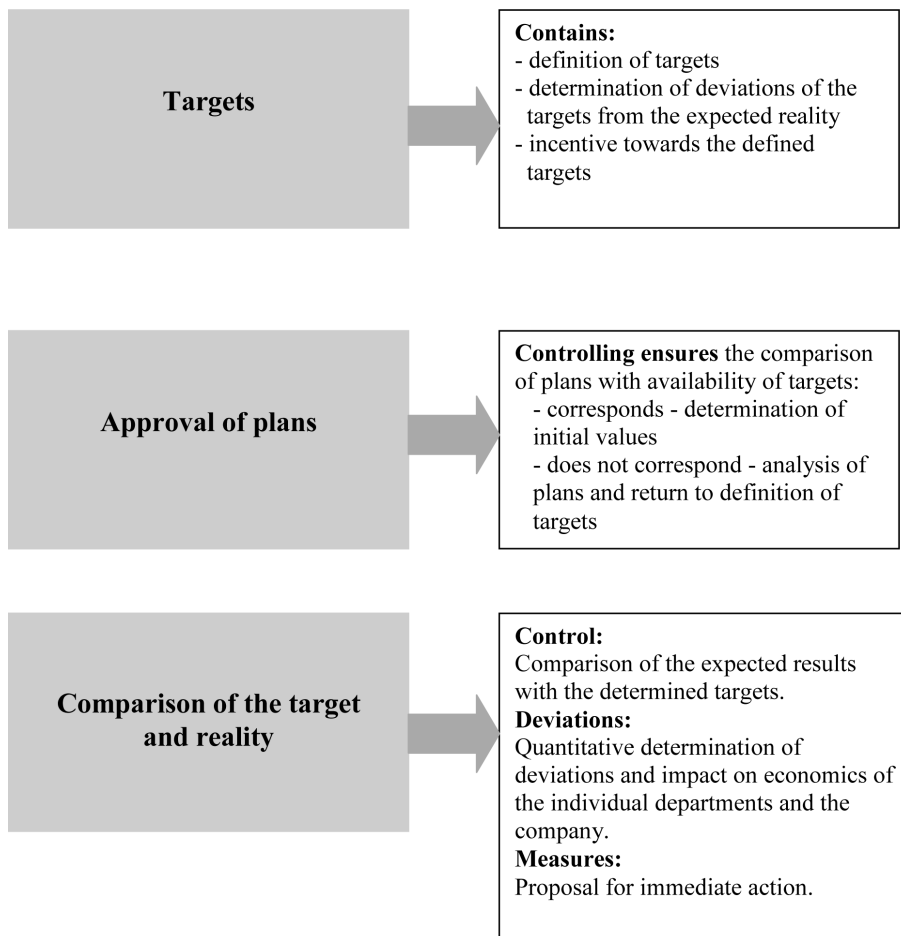


Figure 2. Operational controlling



### 3.2 Strategic controlling

The basis for strategic controlling is a strategic plan and strategic targets. Its main task is to maintain the long-term stability of the company. Strategic targets are evaluated more on the basis of qualitative parameters and only partly on the basis of quantitative parameters (Havlíček, 2011).

The benefit of strategic controlling is not immediately recognizable; however, it has a significant impact on the long-term operation of companies. Its under-estimation or failure result in long-term disruptions that often end with restructuring or cessation of the company. Failure of the strategic targets may not be seen in the first phase (we discuss a period of a few months to two years). Every company has a certain inertia, in the framework of which it still functions, although the subsequent failure of performance (loss making), followed by a lack of cash, and in the final phase a loss of confidence, are typical signs of the crisis that was preceded by the failure of strategic vision and long-term targets. The detection of these disorders is one of the greatest skills of modern controlling and only experienced managers who understand the importance of strategic planning can detect them. The procedure of strategic controlling is expressed in Figure 3 (Mikovcová, 2007; Havlíček, 2011).

### 4. Risk management

In general, a risk can be understood as a danger that all achieved economic results of business activities will differ from the results anticipated, while exceptions may be desirable (towards the higher profit) or undesirable (towards

the loss). Risk management, however, is not only the responsibility of financial managers but depends – as well as controlling – on all company departments and units. Risk management can be understood as a consequence of the individual controlling activities that should in the final phase provide a solution (Havlíček, 2011). The main managerial activity in risk management is identification and subsequent business positions, expressed in the risk plan. Briefly speaking we can say when there is no failure of performance due to non-fulfillment of corporate plans, it is necessary to systematically prepare the company for the negative situations which may arise. However, when there is no immediate danger, the company can prepare in a more cost-effective and efficient way for a crisis than when performance and liquidity fail. It is necessary to distinguish the strategic and operational risks and work with them across the various departments (we recognize and classify the risks at the level of marketing, finance, sales, innovation, personnel or, for example, production). Elimination of the negative scenarios means understanding the complex business process management, not only the financial models. Every risk must be quantified on a financial level; however, we need to manage them across the company and risk management must not be confused with the management of financial risks.

Risk management is expressed by the risk management plan and is based on deviations set by the controlling and identification of risk factors. It is followed by determination of their significance, evaluation and adoption of measures. An essential part is preparation of the plan of correction measures. A possible procedure for preparation of the so-called risk plan is expressed in Figure 4.

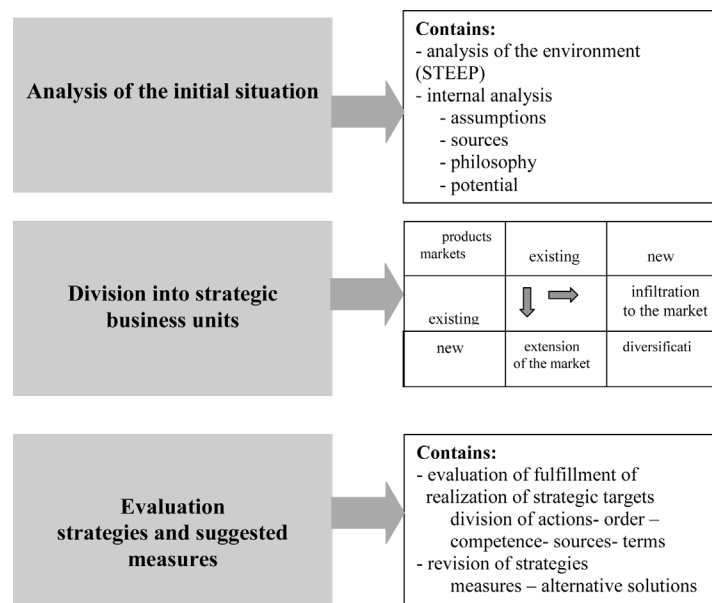


Figure 3. Strategic controlling

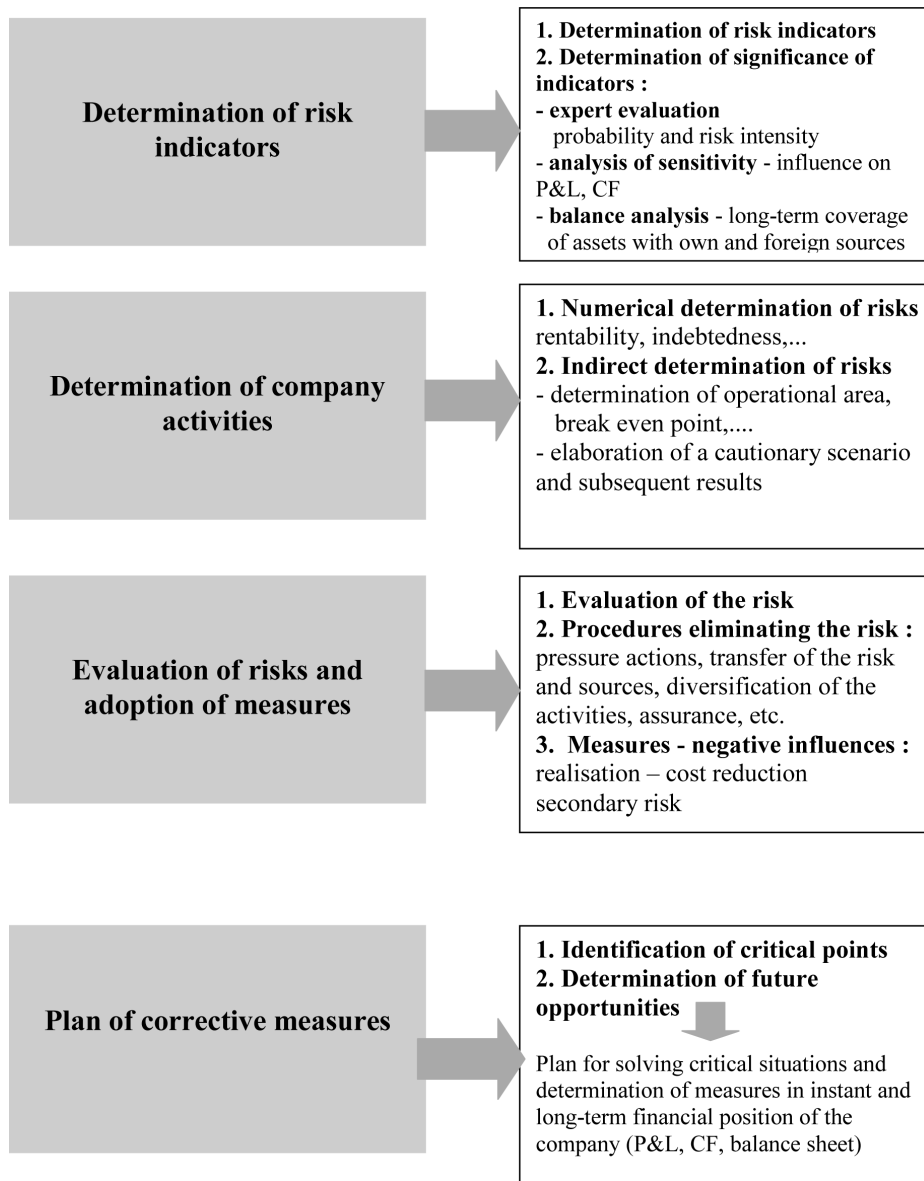


Figure 4. Risk management procedure (Havlíček, 2009)

**Conclusion**

If we can differentiate and organize strategic and operational planning activities in the company, and if we understand the concepts of controlling and risk management, the nature of the entire process of management can be outlined.

Process management based on the M-C model<sup>2</sup> can be defined as the Management Control System that includes a comprehensive view of management on the basis of management accounting, management theory and personnel management. This is an interdisciplinary management system where the individual processes are not the most important ones. The most important thing is to understand the

management of the company as a whole, mastering management and controlling tools and understanding that a successful company can only work if we can grasp all of its processes and we understand how they are interconnected.

A detailed model of process management based on the M-C model of all relevant departments of the company is described in Figure 5. It should be the basis for the management of the majority of small and medium-sized companies, both in the period of their growth, and in times of crisis. A balanced approach based on management planning (soft skills) and strict controlling (hard skills) gives small and medium-sized companies the chance to survive in a hyper-competitive environment (Frame, Barnes, Edwards, 2001) with long-term competitiveness.



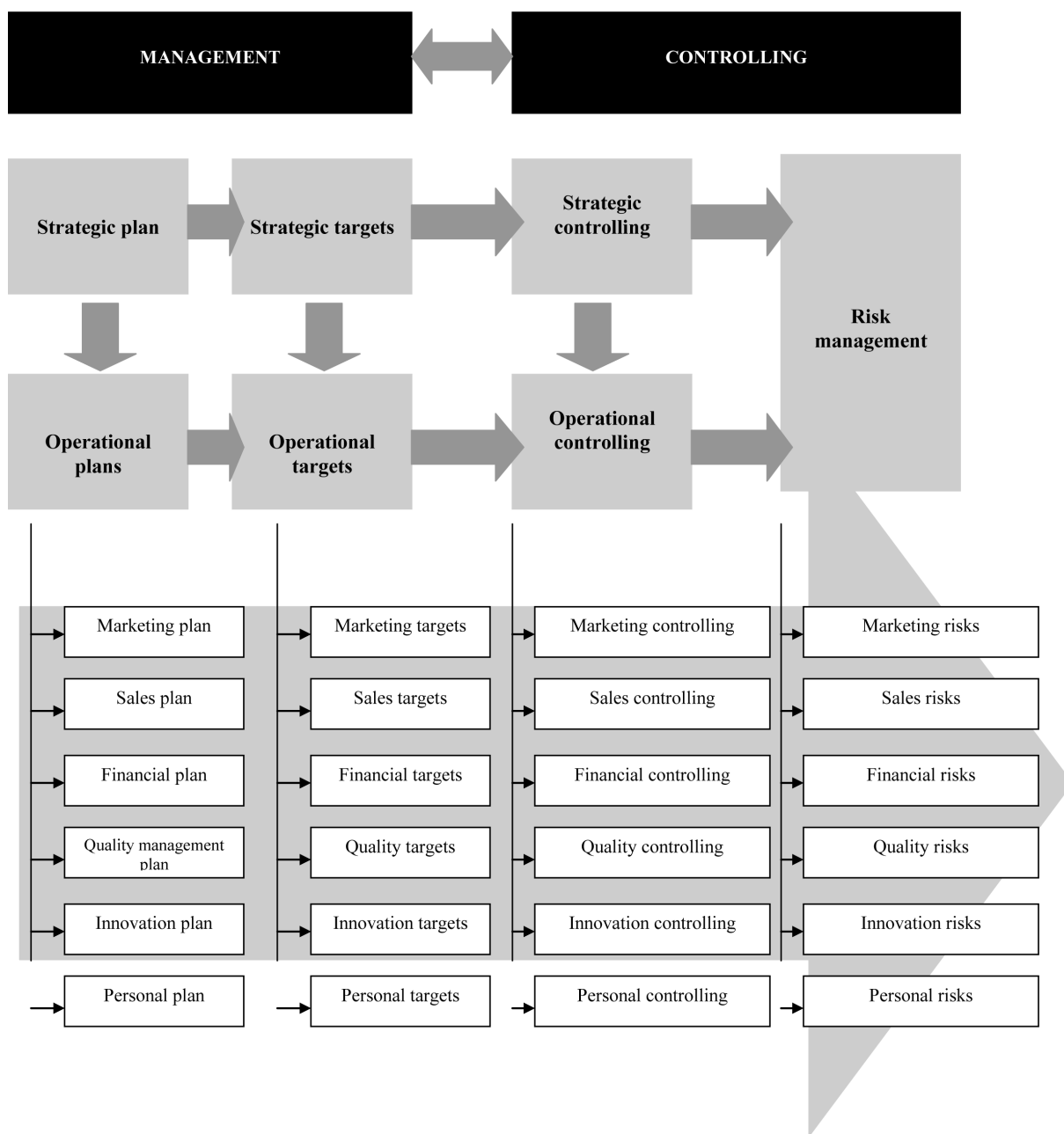


Figure 5. Detailed model of business process management

## Notes

1. Plans in small and medium-sized company can be divided between strategic (long-term) and operational (short-term). Operational plans, however, must be considered as a part of management accounting that may be based on defined balance sheet items and valuation procedures. From the point of view of management of small and medium-sized companies it is very important because the core of operational management should focus on measurable results that should be expressed both in volume and value.

2. The author of the article has been interested in process management for several years. The term "M-C process management" was at first used in the publication of Havlíček, K. (2009) *Role of Managers in Company Management* Eupress, Prague. Originally, the author was interested in the M-C model (Management-Controlling) of small and medium-sized companies in terms of competencies and responsibilities of managers of individual sections, while the process model has been perceived only from the point of view of planning and evaluation of targets. Later the author added the model for controlling and active management and he described in details the model entitled the M-C in the publication Havlíček, K. (2011), "Management & Controlling of SME's", Eupress, Prague, where was introduced complex business process management based on management and controlling balance and an interdisciplinary approach to management.

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# Towards Global Business Ethics: A Comparative Review on Converging Business Ethics Theories and Practices

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## Abstract

In this study, business ethics theories are reviewed comparatively. Similarities among these theories and their practices in today's world are highlighted and probable reasons for the convergence between these theories and practices are sought; especially between those of secular business ethics and business ethics of various religions.

Outline of the article includes definitions of terms related to business ethics followed with an introductory section explaining the need for business ethics with recent cases from the business world. Business ethics as it is perceived by the employee, employer and the customer in the contexts of organizational commitment, job satisfaction, turnover ratio, customer service, cost of business ethics, having sets of standards in the international arena, etc. is described. Business ethics codes of today's world are listed and approaches to ethical standards are discussed, e.g. no standards or relative ethics, standards as intuition, standards as law including religious ethics, standards as pleasure, standards as determined by evolution, standards as perfection including Kantian ethics and Universalism, and standards as values including Utilitarian Theory. Organizational and individual factors affecting business ethics practices are reviewed and detailed via practices of secular business ethics and various religious business ethics primarily via the cases of Corporate Social Responsibility Theory and religion of Islam. Lastly, factors that encourage ethical practices are listed of which education is being the main area of focus in terms of ways to incorporate business ethics into the curriculum, content that ought to be taught and effective ways of teaching this content.

**Keywords:** ethics, ethos, morality, kickback, fraud, nepotism, turnover, stewardship, virtue, sustainability

**JEL Classification:** F01, F59

## 1. Definition of Terms

The word “ethics” is derived from the Greek word “ethos”, which means the character, spirit and attitudes of a group of people or culture, while the word “morality” has a Latin origin. Traditionally both terms referred to customary values and values of conduct as in “cultural ethos” and “social moves” as well as insights about what counts as human excellence (Abdul Rahman, 2003). Combining the two words, Webster defines ethics as “the discipline dealing with that which is good and bad and with moral duty and obligation” (Fulmer, 1978). Thus, ethics may be defined as the set of moral principles that distinguish what is right from what is wrong. It is a normative field because it prescribes what one should do or abstain from doing (Barney and Griffin, 1992).

Very often, ethics is concerned with good than with bad. More broadly, ethics may be defined as “that branch of philosophy dealing with values relating to human conduct, with respect to rightness or wrongness of certain actions and to the goodness or badness of the motives and ends of such actions” (As cited in Ethical Problems of the Association Executives, 1972)

According to Ferrell & Fraedrich as cited in Bateman & Snell, 2002, an ethical issue is a situation, problem or opportunity in which an individual must choose among

several actions that must be evaluated as right or wrong (Bateman and Snell, 2002).

Business ethics, sometimes referred to as management ethics or organizational ethics, simply limits its frame of reference to organizations.<sup>3</sup> Business Ethics is the branch of ethics that examines ethical rules and principles within a commercial context; the various moral or ethical problems that can arise in a business setting; and any special duties or obligations that apply to persons engaged in commerce. Generally speaking, business ethics is concerned with the study of what is good and bad, right and wrong, and just and unjust in business (Beekun, 1997).

## 2. Practical Reasons to have Codes of Business Ethics in place:

Individuals face ethical issues at work every day and they rarely know how to deal with them<sup>3</sup>, which necessitates business ethics. A series of articles published in the Wall Street Journal during only one week in 1991 uncovered a whole array of issues being faced by employees: stealing, lying, fraud and deceit, which are usually displayed in following ways (As cited in Life of the Wall Street Journal, 1991);

- Receiving or offering kickbacks; bribery



- Stealing from the company
- Padding expense accounts to obtain reimbursements for questionable business expenses
- Divulging confidential information or trade secrets
- Using company property and materials for personal use
- Conflict of interest; e.g. personal with that of company's.

One of these surveys with 1400 working women revealed following ethical issues7;

- Managers lying,
- expense-account abuses,
- office nepotism (favoritism based on family relationship),
- taking credit for other's work

And another one to determine the areas where the incidences of unethical behaviors occur revealed the following data (As cited in *Life of the Wall Street Journal*, 1991);

- Government: 66%
- Sales 51%
- Law 40%
- Media 38%
- Finance 33%
- Medicine 21%
- Banking 18%
- Manufacturing 14%

Another survey with 2,000 major US corporations revealed that the following ethical problems concerned managers in the descending order of priority (As cited in *America's Most Pressing Ethical Problems*, 1990);

1. drug and alcohol abuse,
2. employee theft,
3. conflicts of interest,
4. quality control issues,
5. discrimination in hiring and promotion,
6. misuse of proprietary information,
7. abuse of company expense accounts,
8. plant closings and lay-offs,
9. misuse of company assets,
10. environmental pollution.

A study by Baucus & Baucus revealed that 67 companies out of the Fortune 500 had at least one illegal act, e.g. antitrust, product liabilities, discrimination (Baucus and Baucus, 2004).

Internationally, the ethical values of businesses are also deficient. In a survey with 300 companies across the world, over 85% of senior executives indicated that the following issues were among their top ethical concerns: employee conflicts of interest, inappropriate gifts, sexual harassment, and unauthorized payments (Baumann, 1987).

Usually the language of ethical lapse correlates itself with the following statements (Marianne, 2008);

- Everybody else does it
- If we don't do it, someone else will
- That's the way it has always been done
- We'll wait until the lawyers tell us it's wrong (What's legal may not be ethical)
- It doesn't really hurt anyone
- The system is unfair

Thus, the need for business ethics arises since laws are insufficient and do not cover all aspects or gray areas of a problem and free-market and regulated-market mechanisms do not effectively inform owners and managers about how to respond to complex crises. Therefore, business ethics became an important aspect of business recently and it is becoming more important with the effect of globalization which is driving companies also to become global, which usually means to get bigger and more international involvement creating the need to have a set of standards so that the business can be effectively managed and run and business ethics that is based on a globally accepted standards make everybody's job easier as in the case of a number of renowned companies like IBM, Hewlett-Packard, J. C. Penney Company, Johnson & Johnson, Aetna Life and Casualty, Prudential Insurance Company, Xerox Corporation and many others have noticed that their profitability and market shares keep on increasing due to their consistent resolve to encourage and follow ethical practices in their organizations (Shah, 2001). Another indication is that it has been reported that work ethics commanded higher priority than skills in hiring among employers since the early 1990s (Flynn, 1994).

From the perspective of employees, research has shown that work ethics is also related to organizational commitment (Yousef, 2001; Kidron, 1979; Peterson, 2003) and to job satisfaction (Yousef, 2001; Koh and Boo, 2001; Viswesvaran and Deshpande, 1996; Vitell and Davis, 1990).

Combining the perception of both the employer and employee on the issue of business ethics, studies showed the negative relation between work ethics and turnover intention. Sager et al suggested that turnover intention is a mental decision intervening between an individual's attitude regarding a job and the stay or leave decision (Sager et al., 1998). Turnover intention refers to the three elements in the withdrawal cognition process (Miller and Mobley et al., 1979):

- the thinking of quitting,
- the intention to search for another job elsewhere and
- the intention to quit

Employees who perceive their organizations to be ethical are likely to perceive their organization as being fair to them. Thus, in turn, this is likely to enhance employee

job satisfaction and organizational commitment, and also decrease turnover intention (Koh and Boo, 2001).

From the aspect of the employer, unethical business practices also have proven to be costly in the long run as observed in the following examples (Baucus and Baucus, 2004);

- Food Lion and labor violations
- E.F. Hutton and its fraudulent activities
- Enron
- WorldCom
- Martha Stewart

In all of these cases, companies had to pay fines or have suffered bad publicity.

When the performance of the 67 convicted Fortune 500 firms that had at least one illegal act, e.g. antitrust, product liabilities, discrimination were compared to unconvicted firms five years after the fraud was committed, it was found that convicted firms experienced significantly lower return on sales resulting in a three year lag. Multiple convictions were found to yield even more disastrous results; all indicating that unethical activities affect long term performance (Baucus and Baucus, 2004).

Business ethics within the context of customer service is also very crucial. Based on the research by Dubinsky et al. in 1991 and by Futrell in 2002, unethical sales behavior is defined as a Customer Relation Advisor (CRA)'s short-run conduct that enables him to gain at the expense of the customer (Dubinsky et al., 1991; Futrell, 2002) associated with activities such as lying; exaggerating about the benefits of a product/service; selling products/services that people do not need; lying about availability; lying about the competition; giving answers when the answer is not really known; and implementing manipulative influence tactics or high-pressure selling techniques (Wray et al., 1994; Howe et al., 1994; Tansey et al., 1994; Cooper and Frank 2002). And considering that frontline service employees, such as customer relation advisors are the organization in the customer's eyes (Metawa and al-Mossawi, 1998) and since in many cases, the contact employee is the service and there is nothing else (Hegazy, 1995) each of these customer contacts has the potential of positively or negatively impacting customer's satisfaction with the service as well as the company. Customer expectations regarding the core service are highly dependent on the CRA's presentation in the service encounter (Jamal, 2003). Customers' perceptions of face-to-face interaction with the service employees have traditionally been considered one of the most important determinants for loyalty (Naser, et al., 1999) or as stated by Solomon (Solomon et al., 1985) customer satisfaction and repeat patronage may be determined solely by the quality of the personal encounter. More specifically, the services literature has widely recognized the importance of

contact employees' behavior for customer satisfaction and loyalty (Naser et al., 1999; Farrell et al., 2001; Ganesh et al., 2000).

If the CRA behaves according to ethics, he/she is more likely to provide realistic expectations about the core service, and is less likely to push the customer into buying a service that the customer does not need. Consequently, these actions may result in confirmation or even positive disconfirmation between expectations and service performance, thus resulting in customer satisfaction with the core service. Some preliminary evidence for such a proposition can be found in the study by Kennedy, where customer satisfaction, in this case with an automobile, was positively related to low-pressure selling tactics (Kennedy et al., 2001). Different exploratory studies in the conventional field have shown that customer trust in the salesperson can be earned by the honest actions of sales representatives (Swan et al., 1985; Swan et al., 1988; Beatty et al., 1996), as well as low-pressure selling techniques (Strutton et al., 1996; Kennedy et al., 2001).

Due to more apparent need to have standards in the international arena, knowledge of ethics in practice is vital to the international manager (Rice, 1999). According to United Nations Economics Commission for Europe (2004), as an advantage of implementation of business ethics in Small and Medium Enterprises' (SMEs) activities, business leaders increasingly recognize the direct relationship between fulfilling a company's responsibilities and corporate survival (As cited in United Nations Economic Commission for Europe, 2004). When a business is clear of its core purpose and values and aligns its brand, it is more likely to attract and keeps talented people, reduce inefficiency and stress caused by conflicting messages and also attract more clients, customers and also supplier who deliver goods to the same high standards (Shaharuddin, 2005). Far from being anti-business, ethics actually provides essential support for maximizing long-term business value (As cited in Hadith-Sahih Al Bukhari, 3:258). Therefore parallel to all the aforementioned reasons, many companies have initiated a variety of sustainable development initiatives recently that are aligned with ethical codes to address the demands and expectations of society (Szekely and Knirsch, 2005). Another such example is the Corporate Social Responsibility programs and Corporate Codes of Conduct that are becoming the norm with employees and community leaders participating in their formulation and implementation. Employers are seeing that formal education and training in ethical practices, duties and obligations are a prerequisite for improved decision-making, enhancing community relations, and are essential for business success. Simply put: Good ethics are good for business Lyman, 2006).

Business ethics encourages a long-term partnership approach, based on mutual interest and a spirit of cooperation. Honestly, integrity, and a sense of genuine fair play



are ingrained in the operating principles of business. However, ethical businesses may be less able to capitalize on short-term market opportunities given that speculative activities may not be permitted by ethical standards (As cited in Business Ethics in Islamic Finance, 2012).

### 3. Codes Business Ethics and Related Theories

Common code of business ethics, as they are perceived in today's world, are as follows (Shah, 2001; Sid-diqi, 2011);

1. To prevent corruption and bribery.
2. To make competition fair and transparent.
3. To bring harmony in human relationships.
4. To make better use of resources.
5. To make provisions for more equitable distribution of resources and power.
6. To promote better and long lasting business.
7. To humanize the corporate culture.

However, there have been a number of theories proposed by moral philosophers based either on experience, rationality, utility, human rights, and equity or on religion regarding the determination of value standards of ethics. Some of them are as below (Lillie, 1971);

#### 3.1. No Standards or Relative Ethics

Relative ethics maintains that there are no moral rules that apply to all men as such. There are forms of ethical relativity, which would admit of standards for all members of a limited group, but would not hold these standards true for those not belonging to that group. However, there are other more extreme forms of ethical relativity in which what is right for any man is a purely individual matter. Thus, according to this point of view, there is no question of any standard at all. Researching whether standards of business ethics exist among different cultures, Zabid indicated that there were differences found in business practices relating to "malpractices in sales" and "gaining of competitor information" among Malays, Chinese and Indian managers in the banking sector in Malaysia. Indian managers perceived these two business situations as more unethical than the Malays or Chinese. The Chinese managers perceived "malpractice in sales" as more unethical than the Malays. The Chinese managers, however, perceived that "gaining of competitor information" as less unethical than the Malays or Indian managers (Zabid, 1989; Muhammad et al., 2008). In another study conducted by Lee on ethical beliefs of the British and Chinese managers, and between the top management and middle management in the marketing management, it was found that there were no differences in the ethical standards in marketing between the British

and Chinese managers in Hong Kong. Lee also believed that this was due to acculturation of the managers to local business practices (Lee, 1981).

#### 3.2. The Standard as Intuition

Intuitive ethics maintains that 'good' actions are those, which are believed to be 'good' through the intuition of the individual passing the judgment. According to this theory (Fulmer, 1978), ethics are not necessarily derived from experience or logic. Rather, people usually learn automatically what is right and what is wrong. The bottom line is that our conscience must be alive to guide us in ethical matters. Intuitive theory suggests that all people would think alike ethically and act accordingly, were it not for:

1. Bad environments.
2. Poor political institutions.
3. Faulty education.
4. Mistaken religious training.

The theory guides effectively in most of the ethical cases, however, it may not work very well in grey areas where the distinction between 'good' and 'bad' is not clear. Secondly, the theory also appears to be inadequate where common standards of ethical behavior are needed since individual standards of different people might be different. Third limitation of this theory is that some people might train their conscience in such a way that it might say only those things one wants to hear.

#### 3.3. The Standard as Law

Legal ethics maintains that 'good' actions are those, which are stated to be 'good' by the law. The word 'law' according to this school includes all such laws that are passed by a higher authority, including God-as in the Law of God, or Law of Moses. Thus, Christian, Judaic, Islamic ethics or ethics of other religions, which maintains that all that has been prescribed in the divine law is 'good' and all that has been prohibited is 'bad', can be considered as a part of this school.

#### 3.4. The Standard as Pleasure

This theory holds that pleasantness is the only quality because of which an experience is 'good' or valuable. A good action is an action which leads to a pleasant experience as its consequence, and the right action at any moment is the one which will lead to more pleasant experiences or to greater pleasure than any other actions.

#### 3.5. The Standard as Determined By Evolution

According to this school, the conduct to which we apply the name ‘good’ is a relatively more evolved conduct, and the conduct to which we apply the name ‘bad’ is relatively less evolved. The particular moral code accepted by any community at any period of history depends on the natural selection of that community, in accordance with its circumstances.

### 3.6. *The Standard as Perfection*

According to this theory, ‘good’ action is one, which contributes in making the self ‘perfect’ and helps in removing all human shortcomings from it. Kantian Ethics and Universalism, in which the means justify the ends of an action not the consequences, can be considered within this category. In both, consequences are regarded as morally irrelevant and what matters is respect for the human being. People must not be treated exclusively as a means to an end. Based on these approaches for an action to be moral,

1. It has to be universal; something that is moral for one person has to be moral for everyone, e.g., dishonesty cannot be justified as a valid moral principle, thus Kantian ethics counters the natural temptation to make exceptions for ourselves or to apply double standards also providing hypothetical answers underlying the common question “What if everyone did that?”
2. Respect for rational beings; people should be treated with dignity and not as means to ends
3. Autonomy; action has to respect people’s freedom to choose; people are to treat each other fairly and equally providing a strong foundation for rights.

Weaknesses of these approaches are that it is difficult to think of all humanity each time a decision has to be made; also while they place greater emphasis on the welfare of every person, they do not really draw a line; so it is hard to resolve conflicts when the criteria is to treat everyone equally because decisions typically involve conflicts of interests.

### 3.7. *The Standard as Value*

According to this school moral worth of an action is determined solely by its consequences and ‘good’ actions are those, which produce ‘good’ or valuable consequences and what makes an action right or wrong is the good or evil that is produced by the act. Utilitarian Theory can be considered within this category, which was presented by the famous eighteenth century Englishman, Jeremy Bentham (Wolff, 1976). Utilitarianism is committed to the maximization of the good and minimization of harm and evil, thus an action is right if it produces the best possible balance of good consequences over bad consequences for all parties affected, thus the bottom line is that plans and actions should produce the greatest good for the greatest number

of people. For example, a company rule or policy formulated to favor a few selected individuals could be adjudged unethical on the basis of parameters of utilitarian theory. However, the same rule or policy would be taken as ethical if it benefits the greatest number of people. A real-life example is as follows; a company rule to provide company cars to a few big bosses while refusing to provide transport facilities to the rest of the employees on the pretext of ‘financial constraints’ would be unethical because it does not produce “the greatest good for the greatest number of people.” Here, one must make a distinction between ‘legality of an action’ and ‘the ethical base of an action. The company policy of providing free transport facility to a few is certainly legal in all aspects but unethical at the same time since it does not ensure the greatest good for the greatest number of employees. In this way, this theory presents a remarkably simple framework to judge the ethical standing of any corporate, political, social or individual action (Shah, 2001). Utilitarianism involves the following steps;

1. Determining the alternative actions that are available in any specific decision situation.
2. Estimating the costs and benefits that a given action would produce for parties affected by the action.
3. Choosing the alternative that produces the greatest sum of utility or least amount of disutility.

Major business and economics terms derived from utilitarianism are efficiency, cost and benefit analysis, risk assessment, management by objectives. However, it is not always possible to calculate utility or to analyze massive amounts of information. Utilitarianism ignores distribution of good whether it is uniformly distributed or favors specific groups. There is no common definition of what is ‘good’. Utilitarianism assumes that everything can be measured in a common numerical scale, e.g. shadow pricing to assign value to noneconomic goods as in the example of comparing prices of houses near airports and highways to less noisy neighborhoods to infer the value people place on peace or considering the amount of extra pay that is needed to get workers to accept risky jobs to estimate the value of a hand. Based on similar assumptions, middle-income Americans value their lives between \$3 million to \$5 million.

Milton Friedman stated, “In a free economy, there is one and only one social responsibility of business; to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of game, which is to say, engages in open and free competition, without deception and fraud” (Friedman, 1962). Friedman’s approach to social responsibility summarizes the contemporary economics system’s approach to business ethics. Based on the ‘self interest’ principle of Economics, if every individual acts in his own best interest, then total welfare will per-

sist in the society. The shortcoming here is that a selfish way for pursuing business and focuses on the desires and wants of 'individuals' is promoted and ethics is not the first and foremost consideration of organizations unless it helps them to make more profit (Rice, 1999; Naqvi, 1981; Arslan, 2009).

Also another shortcoming of Utilitarian Theory is that minority is not considered because according to utilitarianism good action is the one that produces the greatest balance of value for the greatest number of people.

Regardless of the approach that is used, the nature of ethical decisions is complex and difficult. Managers confront facts and values when making decisions. Good and evil are not always clear-cut as in the case of genetic products for instance. Also, usually knowledge of consequences is limited. Additionally, multiple constituencies exist such as conflicts of interest, which may result in ethical arguments to be used to justify respective positions, thus business ethics that was initially put in place to promote good can be used as a means for bad.

#### 4. Organizational Factors

The organization too can affect influence participants' behavior. One of the key sources of organizational influence is the degree of commitment of the organization's leader to ethical conduct. This commitment can be communicated through a code of ethics, policy statements, speeches, publications, etc. For example, Xerox Corporation has a 15 page ethical code, one section of which states; "We're honest with our customers. No deals, no bribes, no secrets, no fooling around with prices. A kickback in any form kicks anybody out. Anybody." The above statement is clear and relates specific unethical behavior to negative consequences. Codes of ethics are gaining in popularity in many organizations, and often vary from one industry to another (Beekun, 1996).

#### 5. Individual Factors and Religion

Individuals come to work with different values. Factors affecting one's ethical behavior include stages of moral development, personal values and morals, family influences, peer influences, and life experiences. Religion is one of these dominant factors affecting one's ethical behavior as stated by Lenski that every major religious group develops its distinctive orientation toward all aspects of life in that these orientations profoundly influence the daily actions of its adherents (Lenski, 1963). It would not, therefore, be surprising to find influences of religious beliefs and values on the economic activity of these adherents. Depending on the extent of the individual's adherence to his/her religion, his/her religious values and beliefs are likely to influence his/her decision-making process.

As it comes to the relation between economy and religion, Max Weber is the first person who comes to mind. Max Weber's protestant ethic thesis is very well-known in this literature and some of the characteristics of protestant work ethics are hard work; frugality and productivity; negative attitude to leisure activities; pride in work; honesty; internal focus of control, which means if something goes wrong in business, one should blame himself or herself first, not other people; and high level of need for achievement. According Furnham, if some of these characteristics exist in a group, we can call that group showing high level of protestant work ethics (Uygur, 2008). Based on his qualitative study about the impact of the Christian faith of its adherents on their conceptualization of business practices, Werner discovered a strong relationship between certain Christian concepts as distinct frames for, and actions of, devout Christians (Werner, 2008). The Islamic work ethic values are also showing some similarities with Protestant work ethic values especially in terms of honesty, hard work, and importantly on fair distribution of wealth in society, dedication to work as a virtue, encouraging humans to acquire skills and technology, and life itself as a meaning (Lenski, 1963; Werner, 2008). However, Islam clearly counters the Weber's thesis that Muslim societies could not develop their economy. Weber argued that Islam could not produce values, such as, Protestant ethics "the spirit of capitalism" due to a number of reasons (Arslan, 2000).

Stewardship was one of the Christian concepts identified in a number of respondent's actions in Werner's study. The concept of stewardship created a sense of accountability to God for their actions. Werner argues that secular business people might also have a sense of accountability, which also supports Allport's argument that "the thoughts, feelings and behaviour of individuals are influenced by the actual, imagined or implied presence of others" (Werner, 2008; Weick, 1995).

For Christian businesspeople, this presence affecting their stewardship is God or Jesus Christ. A respondent with an engineering background from the UK states in an interview, "If you are a good steward of your business, then you will be looking at the well-being of the environment, the well-being of the people in the business, as well as looking after amounts of money on profit and loss statement or your balance sheet". The respondent considers himself responsible for taking care of the environment and people, as well as the profits of the business entity. Even though a secular businessperson might also have a similar attitude toward environmental and human sustainability, he is most likely to consider his responsibility as an ethical issue; whereas, the Christian respondent framed his sense of responsibility within his religious beliefs. The main finding of the study was that Christianity provides conceptual resources that lead its adherents to frame their business practices. As with

Christianity, Islamic values have considerable impact on its adherents such as halal and haram categorization of things. For instance according to a survey carried out by the Gulf Marketing Review, after health, religion is the most important issue for Egyptian people. Rice and Al-Mossawi state that the increasing impact of Islam on business operations is evidenced by the recent rapid growth of Islamic banking and finance worldwide (Al-Mossawi and Rice, 2002).

The fundamental codes of moral behavior such as truthfulness, trustworthiness, generosity and leniency, adherence to business commitments and contracts of mutual consent, fair treatment of workers, avoidance of evil practices (such as fraud, cheating, deceit, making too many oaths when selling merchandise, hoarding of foodstuff, monopolies, exploitations, giving short measures etc.) provide, to a large extent, the general background of Islamic business ethics (Siddiqi, 2011; Azmi, 2008).

There is a significant common ground, in the area of business ethics, between religions in various areas of life such as reciprocity, promise keeping, fairness, charity and responsibility to others; which are all found in Buddhism, Confucianism, Hinduism, Islam and Christianity, thus many religions converge in the area of ethics (Hasanuzzaman, 2003). Such common ground may contribute to the evolution of some form of global business ethics. Further dialogue and research are both needed and helpful as the topic of business ethics is taking its rightful place, both in the areas of spirituality and business management (Beekun and Badawi, 2005).

There is an extensive literature in every major faith on the values, legal codes of conduct on the managing of business, the workplace and the accumulation and use of wealth. For example, in Islam the basis of these codes and laws is the Holy Scripture, The Quran, whose teachings are exemplified in the sayings and life of the Prophet Mohammed The Hadith. In Christianity, the basis is The Old Testament and The New Testament. For Judaism, the sources are The Torah or The Tanakh and The Talmud and The Midrash. The Hindu religion has a strong belief in Karma. To clarify, the belief is in Karma itself and not the rewards one may receive by doing good deeds. If one is striving to perform good deeds on a daily basis it would govern their actions significantly and would increase their level of ethics. If someone chooses to do good in all instances this will have an impact on business negotiations in the fact that one would be compelled to be honest and forthright which could be a disadvantage to the company they own or work for. The Arthashastra indicates that records should be audited for all government employees on a weekly basis and by placing government employees under such scrutiny it will raise the level of work ethics for government employees to a much higher level (Rai and Capaldi, 2005). The Vedas scripture emphasize the “need of unity both in thoughts and actions” and encourages individuals to work

in unity with one another (Rai and Capaldi, 2005).

Examples to violations of ethical issues that are commonly mentioned in various Holy Scriptures are (Quddus et al., 2005);

1. Bribery
2. Fraud and Cheating
3. Discrimination
4. Corruption
5. Injustice which violates another’s rights
6. Rights of Employees, Customers and Stakeholders
7. Significant Values in Business, e.g. wasting

Yet, Marta reports that there is a degree of divergence between the ideal religious teachings and the business practices in the economic life (Mullin, 2004). In another study, Rice found that there are some differences between business practices and the Islamic values of Egyptian businesspeople who consider themselves to be practicing Islam. Rice quoting Rawwas et al., 1994 and Al-Khatib et al., 1994 reports that the “social and political instability or economic hardship may cause tense, pessimistic and struggling individuals to sacrifice ethicality for basic survival needs” (Rice, 1999). Naqvi argues that the “artificial symbiosis of Islamic ethical beliefs and ‘alien’ socio-economic philosophies and systems has led to the emergence of bifurcated societies promoting schizophrenic behavior both at the individual and collective level (Naqvi, 1981).

This discrepancy may be explained based on the Sense Making Theory of Strategy, in which Choo identifies that the objective of organization information processing is “to make sense of its environment, to create knowledge and to make decisions” (Choo, 2002) and sense-making is identified as making sense of a situation in the presence of uncertainty and ambiguity (Weick, 1995). The dynamic structure of the environment makes the strategy formulation process difficult because the environment of an organization may be subject to change in an unpredictable manner. Thus, decision-makers tend to make sense of the situation that they face to reduce the uncertainty involved in the decision-making process, and to create a meaningful strategy for the organization and ‘cognitive dissonance’ arises when individuals act inconsistently with how they feel’ (Kecmanovic, 2005). The cognitive dissonance theory argues that cognitive dissonance is reduced either by changing attitudes and behaviors, or by rationalizing them (McKenna, 2000).

There is another discrepancy in the interpretation between the secular and religious moral reasoning levels because of the tendency to ascribe different meanings to certain situations. To exemplify, on the one hand, a secular businessman may regard an increase in alcohol consumption in the market as ‘an opportunity to exploit’ and enter into the alcoholic beverage industry. On the other hand,

a devout Muslim businessman would not consider it as a strategy option because he perceives the situation within the Islamic frame. Thus, he would not likely to enter into alcoholic beverage or gambling industry even though there emerges a profitable opportunity in the market. Therefore, the moral-reasoning levels which individuals pursue may make a difference in the decision-making processes of individuals (Shaharuddin, 2005; Crossan et al., 2005; Uddin, 2003).

However compared with other approaches ethical moral reasoning is still the closest level to religious moral reasoning because ethical people disapprove of selfishly satisfying individual desires and fulfilling individual pleasure such as production of weapons or the prostitution industry even though it is far less specific. They rather choose ethics over individual preferences if these two come in a conflict as in the case for sustainability initiatives put into practice in secular countries. Since the concept of stewardship in Christianity, which is also similar to the trusteeship concept in Islam, reminds believers of being accountable to God for their deeds, it is fair to say that sustainability initiatives are encouraged by religious philosophies as well. It can be argued that ethical business people and religious business people can be expected to collaborate well as they can find similar objectives that lead them to meet on the same ground, and that they tend to prefer ethical solutions based on more universal principles over particularistic and more self-interested ones (Hasanuzzaman, 2003). The practice of Corporate Social Responsibility (CSR) is one such example that both approaches converge.

## 6. Corporate Social Responsibility (CSR)

In the last decade one of the most discussed issues is the concept of Corporate Social Responsibility (CSR). Not only are the large companies involved in practice of Corporate Social Responsibility (CSR) but also a good number of Small Medium Enterprises (SME). Corporate social responsibility (CSR) refers to management's obligation to set policies, make decisions, use its resources and follow courses of action beyond the requirements of the law that are desirable in terms of the values and objectives of society; in other words a corporation should be held accountable for any of its actions that affect people, their communities, and their environment" (Mosley et al., 1996; Post et al., 1996; Kok et al., 2001; Hossain and Siwar, 2005). There are number of theories that are the ground and underpin of CSR as follows;

1. According to Classical view of CSR, Friedman mentioned that the social responsibility of business to increase its profits. He argues that socially responsible activities are only for generating profit not for voluntarily activities (Friedman, 1967; Friedman, 1996).

2. According to Social Contract theory, business must act in a responsible manner not only because it is in its commercial interest to do so, but because it is part of how society implicitly expect business to operate (Moir, 2001). Business is should regulate as a social institution and should join with other social structure like the family.

3. According to Instrumental theory business may choose to support some social programs for reasons of good image and for competitive advantage (Burke and Logsdon, 1996; Lantos, 2002; Johnson, 2003; Greenfield, 2004).

4. Legitimacy theory is the response to the environmental pressures involving social, political and economic forces. The perceptions of society towards the organizations are crucial which may affect the survival of the business (Suchman, 1995).

5. Finally the Stakeholder theory paying attention to the needs and rights of all the stakeholders of a business is a useful way of developing socially responsible behavior by managers (Maignan and Ferrell, 2004). According to the neoclassical view of the conduct of business especially stressed by Friedman, business organizations are to attend to the interests of their shareholders (Friedman, 1970). As such their primary responsibility is to increase shareholder value through the continuous maximization of profits. CSR, on the other hand, implies that business organizations have a responsibility that goes beyond the maximization of profits. The common idea put forward in various definitions of CSR is that companies should conduct their business in a manner, which demonstrates consideration for the broader social environment in order to serve constructively the needs of society, to the satisfaction of society. This means that business organizations are assumed to have a responsibility for all those affected by their activities. In other words, business organizations have to take into consideration the interests of different parties beside its shareholders. This has been translated in the Triple P Bottom Line concept of conducting business, meaning that business organizations have to consider the effects of company decision-making and subsequent policy on profit, people and planet (Elkington, 1997). In religions such as in Islam in any type of business activity the primary stakeholders of a business are to seek value maximization instead of trying to maximize profits by any means (Saeed et al., 2001).

Furthermore, both the CSR view and the religious views of business, e.g. Islamic view implies that a business organization is obligated to pay attention to the well being of its employees and their working environment has to be safe and healthy (As cited in Hadith-Sahih Al Bukhari 3:258; As cited in Hadith-Muslim 3:4093.42). This also holds for the customers. Customers have to be treated with respect and kept satisfied through the delivery of high quality products and services. This respectful treatment extends to all other stakeholders. Additionally, since the production

and consumption patterns of people in a society are linked to each other's, people are not supposed to utilize resources inconsiderate of others. Chapra notes that “in the Islamic system, even though property is allowed to be privately owned, it is to be considered as a trust from God” (Chapra, 1999). Thus, it cannot be utilized extravagantly as stated in the following verses; “And give them of the wealth of God which he has given you” (Qur’an 24:33), “...eat and drink and be not extravagant; surely He does not love the extravagant.” (Qur’an 7:31).

Following are a few examples to business ethics practices from religious perspective putting Islam into spotlight only to give the reader some insight to be able to compare the secular business practices with religious ones. The author believes the examples mentioned in below examples may as well extend to other religions thus refer the readers to respective Holy Scriptures since it would be beyond the scope of this study to include all here.

1. Islam encourages competition in business because competition sets a compelling force for market participants to serve customers better than the competitors and, in turn, make a better profit except the case of destructive competition in which market participants are forced to work at the expense of others in a society as stated here “...do not outbid another in order to raise the price,...do not enter into a transaction when others have already entered into a transaction and be as brothers one to another” (Hadith-Hanafy and Sallam, 1998).

2. Islam enjoins business people to enhance their capital through trade, not through lending on interest. In banning interest Islam seeks to establish a society based upon justice (Chapra, 1999) as stated in the verse “...So that wealth does not concentrate in the hands of those who are rich among you...” (Qur’an 59:7)

3. There is no room in Islam to justify any cover up of deceptive promotional behavior. Al-Qur’an condemns all forms and shapes of false assertion, unfounded accusation, concoction and false testimony (al- Qur’an, 43:19). In terms of Islamic marketing ethics, it is unethical for the salesman or customer relation advisor (CRA) to over-praise his products and attribute to them qualities which they do not possess (Hassan, 2008; Al-Ukhuwwah and Muhammad, 1983).

4. Williams and Zinkin note that the Prophet Mohammad created special zones, which were inviolable, known as hima and haram, where the natural resources were to be left untouched. In order to protect land, forests, and wildlife, Haram areas often were around wells and springs to protect the water table from depletion. Hima areas were reserves for forests and wildlife where grazing and woodcutting were restricted and species were protected (Williams and Zinkin, 2009).

5. The Prophet Mohammad also forbade his followers from polluting rivers, stagnant water, roads and areas used

as shades (Beekun and Badawi, 2005; As cited in Khan, Hadith-Sahih Al-Bukhari # 41; Abdul-Baqi, Hadith-Sunan Ibn-Majah # 425)

6. As another area of convergence, ethical issues include regarding advertisement women exploitation, subliminal perception, and advertising to children, deceptive advertising, and other issues which can lead to moral deterioration of the society are not acceptable as it is Islamic ethics, which promotional techniques must not use sexual appeal, emotional appeal, fear appeal, false testimonies, subliminal advertising and pseudo research appeal, or contribute to the dullness of the mind or encourage extravagance (Shabbir and Des Thwaites, 2007; Murphy, 1998; Blair, 2006). An ethically sound marketing-mix both according to the secular business ethics and Islamic ethics practices, therefore, dictates that customers’ decision-making freedom must be protected from all elements of coercion (Hassan et al., 2008).

Consequently, as seen with the aforementioned examples and because important values in business, such as freedom, justice, honesty and servitude are similar to the values within the concept of CSR, there is a high level of agreement between the religious business principles and the principles of CSR (Abeng, 1997; Khaliq and Abdulhasan 2001; Mushtaq 1995; Uddin 2003; Naqvi 1981).

## **7. Factors that Encourage Ethical Practices (Shah, 2001):**

### **7.1. Public Concern for Unethical Practices:**

A society, where most of the people tend to accept unethical behavior as a way of life, is doomed to plunge deeper and deeper into the quagmire of unethical practices. Therefore, even mere awareness of general public and its concern for unethical behavior would help to make a difference.

### **7.2. Formal Code of Ethics:**

In organizations, formulation, publication and implementation of a formal code of ethics will certainly lead to curtailment of unethical actions and encouragement of ethical deeds since people will find it easier to distinguish between ethical or unethical base of any action.

### **7.3. Right of Information:**

Right of information is another factor which serves as a big dissuader to unprincipled employees; therefore, this right should be accepted and implemented. In the presence of this right, unscrupulous employees will be afraid to use unethical means since there will be a real danger of being exposed and penalized.

#### 7.4. *Publicity of Unethical Practices:*

Unethical practices should be given a wide publicity and be openly condemned so that people are discouraged to resort to such means.

#### 7.5. *Punishment to Defaulters:*

A judicious system of reward and punishment should be established in the organizations so that the defaulters are not let scot-free. Exemplary punishments should be awarded to the defaulters and be given a wide publicity. Such a system would certainly encourage most of the employees to follow the ethical code of conduct.

#### 7.6. *Education:*

Mere awareness of people of unethical practices would not be sufficient; rather people would have to be educated in this field. They'll have to be apprised of, for instance,

- a. Necessity of ethics in a society in general and in organizations in particular.
- b. Advantages of ethical actions and disadvantages of unethical practices.
- c. Different types of unethical practices and their consequences.
- d. Need to speak up and curb unethical behavior at work places.
- e. Difference between legality of a policy, rule, regulation or action and its ethical base.

However as in Alasdair McIntyre's criticism of modern moral philosophy, endless intellectual debates and exercises are not sufficient to develop moral characters. Being a moral person requires not simply good knowledge in ethics but rather true commitment to do what is right, good, or just (Ujan, 1998). Robert C. Solomon puts it appropriately: "...it is cultivation of personal character that counts, long before we begin to rationalize our actions, and the formulation of general principles need not be an explicit step in correct and virtuous behavior" (Solomon, 1992).

Ethics is first of all a matter of practice; not simply knowledge. And there is only one rule for behaving ethically, i.e. The Golden Rule: "Whatever you want men to do to you, do also to them" or "Treat others in the way you want them to treat you" (Christianity); "No one of you is a believer until he loves for his neighbor what he loves for himself" (Islam); "This is the sum of duty; do naught unto others what you would not have them do unto you" (Hinduism); "Hurt not others with that which pains yourself" (Buddhism); "What you do not want done to yourself, do not do to others" (Confucianism) (Maxwell, 1982).

Since the so-called virtues or wisdoms are commonly

shared by all religions, focusing business ethics on virtue ethics which specifically stresses the centrality of the golden rule will inspire students to see the essential relationship between their religious creeds and secular moral beliefs (Parekh, 1999). Ethical codes may help improve the ethical dimensions of practice by helping people develop the habit of doing the right thing and by providing a framework for ethical practice. In this regard, some high schools in US have developed teaching guides for character education by focusing on ten core ethical values such as trustworthiness, respect, responsibility, fairness/justice, caring, citizenship, honesty, courage, diligence and integrity (Hassan, 2006). Clearly, however, having codes of ethical conduct are not sufficient. Without a firm commitment to do what is right, the desire for money, power and position may take precedence over codes in the absence of effective enforcement (Carroll, 1998). Thus, students also learn that the Iron Rule of Responsibility will severely punish them if they fail to take into account moral values in doing business. Stressing such a truth Maxwell rhetorically said: "Have you ever met anyone who lived a life of shortcuts, deception, and cheating who finished well?" which reminds us that ethics is primarily a matter of doing, not simply knowing (Maxwell, 1982).

Carroll (1998) identified at least three models for integrating ethics into the accounting curriculum; devotion of half a semester of the Introduction to Business course to general business ethics; integrating ethics into each and every accounting course throughout the curriculum; and, developing a capstone course at the senior level that deals with the complex issues of business, social responsibility and professional responsibility (Carroll et al., 1998).

Ethics education, as contended by McPhail, needs to pay attention to at least three major issues. First, ethics should not be treated as just another subject that students learn about. Secondly, ethics education should not involve the uncritical assimilation of professional codes of conduct. Students need to be exposed to critical debates and discussions on the code of professional conduct and not to treat ethical codes as just written guidelines. There should be a proper education process for the students to internalize ethical principles. Finally, studying abstract ethical theory is not that important although a familiarity with broad ethical principles and concepts might be useful. Ethics education should attempt to humanize students, that is, it should engender a sense of moral commitment towards other individuals. One of the most important objectives is, therefore, to develop an empathy with "others". As rightly pointed by McPhail, emotion should be introduced into accounting education and, in particular, emotional commitment to other individuals should be encouraged (McPhail, 2001).

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## Security Issues of E-commerce

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### Abstract

Everyone knows that high levels of Internet fraud is a deterrent to the development of electronic commerce. Banking, trade and buyers are afraid to use this technology because of the risk of incurring financial losses. Therefore, security is a key issue for e-commerce. Capacity of potential sales in the area of e-commerce is limited to achieving the necessary level of information security, which is provided together by buyers, sellers and financial institutions, who are concerned about issues of security of payments over the Internet.

According to the well known and adopted classification, there are following possible types of fraud in e-commerce: Hacking database of trading facilities for obtaining data about customers, Interception of messages of customers, containing their personal data, Operations of cashless payments (transactions), made by fraudsters using the correct details of a plastic card, Increase in cost of goods in relation to the proposed price to the buyer, Repetition of customer debits from the account, Creating a store-by-night (so-called “butterfly”), usually for a short time, emerging to disappear after the receipt of funds from customers for nonexistent services or goods and etc.

The basic requirements for facilities and systems of security in e-commerce include the following specific security requirements of e-commerce transactions: Confidentiality of information about the order, Use of special public-key cryptography to provide authentication, Authentication of the holder of a credit card, Authentication of the seller and its ability to accept payments by plastic cards with digital signature and Ensuring security of the data transmission through the mandatory use of cryptography.

The report discusses some issues of security of electronic commerce.

**Keywords:** E-commerce, Security, Authentication, Data Integrity, Cryptography

**JEL Classification:** O32, O33

### Introduction

Electronic commerce or e-commerce refers to a wide range of online business activities for products and services. It also pertains to “any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact.”

E-commerce is usually associated with buying and selling over the Internet, or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer-mediated network. Though popular, this definition is not comprehensive enough to capture recent developments in this new and revolutionary business phenomenon. A more complete definition is: E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals.

Basically, electronic commerce (EC) is the process of buying, transferring, or exchanging products, services, and/or information via computer networks, including the internet. EC can also be beneficial from many perspectives including business process, service, learning, collaborative, community. EC is often confused with e-business.

Electronic commerce is generally considered to be the

sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions.

### 1. Internet Fraud

Everyone knows that high levels of Internet fraud is a deterrent to the development of electronic commerce. Banking, trade and buyers are afraid to use this technology because of the risk of incurring financial losses. Therefore, security is a key issue for e-commerce. Capacity of potential sales in the area of e-commerce is limited to achieving the necessary level of information security, which is provided together by buyers, sellers and financial institutions, who are concerned about issues of security of payments over the Internet.

According to the well known and adopted classification, there are following possible types of fraud in e-commerce:

- Hacking database of trading facilities for obtaining data about customers;
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card;

- Increase in cost of goods in relation to the proposed price to the buyer;
- Repetition of customer debits from the account;
- Creating a store-by-night (so-called “butterfly”), usually for a short time, emerging to disappear after the receipt of funds from customers for nonexistent services or goods;

## 2. Forms of Security

Many different forms of security exist for e-commerce. Some general security guidelines include areas in physical security, data storage, data transmission, application development, and system administration.

All sensitive information being transmitted should be encrypted. Businesses can opt to refuse clients who can't accept this level of encryption. Confidential and sensitive information should also never be sent through e-mail. If it must be, then it should also be encrypted.

Transferring and displaying secure information should be kept to a minimum. This can be done by never displaying a full credit card number for example. Only a few of the numbers may be shown, and changes to this information can be done without displaying the full number. It should also be impossible to retrieve this information online.

Source code should also be kept in a secure location. It should not be visible to the public.

Applications and changes should be tested before they are placed online for reliability and compatibility.

Security on default operating systems should be increased immediately. Patches and software updates should be applied in a timely manner. All system configuration changes should be kept in a log and promptly updated.

System administrators should keep watch for suspicious activity within the business by inspecting log files and researching repeated logon failures. They can also audit their e-business system and look for any holes in the security measures. It is important to make sure plans for security are in place but also to test the security measures to make sure they actually work. With the use of social engineering, the wrong people can get a hold of confidential information. To protect against this, staff can be made aware of social engineering and trained to properly deal with sensitive information.

E-businesses may use passwords for employee logons, accessing secure information, or by customers. Passwords should be made impossible to guess. They should consist of both letters and numbers, and be at least seven to eight digits long. They should not contain any names, birth dates, etc. Passwords should be changed frequently and should be unique each time. Only the password's user should know the password and it should never be written down or stored anywhere. Users should also be locked out of the system

after a certain number of failed logon attempts to prevent guessing of passwords.

When it comes to security solutions, there are some main goals that are to be met. These goals are data integrity, strong authentication, and privacy.

There are several different ways to prevent access to the data that is kept online. One way is to use anti-virus software. This is something that most people use to protect their networks regardless of the data they have. E-businesses should use this because they can then be sure that the information sent and received to their system is clean. A second way to protect the data is to use firewalls and network protection. A firewall is used to restrict access to private networks, as well as public networks that a company may use. The firewall also has the ability to log attempts into the network and provide warnings as it is happening. They are very beneficial to keep third-parties out of the network. Businesses that use Wi-Fi need to consider different forms of protection because these networks are easier for someone to access. They should look into protected access, virtual private networks, or internet protocol security. Another option they have is an intrusion detection system. This system alerts when there are possible intrusions. Some companies set up traps or “hot spots” to attract people and are then able to know when someone is trying to hack into that area.

Encryption, which is actually a part of cryptography, involves transforming texts or messages into a code which is unreadable. These messages have to be decrypted in order to be understandable or usable for someone. There is a key that identifies the data to a certain person or company. With public key encryption, there are actually two keys used. One is public and one is private. The public one is used for encryption, and the private for decryption. The level of the actual encryption can be adjusted and should be based on the information. The key can be just a simple slide of letters or a completely random mix-up of letters. This is relatively easy to implement because there is software that a company can purchase. A company needs to be sure that their keys are registered with a certificate authority.

The point of a digital certificate is to identify the owner of a document. This way the receiver knows that it is an authentic document. Companies can use these certificates in several different ways. They can be used as a replacement for user names and passwords. Each employee can be given these to access the documents that they need from wherever they are. These certificates also use encryption. They are a little more complicated than normal encryption however. They actually used important information within the code. They do this in order to assure authenticity of the documents as well as confidentiality and data integrity which always accompany encryption.[6] Digital certificates are not commonly used because they are confusing for people to implement. There can be complications when

using different browsers, which means they need to use multiple certificates. The process is being adjusted so that it is easier to use.

A final way to secure information online would be to use a digital signature. If a document has a digital signature on it, no one else is able to edit the information without being detected. That way if it is edited, it may be adjusted for reliability after the fact. In order to use a digital signature, one must use a combination of cryptography and a message digest. A message digest is used to give the document a unique value. That value is then encrypted with the sender's private key.

### 3. Security Requirements

In cyberspace, both the customer and the vendor have difficulty in proving their identity to each other with certainty, particularly during a first transaction. How does the buyer securely transmit sensitive information to the seller? How does the seller know that this is a legitimate purchase order? How do both parties know that a nefarious third party has not copied and/or altered the transaction information? These questions and others, describe the problem effecting commercial transactions over the internet, or any public network.

Customer (clients) need to be sure that:

1. They are communicating with the correct server.
2. What they send is delivered unmodified.
3. They can prove that they sent the message.
4. Only the intended receiver can read the message.
5. Delivering is guaranteed.

On the other side, vendors (servers) need to be sure that:

1. They are communicating with the right client.
2. The content of the received message is correct.
3. The identity of the author is unmistakable.
4. Only the author could have written the message.
5. They acknowledge receipt of the message.

All of the concerns listed above can be resolved using some combination of cryptographic method, and certificates methods. The type of risk involved resulting from inadequate security is:

1. Bugs or miss-configuration problems in the web server that can cause the theft of confidential documents.
2. Risks on the Browsers' side i.e. breach of user's privacy, damage of user's system, crash the browser etc.
3. Interception of data sent from browser to sever or vice versa. This is possible at any point on the pathway between browser and the server i.e. network on browser's

side, network on server's side, end user's ISP (Internet Service Provider), the server ISP or either ISP's regional access.

### Conclusion

The basic requirements for facilities and systems of security in e-commerce include the following specific security requirements of e-commerce transactions:

- Confidentiality of information about the order;
- The secrecy of the data integrity of payment;
- Preserving the integrity of data of the payments;
- Use of special public-key cryptography to provide authentication;
- Authentication of the holder of a credit card;
- Authentication of the seller and its ability to accept payments by plastic cards with digital signatures and certificates;
- Confirmation that the seller's bank is a functioning organization that can accept payments by plastic cards;
- Readiness to pay for the transaction as a result of the authentication of the certificate with a public key for all parties;
- Ensuring security of the data transmission through the mandatory use of cryptography;

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# Sustainable Production and Consumption the Way for Sustainable Development

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## Abstract

Implementation of sustainable development requires action to sustainability production and consumption. It is a difficult task to achieve, especially in an economic crisis. The European Union is developing its strategy, whose goal is realization of sustainable development. Idea of the realization of sustainable development includes more and more countries due to economic, ecological and social aspects. The paper presents the European Union initiatives in this area in Europe 2020 strategy and the main courses of action were characterized in the background documents of the European Commission.

**Keywords:** Sustainable development, production, consumption, life cycle assessment

**JEL Classification:** Q 56

## Introduction

The basis of sustainable development is the care about life quality that demonstrates itself in pursuit of permanent civilising development in the environment of maintained resources and natural values. Permanent development decides that activities related to realisation of this concept are open, subject to continuous improvement and dynamical sustainability.

The intensified actions of the EU related to sustainable development led to renewal of the Lisbon Strategy as well as European Union Sustainable Development Strategy Europe 2020 (Europe 2020, 2010). Modernization of both strategies was aimed at mitigation of discrepancies being present in original assumptions of Sustainable Development as well continuous enhancement of life quality of the present and future generations, while keeping environmental protection rules. The renewed EU Sustainable Development Strategy assumes propagating dynamical economy at full employment of highly educated citizens, while ensuring health protection, social and territorial integrity, global peace, safety and respect to cultural diversity. The Europe 2020 Strategy assumes activities directed towards sustainable development and indicated the three priority areas:

- intelligent growth, consisting in economic development based on knowledge and innovations,
- sustainable growth achieved by low-emission economy and using resources effectively is competitive,
- growth enabling social inclusion conditions, while considering an increase of employment level as well as providing economic, social and territorial consistency.

The degree of completion of this strategy will be assessed by achieving the five measurable main goals that should be achieved by the EU member states up till 2020. This includes:

- employment index at the level of 75%,
- improved R&D by increasing related investment level up to 3% GNP, an efficiency index will be developed for R&D and innovations by the European Commission,
- reduced emission of greenhouse gases by 20%; further emission reduction depends on decision made by other countries (outside the EU), including developing countries.
- increasing education level up to 40% people at the age of 36-40 years with higher education,
- supporting social inclusion by activities targeted at reducing poverty that affects 20 million citizens.

Some of guidelines presented in the Strategy are not only very difficult to be achieved but generate also contradictory effects. This refers especially to increasing employment, industrial development, thus to increased production and reduced emission as well sustainable consumption.

The main activities to be undertaken to achieve the assumed goal involve sustainable production and consumption, both requiring limitations.

The abandonment activities related to sustainable consumption include at first place:

- abandoning excess – reduction strategy,
- life style change,
- reduction by replacing used goods with new ones of high durability and environmentally friendly.

An example are responsible activities related to house furnishings, responsible feeding and balanced shopping, reasonable use of transportation means and spare time

spending, sustainable enterprise restructuring and appropriate capital investment.

At present it difficult to be question whether limitations related to sustainable production and consumption can be recompensed by implemented rationalisation of resource use, employment creation and eco-innovations as well whether further development of R&D and eco-innovations will be sufficient to balance adverse effects that can accompany the strategy. However, these guidelines are the basis for the EU member states for developing national action programmes. It is emphasises that it is necessary to give priority to macro level over micro level with respect to:

- -production – improving efficiency of resource use, reduced environmental impacts and competitiveness,
- -product – improving environmentally friendly products and services,
- -energy – rationalisation of the use and implementation of renewable energy resources.

### 1. Life Cycle Thinking – one of the principal paradigms of sustainable development

Technical thinking is the process consisting in considering and use of natural laws and technical rules both in products and manufacturing processes. In sustainable development it takes the form of principal paradigm as Life Cycle Thinking.

Thinking in the life cycle convention (LCT) is a basis of many activities within the scope of Life Cycle Management (LCM) as well as Life Cycle Design (LCD). Such approach is specifically based on complex treatment of an object as the mega process, components of its, are subject to analysis. LCT refers primarily to products and processes. We need to think of the whole of the life-cycle of a product, because products may have totally different environmental impacts during different stages of their cycle (Fig. 1).

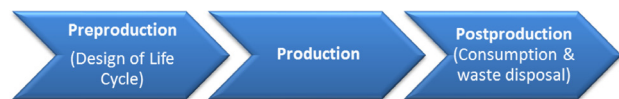


Figure 1. Three stages of the whole life cycle of product (source: author)

Life Cycle Analysis (LCA) is an analytical aspect of LCT, and its analysis goal, scope and subject depend on the context of consideration (ISO 14040: 2006).

Comprehensive Life Cycle Thinking (LCT) requires recognition and creative interpretation of cause-effect relationships related to the product. Advantages of approach based on life cycle cause that LCA methodology spreads and is developed in various areas, mainly in process and product design and improvement, in analysing the production system environmental relations, and generally in Life Cycle Management (LCM). The standardization solutions

used are recommended by ISO in the standards ISO 14040, ISO 14041, ISO 14042, ISO 14048, ISO/TR 14048, and development of Life Cycle Assessment methodology, especially due to possibility of computer aided methods enables simulation studies based on scenario method (Adamczyk, 2004). This enables LCA applications to be extended in the process and product design and environmental design of the whole life cycle (ELCD), determining its system defined as a set of material and energy connected unit processes that perform one or more specified functions.

Life cycle refers typically to the product, but considerations related to life cycle may include also the process, technology, design, innovation etc., hence in general a life cycle may apply to an object. This implies possible wide applications of LCT, especially LCA methodology in achieving sustainable development.

The overall sense of life cycle includes preproduction – conceptual and design phases, when concept is developed and improved and the design is prepared. This indicates life cycle beginning, when concept is developed and a virtual product is created. Such product is subject to simulation studies where various scenarios are analysed to select a form, material, energy consumption, manufacturing methods, environmental relations and, at first place, the level of technological and usable features (Fig. 2).

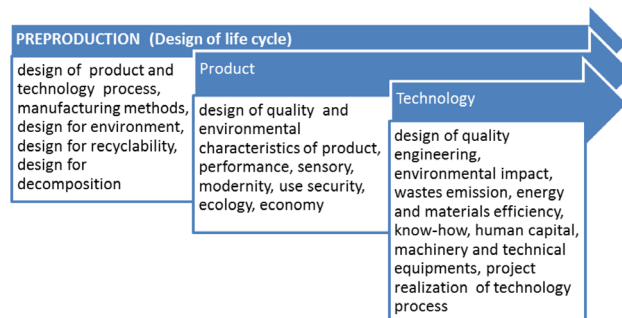


Figure 2. Stage of preproduction - design of life cycle (source: author)

This very important “prenatal” life cycle stage generates relatively high costs per single product. The cost drops proportionally to production size. In addition, cost analysis for this stage shall be carried out, while considering other life cycle costs, in particular income from sale and creating value for the organisation (Adamczyk, 2007). Introducing environmental aspects into product design and development require also life cycle concept preparation. Related regulations are published in the Technical Report ISO/TR 14062 Environmental management - integrating environmental aspects into product design and development (ISO/TR 14062, 2002).

Materialization of the project (product and process) occurs at the production stage of life cycle (Fig. 3).





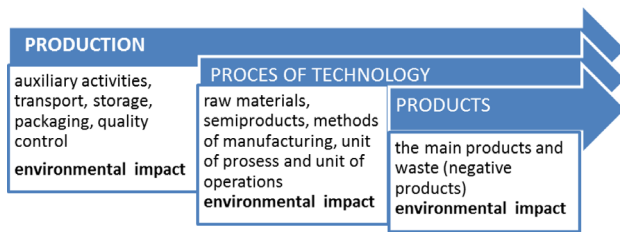


Figure 3. Production stage of life cycle (source: author)

In marketing the scope of life cycle applies only to product market relations, expressed with sales value. This complies with marketing interest area but without indication that such life cycle is limited to market events, so it is inexact (Fig. 4).

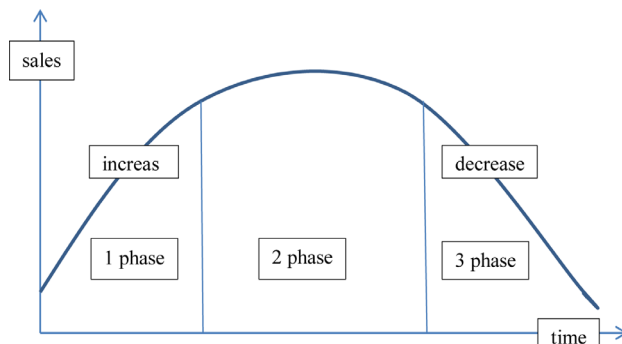


Figure 4. Life cycle of product according to the theory of marketing (source: author)

The product in the terms of quality is realized in aftermarket phase when performs its usable functions, i.e. after purchasing. At this life cycle stage an environmental impact occurs in the use process. This is primarily an effect on the user and his adjacent environment. An environmental impact at this life cycle stage depends not only on design quality and product quality, but also on quality of use influenced by the technical culture and ecological awareness. In this aspect there are many failures and unregulated problems that could not be solved in short time without support from education system and mass media so that pro-ecological behaviours become a social standard. This applies also to the final stage of life cycle referred to as after use disposal. At this stage besides eco-design factors also the user plays an important role as well as system solutions related to waste management (Fig. 5).

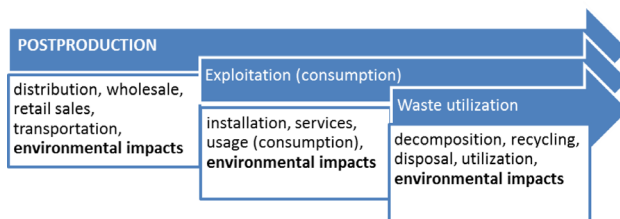


Figure 5. Stage of the postproduction of life cycle (source: author)

For analytical purposes, life cycle thinking can apply to a part of life cycle, while justifying the adopted limitations. Locating preproduction sphere at the life cycle beginning is proper in product ecology and industrial ecology but in practice such approach is convenient for designers, constructors and innovators. The realization of the production process, product quality during use as well as environmental relations in production and postproduction spheres, depend on how the product and manufacturing process are designed. There are many problems arising from after use disposal that generates costs outside the organisation. This last stage of life cycle requires to be carefully prepared yet at the stage of product system design by using, for example DfE (Design for Environment), DfR (Design for Recyclability), DfD (Design for Decomposition) as well EQFD (Environmental Quality Function Deployment) (Fig. 2). Such activities are connected with incurring expenditures and therefore are often omitted by manufactures, as return in later periods, typically outside the enterprise.

## 2. Life cycle costing and Material Flow Cost Accounting - The economic aspects of sustainability

### 2.1. Life cycle cost analysis

According to the rule of life cycle lowest cost – higher product price should compensate savings related to utility costs. Once again this is consistent with the Directive on eco-design EuP. That recommends energy saving during product use, not only in manufacturing phase (Energy Using Product Directive, 2005). In addition, it is set as a tool for life cycle impact assessment (LCIA), while assuming the criterion of lowest life cycle costs as advantage for the users. This decides on fulfilling legal and product competitiveness requirements. Responsibility for product is realized by manufacturers and importers, while conformity control rests on state institutions.

Both management design and LCA methods are supplemented by cost analysis of the life cycle by Life Cycle Costing (IEC 60300:2004). The application of LCC is of particular significance in the design processes due to extent of design impact on life cycle and life cycle costs of an object. The use of LCC in business contacts require to be agreed between parties. Independent analysis of life cycle costs for the same object can lead to quite different results. This should be taken into account when conducting business negotiations. Awareness of effects of simplifications and assumptions adopted during life cycle analysis do not deteriorate essential significance and usefulness of LCA and LCC for supporting decision making. This only pays attention on necessity for reasonable interpretation of the results supporting the decision process. In this paper the LCT aspects are presented as the forms of technical thinking, indicating that LCT is a basic convention for

alisation of sustainable development concept that requires activities oriented towards sustainable production and sustainable consumption.

The factor hampering sustainability is not undertaking ecological challenges, in production and in consumption sphere. That becomes more complex global problem. The product price does not reflect damages related to Life Cycle, while costs incurred for liquidation of these damages are broken off the product. They are not incurred by the manufacturer and remain within the sphere of unproductive expenditures. This leads to accumulation of environmental losses and related hazards. Implementation of production involving energy saving raw materials and methods requires higher investment expenditures, thus resulting in higher price. This why, the consumer chooses a lower price product, but of higher life cycle costs. Therefore, Life Cycle Thinking (LCT) is the principal paradigm of sustainable development and such approach can be referred to as a specific form of technical thinking (Adamczyk, 2006).

Product management pertaining LCM allows cost analysis in drawn account. It is also interesting in analytical sense what are the costs in particular life cycle stages. Especially important are material and energy flows and possibility their optimization. LCC serves object economic, often accompanies life cycle analysis and, like LCA, can be carried out in various way due to the method, goal and extent. In postproduction sphere the life cycle cost estimation facilitates determination of the overall product acquisition ownership and after use disposal costs. However, it may be applied for the whole cycle. Predominantly LCC is used for:

- object economic assessment in the terms of its realization, for example design feasibility,
- identification of cost carriers and simulations in design,
- estimation object operational costs,
- comparative analysis.

Compatibility LCA with LCC consists in such feature that life cycle element which can be identified and isolated can be assigned specific partial cost. The considerations on life cycle element modification in the design process or cause analysis for a specified action when examining an existing life cycle, are accompanied by cost analysis, as economic effects of these actions. The two proceeding direction: analytic and synthetic can be observed here. In analytic work the studies are carried out to recognize elementary processes that create the mega process, isolate them and to make analysis of their corresponding costs, thus leading to determination of the whole life cycle and target costs. Whereas in synthetic approach the consideration direction will be opposite, i.e. initial assumption will be target object parameters and corresponding costs (Ad-

amczyk, 2010).

The use of LCC are characterized with the following examples:

- assessment and comparison of variant technologies and design methods,
- assessment of economic profitability for undertakings or products,
- identification of cost elements and effective improvements of processes or products,
- assessment and comparison of use strategy, studies, control and service,
- assessment and comparison of ways of approach to replacement, renewal, life time extension, reliability improvement, worn equipment disposal.
- distribution of financial means among competitive priorities of object development,
- assessment of product reliability guarantee criteria-analysis and verification tests,
- long-term finance planning,
- decision support in w GPP tender procedure.

Both approach and extent of the life cycle subject to cost analysis are selected in a specific way for any case. Predominantly, acquisition, ownership and disposal costs are distinguished. This corresponds to postproduction sphere, thus applies to customer (user) perspective. The manufacturer or designer perspective is on principle wider and in compliance with LCT applies to the whole life cycle.

Taking into account the fact that yet in the initial life cycle phase the processes running in all other stages, then LCC applies. In postproduction phase actions are set that will be realization of the sequence of production processes and is also referred to as a set of features that characterize the product and its system, thus implying appropriate operating after use disposal costs. Actions undertaken in this part of life cycle include also “make or buy” decisions, design technological assessment, production capacity assessment etc., based among other things on cost selection criteria, deciding to large extent at the LCC target level.

Developing cost structure and cost carrier in connection with object elements requires a process approach that enables determining the relationship between resources and processes, and then the cost of processes realized during the life cycle. An important task is also indication the factors determining process costs.

Analytic approach allows also determination of:

- purposefulness of particular processes,
- process assignment to individual products .

This enables to complete the principal analytic goal consisting in recognizing processes that create a value for

the enterprise (Adamczyk, 2008).

To determine the total life cycle cost, the LCC elements are isolated from components to be separately defined and estimated. The cost elements should correspond to particular cost categories and partition structure of object (product, process, labour). The costs of individual LCC elements are also classified in the terms of repeatability and also assigned to category of fixed or variable costs.

To estimate cost in LCC the following methods are used:

- engineer's, by estimating costs of individual product components based on the specified production cost factors,
- estimation by analogy, based on experience with similar products in constructional and technological sense,
- parametrical, by using parameters and variables the formulas are derived for cost estimation, for example labour cost based rate and labour consumption analysis.

As one can easily see these methods require deep knowledge of objects, for example product system and manufacturing processes as well as supporting techniques:

- discount, determination of net present value - NPV,
- internal rate of return - IRR,
- cost and profit analysis,
- timing – for instance when determining labour consumption.

A sensitivity analysis serves to identify significant cost elements. To determine an effect of cost components on LCC the minimum and maximum values or parameter distribution are introduced.

## 2.2. Material Flow Cost Accounting

Cost approach in LCT is connected with raw material, material and energy flows. An analysis of these flows as well as accompanying cash flows in life cycle allows improvement of productivity and reduction of environmental impact.

The use of LCC in object usage analysis, especially technical objects such as machinery, devices, electronic equipment etc. enables determining the limit cost level at which repair is justified or, above which the object should replace with modern and more energy-saving one. There are also important, like the final LCC effects, analytic activities only that in process approach generate an interesting set of information and the basis for current improvement of the organisation. Sometimes contradictory approach to costs is demonstrated by representatives of particular company organisation units. Performing LCC it is worth to prepare a list of approaches to costs in functional arrangement to undertake integrative and corrective activities. Striving for minimization of some life cycle components leads to in-

creased LCC level. There are known practices when those life cycle components that are incurred by the manufacture are limited and moved into consumer's cycle phases –as operating costs or social environmental costs. An analysis of material and energy flows in the manufacturing process as well as cash flows, while considering costs of emissions and wastes is carried out by using MFCA (Wagner B., Enzler S., 2006). Material Flow Cost Accounting developed in Germany and then in modified form was employed in many companies in Japan that recommended it in ISO in 2008. In MFCA the application of process technical and organizational innovations is a way of improvement. At present MFCA is a tool of environmental management recommended by ISO/TR 14051 (ISO/TR 14051, 2011). Possibility of application methods of MFCA are presented in Table 1.

Information gained from MFCA allows life cycle to be modified, particularly in production and waste management. This enables simultaneous generation of financial benefits and reduction of unfavourable environmental impacts. MFCA can be used by any organisation that uses materials and energy, regardless of products, size (small and medium enterprise too), structure, location and existing management and accounting systems, causing that product life cycle becomes a clear structure of material, energy and cash flows.

## 3. European Union action for sustainability of production and consumption

Sustainable consumption and production means using natural resources and energy more efficiently and reducing greenhouse gas emissions and other environmental impacts. It is all about producing and using products and services in a way that is least harmful to the environment. The aim is to meet our basic needs for goods and services while bringing about a better quality of life and also ensuring that there are sufficient resources left for future generations. Consuming sustainably concerns our lifestyle, buying behavior and how we use and dispose of products and services.

Sustainable production focuses on reducing the environmental impacts of production processes and designing better products. Resource and energy efficiency are the basis of Europe's future competitiveness. Sustainable consumption and production maximises the potential of business to transform environmental challenges into economic opportunities while providing a better deal for consumers.

Sustainable production sphere is probably the best known area of product LCM that remains under special legal and institutional control. It is thought that this area is the largest source of environmental hazards. Sustainable production requires realization the following ten principles:

*Table 1. Application of Material Flow Cost Accounting*

Type of manufacturing processes	Processing type: Manufacturing process that usually produces scrape, listing and similar wastes from machine processing, resin molding or other types of processing.
	Material type: Material production process with unfavorable yield rate or heat balance; MFCA is also effective for cost simulation in changing material contents of ores, etc.
Processes generating wastes	Individual processes: There are input materials, listing from work-in-process and defective products in each process generating wastes.
	Latter part of manufacturing process: MFCA is particularly effective where listing, defective products and other wastes are generated.
	Post-manufacturing: If a product has a very short shelf life, stock of expired products is generated and wasted.
	Set-up: Refers to product set-ups requiring detergents and adjusting materials; Loss grows larger in multi-model production.
Complexity in proces	Complex processes: Refers to processing involving multiple processes (MFCA is particularly effective in identifying financial responsibilities for losses generated in processes shared by multiple departments).
Recycling of waste	Recycling treatment: If wastes are sold as recycling materials, the selling prices are low than the original purchase prices. All the relevant processing costs become loss, which is effectively made visible by MFCA.
	In-process recycling: MFCA is effective in making loss on processing cost visible, even if there is no loss on material cost.
Management standards	Unclear waste data: Refers to the cases where waste quantity data are not identified by process, such as listing, set-up loss, defective loss, yield of byproducts, etc.
Wasted raw materials, work-in-process and products	If a product is discontinued, the relevant raw materials, work-in-process and products are discarded. (This requires particular notice for a product with a short life cycle or frequent model changes.)

*Source: Based on Nakajima M.,(2008)*

- chemical substances or physical agents and conditions that present hazards to human health or the environment are eliminated,
- energy and materials are conserved, and the forms of energy and materials used are most appropriate for the desired ends;
- products and packaging are designed to be safe and ecologically sound throughout their life cycle;
- services are organized to satisfy real human needs and promote equity and fairness;
- the communities around workplaces are respected and enhanced economically, socially, culturally and physically;
- the long-term economic viability of the enterprise or institution is enhanced;
- the security and well-being of all employees is a priority, as is the continuous development of their talents and capacities;
- wastes and ecologically incompatible byproducts are reduced, eliminated or recycled;
- work is organized to conserve and enhance the efficiency and creativity of employees;

- work places and technologies are designed to minimize or eliminate chemical, ergonomic and physical hazards.

Sustainable consumption is parallel area implementation of sustainable development, depends in large degree on the consumers attitude and awareness. Sustainable consumption of goods and services have minimal impact upon the environment, is socially equitable and economically viable whilst meeting the basic needs of humans, worldwide. Sustainable consumption targets everyone, across all sectors and all nations, from the individual to governments and multinational conglomerates (Srinvas, 2010).

The present UE product policy solves some market imperfections, however there are no effective activities regarding an assessment of the whole product life cycle in complex values creation chain. It is also lack of knowledge on overall resource use and damages caused by products in its whole life cycle, especially during use and post use disposal. One can also see disinformation of consumers due to both lack of knowledge and extended and often unjustified eco-labelling (EC Action Plan COM (2008). Therefore actions of the European Commission will be targeted at

improvement and propagation of LCT and methodology of LCA as well as data gathering so that they can form basis new instruments of policy as initiative in the area of sustainable production and consumption that will become the principal competitiveness factor. In the activity programme of the European Commission it is foreseen to develop guides containing methodological hints for quantitative assessment of direct and indirect corporate effect - Corporate Environmental Footprint, and life cycle impact – Product Environmental Impact. These guidelines are based on the standards International Life Cycle Data, prepared by the European Commission in 2010. They are aimed at providing higher data consistency and assessment methods in the whole life cycle as well as higher repeatability and comparability of the results. The guides were tested in companies operating in various sectors.

Since value of LCA methods depends both on its simplicity and data quality, the European Commission will still develop the European Life Cycle Data System and international system for worldwide studies. (ILCD Reference objects, 2010). These activities are also connected with other applications of LCA, e.g. as a method of product ecological features in the certification procedures for granting ecological marks, verification of raw material deliveries, product and methods within the scope of GPP – Green Public Procurement as well deliver chain in GBM - Green Business Models (EU Green Public Procurement, 2012). To stimulate company activities in sustainable production the European Commission foresees developing a support system to provide LCA methodology and to develop sector indices.

The EU strategy based on LCT is also targeted at introducing better products onto the EU market, while considering ecological efficiency, resource use and environmental impact of the whole life cycle, taken into account yet at the product and manufacturing process design stage. For this purpose consistent realization of IPP (Integrated Product Policy) should be used consisting in combination of regulatory and voluntary means for each product family, thus enabling an increase of ecological efficiency. This includes:

- application of eco-labelling, energy labelling and GPP to more products;
- systematic overview of ordinances to ensure dynamics and continuous activity improvement, including directive efficiency in eco-design and covering the energy use problems;
- adaptation of ecological marking methodology;
- activities related to packaging use optimization;
- extending responsibility for product in the context of life cycle and expanding warranty;
- promoting harmonized international ecological standards.

The European Commission pays attention to necessity of developing IT methods and tools for communications and propagation of sustainable development ideas, IPP and product ecological assessment as well promoting relevant vocational practices.

A significant part of the Commission work is promoting sustainable consumption based on the thesis that providing information on product ecological features is of great importance but insufficient to change consumer behaviour. Ecological features should not refer not only to narrow product groups referred to as ecological, as in present day, but shall proper for each product range. Apart from availability, functionality and moderate price, such products should be also attractive due to resource and energy consumption and ecological consumption shall be a social standard.

An important role is assigned to reliable information provided by corrected and harmonized eco-labelling. In the EU one can observe disinformation caused by increased number of labels. The European Commission propagates also an encouragement system for distributors to undertake intensive activities based on LCT to popularize and introduce into sale the products within priority categories that meet the eco-design or eco-marking requirements. It is predicted to place on labels necessary information about the product addressed for specialists as well to intensify informational activities for consumers, including information based on LCA and to encourage member states to use this methodology in any significant initiative, for instance in voluntary declaration system related to product environmental impact and national marking systems. The EU product database to be created thus enabling product searching and ranking based on environmental impact.

Green Public Procurement (GPP) will play more and more important role. For this purpose the European Commission will develop and updated green criteria for gaining public procurements within selected priority goods groups, while recommending member states the use of these criteria. Will propose also the scope of GPP for member states that should achieved till 2020, for example 75% at central level and 50% at local level. Will set also as a target the use of the 100% GPP rule for priority goods, services and construction work, thus indicating that all purchasing within these groups by public institutions must fulfil these criteria. GPP will be integrated with Structural and Cohesion Funds in the years 2014 -2020 to be a condition of co-financing payment (EU GPP, 2012).

The designed activities are aimed at increase of demand for products of better ecological characteristics in such selected categories as fast-moving goods, for example personal hygiene products, detergents, paper and textiles of significant environmental impact during the whole life cycle and that have ecological marking systems. This is a field of behaviour economics in order to knowledge of

environmental impact could create social standards. This requires coordinated cooperation of EU member governments with local institutions, private sector and mass media as well as changes in education systems.

Within the scope of waste management there are many new solutions pertaining not only environmental impact and its mass-generation but also limited availability and raw material prices. It is emphasized that it is necessary to perform complete economic analysis of waste value chain and recycling used. This indicated an eco-innovative direction of researches on new waste recovery and processing technologies, especially key materials for European industrial production.

Propagating LCA favours the initiative of industrial symbiosis and creating so called green business models (GBM), based on the assumption that such activities lead to improvement of economic and ecological position of the company and involved suppliers and customers. GBM runs along life cycle but of wider range than only one enterprise, integrating involved parties along the whole delivery chain.

## Conclusions

Currently the realization of sustainable development has reached the stage of strategy concretization. This requires many activities related to economic and social policy, primarily in reference to sustainable production and consumption.

According to the UE recommendations contained in Roadmap to a Resource Efficient, Europe Member States should (EC COM, (2011)571):

- put in place incentives that stimulate a large majority of companies to measure, benchmark and improve their resource efficiency systematically (continuous);
- ensure that advice and support is available to help SMEs identify and improve their resource efficiency and sustainable use of raw materials (continuous);
- help companies work together to make the best use of the waste and by-products they produce (e.g. by exploiting industrial symbiosis) (continuous).

Life Cycle Thinking (LCT) has reached the rank of sustainable development paradigm. This is manifested in various LCM forms as well as in design methodology and object life cycle assessment in the context of quality and environmental relations. LCT refers also to effective use of materials, energy and costs, employing LCC and MFCA.

LCT leads to quality and environmental improvement, effective and sustainable resource use that decide on efficiency of sustainable development.

Sustainable development and economic growth should simultaneously result in equalizing the standards quality

of life and public welfare. It requires significant change of socio-economic. These changes should mainly involve changes in the consumption and partially resignation from so far living model and readiness to participate in sustainability.

Change attitudes, restrictions and cancellation are difficult to society acceptance, especially in developing countries. Reach countries were polluting the environment and exploiting resources without restrictions during their development. For the same sake they are encouraging developing countries for limits to growth. Critical voices reflect social opinion in the developing countries and justifying the adopted path of development by them. They are source of barriers of realization sustainable development policy.

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## Central Asia in the Globalization Process: Comparative Analysis of Human Development and Socio-Economic Situation

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### Abstract

Twenty years have been left behind after the collapse of Soviet Union (SU) and independence of Central Asian Countries. Globalization accelerated worldwide in terms of socio-economic and political improvements and generated crucial outcomes. Neo-liberal approach has established positive perception about globalization; economic development will get better, poverty, unemployment and inequalities will be decreased. However, global financial crisis, increasing poverty and inequalities start to make this approach to lose its meaning. Furthermore, especially during last ten years socio-economic problems have deepened globally. Central Asian countries (Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, Tajikistan) experienced grave phases such as disintegrating from SU, establishing a nation-state and transition from command to free market economy, had faced setbacks in terms of socio-economic issues during the early stages of independence (1991 – 1995). Gradually in this geography socio-economic decline had slowed down and certain level of economic development had been achieved. Among these countries resource-rich countries Kazakhstan, Uzbekistan, Turkmenistan have better economic development potential relative to the Kyrgyzstan and Tajikistan. In this paper, Central Asian economies will be analyzed comparatively among themselves and with some other parts of the world in terms of main indicators such as socio-economic development, human development situation, income inequality, and poverty and unemployment rate.

**Keywords:** Globalization, inequality, poverty, human development index, socio-economic development

**JEL Classification:** O15

### Introduction

Globalization, especially in last 30 years with the collapse of the Soviet Union and combining with the worldwide socio-economic and political improvements has accelerated. Furthermore, this process has gained a comprehensive transformation volume affecting all nations. The point reached today, it is barely observed that this process generates important outcomes from the standpoints of social, economic, political and cultural aspects. Central Asian countries, during the accelerating globalization process, put differently, while there is a faster historical stream, gained their independence and they had been the part of international society. At this point, to establish a new state and nation building this based on the remnants of Soviet Union made them to experience pretty painful period. Today, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and Tajikistan have left the 20 years behind, which they gained during these challenging time period.

During the first years of independence for the transition to the democracy and market economy, even though these countries faced to serious socio-economic and political problems, today, more or less and relatively, with the changing scale they have gained economic and political stability. In this context, Central Asian countries between

1991 and 1995 during the “transition” and “restructuring” period, had come across to economic downturn with the average negative % 9. Whereas, considering 2011 Human Development Index (HDI) report, (UNDP, 2012), Kazakhstan is in the group of “high human development” and other central Asian countries are in the group of “medium human development” in the HDI rankings. However, combining effects of new conditions which are the results of transition from socialist economy to the market economy and socio-economic effects of intensified globalization process, could affect Central Asian countries in different ranges. In this study, under the light of basic indicators during the globalization process Central Asian countries socio-economic development, human development situation, and income inequality and poverty issues will be analyzed comparatively.

### 1. Globalization and Socio-Economic Consequences

Globalization, especially under the leading nature of economical, technological, and cultural components, has increased gradually mutual interdependence between world nations and countries. Nevertheless, today this interdependence besides with the regional and global scale integration movements also brought about decomposition and





conflicts. Moreover, integration and mutual interdependence issues as it had been seen in the last financial crisis in the EU, not only generate positive outcomes, it brings more complicated approaches to the problems and during the remedy search generates some constraints.

In the report of “The Neighbor in Crisis: Greece” of the Platform for Global Challenges this topic had been underlined. Up to the report (Platform for Global Challenges, 2012), EU integration movement, transforms Europe to the combined power, but at the same time, weakened the economic authority by supranational replacement. Euro, as a common currency and removal of custom obstacles on the borders, made the EU to move to the new dimension. To conclude, integration in EU constrain independence decision-making of member countries and national policies, because of these reasons, EU should make decisions on the multilateral level.

Thereby in the report, the reactions to the crisis in the Greece and decisions made within the EU have been considered as the results of “economic dependency” and “openness”. On the other hand, first of all, today globalization phenomenon, is about the “trade in more broad geography and eventually worldwide trade”, put it differently, is the symbol of “universal economic relations” (Bulutoğlu, 2002: 330). By early 1980`s, globalization process accelerated and today it has triggered a brand new universal economic and international trade flow. A number of scholars (Wallerstein, 1998; Bulutoğlu, 2002: 331) conclude that, the point reached today and in this free market competition environment the economy had been established, it is kind of the economy which is based on worldwide production and distribution and it is the ultimate phase of liberalism. 20 years ago, Francis Fukuyama (Fukuyama, 2002), by considering the collapse of the Soviet Union, described this process “end of the history and worldwide victory of liberalism.”

In this context, especially, during 1980`s and 1990`s prevalent neo-liberal approach came up with the conclusion that broadly speaking, globalization will generate positive outcomes for all the countries and will increase the economic development and welfare of nations. Whereas, in today`s world, especially with the global economic and financial crisis, increasing inequalities, poverty and unemployment have also gained global scale. As Joseph Stiglitz (Stiglitz, 2000) emphasized these negative developments is a core responsibility of central countries of capitalism, and global financial institutions such as IMF and World Bank. Ten years after the Asian Financial Crisis 1997, in 2008 financial crunch in USA have generated negative results which cover all around the world (Elma, 2008: 41). Moreover, as it happened in some European countries economic crisis brought about many grave consequences, which expands gradually. As it was stated in the Platform for Global Challenges report, economic crisis have deep-

ened divergence within the European Union. Greece is the core source of problems of economic crisis in European Union, as it is seen in the Exhibit 1, public debt /GDP ratio during the 2009 have reached astronomic level.

Graphic 1: Greek Public Debt rate to GDP in 1980,1990 and 2009

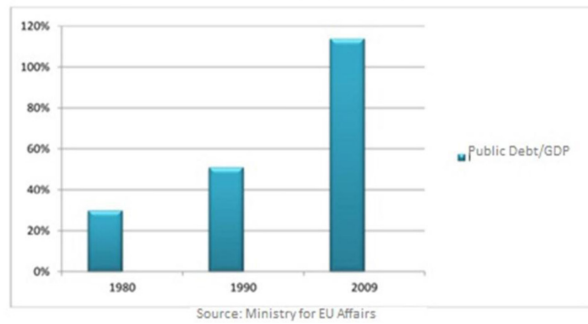
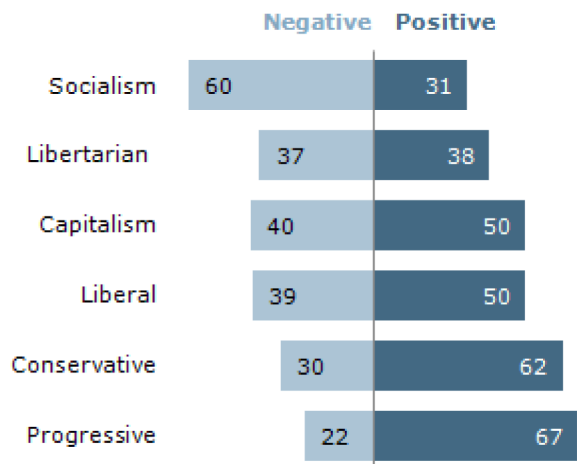


Exhibit 1: Greece Public Debt / GDP ratio for 1990-2009  
Source: Platform for Global Challenges, 2012.

By 2010, this ratio was 145 %, and on January 2012 this ratio was % 160. During the process, at the same time, standard of living of nation has decreased rapidly, unemployment increased and %48 of the nation started to live under the poverty line (Platform for Global Challenges, 2012: 2). Maybe relative importance of the problems is smaller, but similar problems have taken place in Spain, Italy and other union countries. By the time, interesting result came from the Pew Research Center, which organized a poll about the confidence to the capitalism in the USA. There is an interesting comparison between 2010 and 2011.

### Public’s Views of Political Terms



PEW RESEARCH CENTER Dec. 7-11, 2011.

Exhibit 2: Little Change in Public’s Response to Capitalism, Socialism

According to the poll, in 2010, USA public have confidence on capitalism was %52, and %37 of the population

did not have confidence on capitalism. In 2011, as its is seen from the Exhibit 2, these rates are relatively %50 and %40. USA has been considered as the centre of capitalism, because of this reason, these results are pretty interesting from the standpoint of globalization, capitalism and crisis triangle. Moreover, since the “cold war” era, for the decades, socialism opponency was quite prevalent in this country and right now, only %60 of the population has negative perception about socialism, %31 of American public is on the positive view side. It is pretty intriguing. In addition to this, recently, especially in capitalist centers such as London, Paris and New York, crisis and capitalism opponency outcries does also have deep considerable meaning from standpoint of the socio-economic consequences of globalization in the developed part of the world.

Therefore, by considering the examples which is given above about the EU and USA, and especially increasing negative voices against the globalization in the “third world”, we can easily state that, prevalent neo-liberal approach about the globalization has been quite controversial. As it is known, economy represents only one dimension of globalization.

Social, political and cultural dimensions of this process are also crucial. Consequently, around the globe, socio-economic realities and conditions that had been revealed by the globalization are in a very crucial conjuncture. Today’s world is exactly in a situation which laboratory means for the positive sciences. We can also conclude that, with the socio-economic, political and environmental aspects, there is an ongoing the global depression.

So that, after the collapse of the Soviet Union, USA and EU as the centers of capitalism one after another experience economic and financial crisis and much more important and crucial point is that, nobody knows how to find out relevant remedies for these problems. All these developments take the pathway, which may justify the views of Immanuel Wallerstein. Wallerstein considers globalization as the “capitalist world economic system” and about 14 years ago contrary to the views of Fukuyama, he stated that, new era will bring “collapse of liberalism by increasing rate” and also will represent the time period which can be defined as “transition to post-liberalism world” (Wallerstein, 1998).

## 2. Globalization Process and Central Asia

In the currently experiencing global process, it is barely seen that, almost all nations have faced opportunities and threats of global era. As it happened in many geographies and countries, mainly challenging aspects and costs of global financial and economic crisis came into prominence (Elma, 2008: 41 – 43). Even USA and EU cannot isolate themselves from this inevitable outcome. Moreover, developed world is on the center of the global financial

and economic crisis. England, Greece, Italy, Spain, Portugal, Romania and Holland have experienced the situations in which, social upheavals, riots and social unrest even made governments to leave the administration or they have to give up on behalf of the technocrats. So, it is inevitable for Central Asian countries to be out of the challenging and opportunities of the globalization.

Central Asian definition is generally about the geography of Turkic nations which had been under the control of Soviet Union (Yalçinkaya, 1998). In the past, this geography had been the center of civilization, science and trade. Tsarist Russia invaded Central Asia and for a long time period, this region under the influence, isolated from the rest of the world. This region was the main supplier of raw materials and agricultural production during the Soviet Union Era. In this context, Central Asia the structural component of the Soviet Union with minimum investment from the central government became the least developed region. As a result of these policies, Central Asia comparatively lagged behind the other Union regions. It derived huge inequality. So that, during the World War II, industrial plants which were exposed to the threats, had been transferred to the Central Asia, but still there were ongoing inequalities. (Pomfret, 1995: 21-26). It is tragic situation of the region; richest countries in the region with the natural resources did have the lowest national income and there was undeveloped industrialization (Dikkaya, 2009: 73 – 74).

However, by the collapse of the Soviet Union, these five countries saved themselves from this isolation and first time in their history, they had chance to have relations with overseas directly. Subsequently, transition period in these countries coincided with the accelerating globalization process. It was quite challenging confrontation. Fast and abrupt transition period and free competition left these countries in an unprepared situation in front of the globalization (Dikkaya, 2009: 82 – 85).

Hopkins and Mansbach states that, (Hopkins and Mansbach, 2008), globalization with its eight distinctive features has been quite clear in Central Asia, after the collapse of Soviet Union:

- a. Communication technologies which reduces the importance of physical distance,
- b. Dissemination of information which brings about intensive political participation,
- c. Global capitalist market, which surpasses state borders and confine state’s control of their economies,
- d. Homogenization of mass global culture,
- e. Reign of English language globally,
- f. More prevalent democratic norms,
- g. Rise is relative importance of civil society,
- h. Transgovernmental alliances and networks transcending national boundaries

In fact, as emphasized by Hopkins and Mansbach, the general factors of globalization affects people all over the world. These facts also affected, to some extent, Central Asian societies. In the first period of independence and the transition process Central Asian countries faced the globalization process and, experienced dramatic setback in basic public services, huge decline production and abrupt rise in the unemployment and inequalities. However, on the other hand, we should also briefly state that, in the process of globalization initially troubled countries in region, but also changed their position after 150 years, which was isolated from outside world. Today, Central Asian societies have an opportunity to express their ideas regarding their fate and this opportunity carries vast importance for Central Asian countries.

### 3. Analysis of Human Development and Socio-Economic Situation of Central Asian Countries during the Globalization Process

Assessment of socio-economic development includes following indicators: urbanization, industrialization, volume of middle class population, human development index, GDP, national income per capita, quality of life, economic inequality, education, health, proportion of provided communication and transportation facilities (Elma, 2007: 584). However in this study, we are going to assess socio-economic development level with narrow definition. Thereby, we will include GDP, national income per capita, human development index, inequality, poverty and unemployment as the leading indicator of assessment of the socio-economic development in Central Asian countries. During the first years of independence with the painful transition period, privatization and liberalization took

place in Central Asia. By the time Kazakhstan, Uzbekistan and Turkmenistan natural resources played important role in the socio-economic development of these countries. Nonetheless, resource-poor countries as Tajikistan and Kyrgyzstan had lag behind this countries in terms of socio-economic development.

On the hand, during the initial period of independence in all Central Asian countries, unemployment increased, main public services declined and furthermore there were a huge income distribution and standard of living differences which had taken place. It was a grave trauma effect for the societies of these nations, whom has experienced socialism. It was mainly because of the basic fact: during Socialism the convergence of income distribution was prevalent. Statistics data which is about recent situation of these countries, it is barely seen that, socio-economic situation is not that bad comparing with the beginning of transition. Moreover, in 2011, all Central Asian countries are at least in medium human development ranking and Kazakhstan is even in the high human development ranking. Assessment of Human Development Report 2011(HDR, 2011) which is summarized in the Table 1 reveal these basic facts: UN, Human Development programme, by assessing 187 countries, considering indicators like “life expectance at birth”, “mean years of schooling”, “adult literacy rate” and “Gross National Income per capita”, determined the HDI ranking. Up to this report, among Central Asian countries, Kazakhstan, with the 0.745 HDI value, does have an outstanding ranking on the HDI report and in the 68th place. Assessment of other countries are like that: Turkmenistan, with 0.686 value is in the 102nd place, Uzbekistan, with the 0.641 value is in the 115th place, Kyrgyzstan with the 0.615 value is in the 126th place, Tajikistan with the 0.607 value in the 127th place.

*Table 1. Central Asian Countries Human Development Index and Components (2011)*

Human Development Index (HDI) value	Life Expectancy at birth (years)	Mean years of schooling (years)	Adult literacy rate (% ages 15 and older) (2005 – 2010)	GNI per capita (Constant 2005 PPP, \$)
68. Kazakhstan (0.745)	Uzbekistan (68,3)	Kazakhstan (10,4)	Kazakhstan (99,7)	Kazakhstan (10.585)
102. Turkmenistan (0.686)	Kyrgyzstan (67,7)	Uzbekistan (10,0)	Tajikistan (99,7)	Turkmenistan ( 7.306)
115. Uzbekistan (0.641)	Tajikistan (67,5)	Tajikistan (9,8)	Turkmenistan (99,6)	Uzbekistan (2.967)
126. Kyrgyzstan (0.615)	Kazakhstan (67,0)	Turkmenistan (9,9)	Uzbekistan (99,3)	Kyrgyzstan (2.036)
127. Tajikistan (0.607)	Turkmenistan (65,0)	Kyrgyzstan (9,3)	Kyrgyzstan (99,2)	Tajikistan (1.937)

*Source: Human Development Report 2011.*



By comparing very high human development ranking values, differences can be seen in following details: for example in Norway, HDI value is 0.943. And about the components of HDI value, we see that, between Norway and Central Asian countries at the “life expectancy at birth” value, there is difference ranging from 13 to 16 years. In terms of “mean years of schooling” difference is 2 – 3 years. At “adult literacy rate” difference is not too much. But Gross National Income per capita includes huge divergence, ranging from 37000 dollars to 45000 dollars. When comparing Kazakhstan, income divergence is 37000 dollars, but in the Tajikistan example it is even more than 45000 dollars.

Among the Central Asian countries, Kazakhstan is leading on all the components of the Human Development Index. On the three components of HDI index value, there is not huge difference. But on the Gross National Income per capita divergence determines their ranking on the HDI. For example, Turkmenistan gross national income per capita is 3000 dollars less than the Kazakhstan, this difference reflected in the HDI index value barely. Turkmenistan, even though have too much similarity on three

components of HDI, lag 34 places behind the Kazakhstan. It is quite bare that, main HDI differences between this countries stem from gross national income per capita. Kazakhstan and Turkmenistan are resource –rich countries, and the result of oil and gas windfall gains made their well being better than others.

In the Table 2, we are going to analyze, trends in HDI between the years 1995 – 2011. This period of time coincides with the end of the first transition period and accelerating globalization. HDR Report 1995 ranks 174 countries, whereas HDR 2011 ranks 187 countries. Kazakhstan again is in outstand situation, this country in 1995 in the 93rd place, but in 2011 68th place. Turkmenistan stepped upward only 1, Uzbekistan, Kyrgyzstan and Tajikistan’s position not only improved, even slowed back. During these 16 years, it is quite striking fact. Main reasons of this outcome could be new countries on the HDI ranking and their slower economic development. Also, from the Table 2, it is seen that even though there is positive HDI growth as a percentage during 2000 – 2011, because of the better performance of other and newly added countries, Kyrgyzstan and Tajikistan HDI ranking declined.

*Table 2. Human Development Index Trends, 2000 – 2011*

HDI rank	Countries	Human Development Index (HDI) value						HDI rank		Average annual HDI growth (%)
		1995	2000	2005	2009	2010	2011	Change <sup>1</sup>		
								2006 – 2011	2010 – 2011	
68	Kazakhstan	0.693 (93)	0,657	0,714	0,733	0,740	0,745	2	1	1,15
102	Turkmenistan	0.660(103)	...	0,654	0,677	0,681	0,686	1	0	...
115	Uzbekistan	0.659(104)	...	0,611	0,631	0,636	0,641	2	0	...
126	Kyrgyzstan	0.633(109)	0,577	0,595	0,611	0,611	0,615	-1	0	0,59
127	Tajikistan	0575 (118)	0,527	0,575	0,600	0,604	0,607	-1	0	1,30

*Source: Human Development Report 2011. <sup>1</sup> a positive value indicates an improvement in rank*

**Table 3. Income Inequality Situation for Selected Countries, 2011**

HDI Rank	Country	HDI value	Inequality-adjusted HDI (IHDI) value	Difference between HDI - IHDI	Quintile Income Ratio (2000 - 2011)	Income Gini Coefficient (2000 - 2011)	Population Below National Poverty Line (%) (2000 - 2009)
1	Norway	0,943	0,890	0,053	3,9	25,8	...
39	Poland	0,813	0,734	0,079	5,6	34,2	16,6
68	Kazakhstan	0,745	0,656	0,089	4,6	30,9	15,4
76	Ukraine	0,729	0,662	0,067	3,9	27,5	7,9
102	Turkmenistan	0,686	...	...	7,9	...	...
115	Uzbekistan	0,641	0,544	0,097	6,2	36,7	...
124	Indonesia	0,617	0,504	0,113	5,9	36,8	13,3
126	Kyrgyzstan	0,615	0,526	0,089	4,9	33,4	43,1
127	Tajikistan	0,607	0,500	0,107	4,2	29,4	47,2
156	Nigeria	0,459	0,278	0,181	9,5	42,9	54,7

Source: Human Development Report 2011

In the Table 3, income inequality and poverty situation data are given not only for the Central Asian countries but also other developed and developing nations, relatively covers periods of 2000 – 2011 and 2000 – 2009. By considering this data, inequality adjusted HDI<sup>1</sup> value gives us clues how much crucial is the inequality. In Norway and Poland it is bare that inequality does not lower raw HDI value too much, but for example in Tajikistan and in Kyrgyzstan it is relatively high. Also, quintile income ratio<sup>2</sup> shows us that, inequality is Turkmenistan and Uzbekistan is serious problem too. In Turkmenistan, richest 20 percent of population's average income is almost 8 times more than the poorest 20 percent of the population. In Uzbekistan, this ratio is 6, 2. Bringing together with the difference between HDI and IHDI and quintile income ratio, it is seen that, Tajikistan also have some problems in terms of inequality, Kyrgyzstan is relatively better situation, comparing to Tajikistan. Income Gini coefficient<sup>3</sup> which covers the period of last ten years does also provide striking clues. Uzbekistan is in the worst situation. With the low gross domestic product per capita, at the same time population of Uzbekistan is relatively higher. As Table 4 shows, any of other three Central Asian countries total population is less than the population of Uzbekistan.

**Table 4. Population (million persons)**

Country	2000	2006	2011
Kazakhstan	14.866	15.397	15.599
Kyrgyz Republic	4.915	5.196	5.508
Tajikistan	6.135	6.381	6.575
Turkmenistan	4.643	5.104	5.526
Uzbekistan	24.908	26.759	28.585
Total	55.467	58.837	61.793

Source : IMF, April, 2010.

Uzbekistan's economic situation is also can be seen from the Table 5. Even though significant nominal GDP increases, double digit inflation rates for the last 5 years and increasing population keeps the GDP per capita relatively lower in Uzbekistan. Generally, the entire Central Asian countries after independence preferred to establish political stability and economic development. Resource-rich countries Turkmenistan and Uzbekistan have relatively lower human development situation than Kazakhstan. This difference is stemming from governance model of these countries. Kazakhstan is eager to integrate with the rest of the world. Turkmenistan and Uzbekistan chose to remain isolated from the rest of the world. Also, these two countries tried to experience gradual transition period from command economy to the free market economy. Kyrgyzstan is also still having challenging inflation problem. GDP and GDP per capita in term of nominal numbers doubled in last 5 years, because of the reason that Kyrgyzstan started to have increasing growth rates after 2006. But global financial crisis was a big unfortunate for this country.

In Turkmenistan case, even though inflation rate is generally around single digit, combined effect of inflation and population growth does constrain the high GDP per capita. Tajikistan population does not grow very fast and by the 2008; inflation was still in double digits, even though GDP numbers increase by the time, GDP per capita still remains very low. Another reason for the expanding mining sector is uranium production. Kazakhstan not only produces oil, but also starts to be leading supplier of uranium around the globe. Kazakhstan produces a large share of uranium from mines, 33% of world supply. In 2003, Kazakhstan uranium production was only 3300 tones; in 2010, this figure reached 17803 tones (WNA, 2011). For industrial development and industrialization, government plans to implement 162 projects totaling \$45 billion in investments

during 2010 – 2014 (ADB, 2010). This figure equals to the total GDP of Uzbekistan and exceeds the total GDP of remaining three countries. ILO provides unemployment rate about the countries which refers to the “employment office records”. Because of this reason, combining with the other socio-economic indicators, it is quite understandable that, very low unemployment rate which is given below does

not reflect the reality about these countries. For example, population lives under the poverty line in Tajikistan states controversy with extremely low unemployment rate which is given at Table 6. Because of this reason, inadequate data about Tajikistan, Turkmenistan and Uzbekistan do not let us to make wide interpretations about the unemployment.

*Table 5. Main Economic Indicators of Central Asian Economies*

Real GDP growth (annual change, percent)	Average 2000 – 2006	2007	2008	2009	2010	2011
Kazakhstan	10,3	8,9	3,2	1,2	7,3	7,5
Kyrgyzstan	3,9	8,5	7,6	2,9	-0,5	5,7
Tajikistan	8,9	7,8	7,9	3,9	6,5	7,4
Turkmenistan	15,8	11,1	14,7	6,1	9,2	14,7
Uzbekistan	5,4	9,5	9,0	8,1	8,5	8,3
Consumer Price Inflation (Year average, percent)						
Kazakhstan	8,1	10,8	17,1	7,3	7,1	8,3
Kyrgyzstan	6,4	10,2	24,5	6,8	7,8	16,6
Tajikistan	17,8	13,2	20,4	6,5	6,5	12,4
Turkmenistan	8,4	6,3	14,5	-2,7	4,4	5,8
Uzbekistan	17,4	12,3	12,7	14,1	9,4	12,8
2006 Nominal GDP, (billions of US dollars)						
Kazakhstan	81	105	136	109	126	143
Kyrgyzstan	2,8	3,8	5,1	4,6	5,1	5,6
Tajikistan	2,8	3,7	5,1	4,99	5,49	6,09
Turkmenistan	21,4	26	19	17,4	20,2	24,5
Uzbekistan	17	22	29	33	37	42
2006 Gross domestic product per capita, current prices						
Kazakhstan	5261	6748	8716	7019	8108	9197
Kyrgyzstan	546	725	966	851	941	1023
Tajikistan	440	578	795	766	841	926
Turkmenistan	4191	5006	3601	3242	3719	4436
Uzbekistan	636	821	1038	1176	1320	1453

*Source: IMF, Regional Economic Outlook, April, 2012.*

In terms of reducing unemployment, Kazakhstan has done too much work: it is mainly because of declining trend in unemployment rate. Vice versa, unemployment rate in Kyrgyzstan has increasing trend. To make a reliable and adequate, we tried to collect all data from the same source. But unfortunately, even ILO databases do not include proper data base about Central Asian countries.

*Table 6. Unemployment Rates (% of total labor force)*

Country	2001	2006	2007	2008
Kazakhstan	10,4	7,8	7,3	6,6
Kyrgyz Republic	7,8	8,3	8,2	8,2
Tajikistan	2,3	2,2	2,5	...
Turkmenistan	...	...	...	...
Uzbekistan	0,4	0,2	0,3	0,4
Total				

*Source: ILO database*

## Conclusion

Globalization brings about opportunities and threats at the same time. Within the Central Asia geography, Kazakhstan is the leading country which takes the advantage of globalization. Both in terms of Human Development Index and main economic indicators, in this study we singled out Kazakhstan. In the 1995, on the HDI ranking there were 174 countries, in the 2011 there are 187 countries. Even though 13 more countries had been added to list, Kazakhstan did not lag behind many countries and climbed up 25 places in HDI ranking. Population lives under the national poverty line is not too high and income inequality is not severe. Kazakhstan's main sources of income are the mining sectors, such as oil and uranium. These windfall gains did not made inequalities and income distribution worse. Turkmenistan, comparing to the remaining three countries is better socio-economic condition. Results are interesting here also, because comparing the resource-rich countries Turkmenistan and Uzbekistan with Kazakhstan, we are not going to observe the similar level of success. In the globalization era, it is the success of citizen of Kazakhstan and President Mr. Nursultan Nazarbayev.

Besides, for the Turkmenistan, Tajikistan and Uzbekistan unemployment rates and employed populations' current situation is still under the big question mark. It requires further research in terms of effects of globalization. Kyrgyzstan has the lowest population number in the region, but still struggles with the poverty problem. Even though Kyrgyzstan HDI value showed positive improvement during analyze period, it lost 17 places in HDI ranking. Tajikistan lost 9; Uzbekistan lost 11 places in HDI ranking. Kyrgyzstan and Tajikistan does not possess excessive amount of natural resource, it brings more challenging situation for them for fighting against the negative effects of globalization. Turkmenistan only climbed up 1 step ahead. Besides significant real GDP growth rates, quintile income ratio shows that, income distribution and inequality still remains challenging issues. Also, ILO database does not include anything about Turkmenistan unemployment rates. Because of this reason, unemployment issue is also need to be analyzed with the reliable data. Kazakhstan is on the "high human development" group in the HDI ranking and it is clearly an outstanding success, others at least are in the "medium human development" ranking. It means, they are at the beginning and there is still long way to go.

## Notes

1. HDI value adjusted for inequalities in the three basic dimensions of human development.

2. Quintile income ratio: ratio of the average income of the richest 20 percent of the population to the average income of the poorest 20 percent of the population.

3. Measure the deviation of the distribution of income (or consumption) among individuals or households within a country from a perfectly equal distribution. A value of 0 represents absolute equality, a value of 100 absolute inequality.

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# Long-term Effects Estimation of Mega-sport Events on Hosting Countries with Transition Economies

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## Abstract

This paper is devoted to the long-run effects of such as Olympic Games, FIFA World Cup or other world championships, on host ex-USSR countries. The cases of countries like Russia, Ukraine, Belorussia, Kazakhstan and others show that the main feature of hosting international competitions is the effect of uncertainty when the same costs can contribute to economic growth and serve as a brake on the development after the event. The effects of crowding out, hidden stadiums and hotels costs and lost opportunities costs were pointed out as major negative long-run consequences. However competent policy of local authorities, which includes accurate infrastructure planning, exact organizational process design and image policy, may transform them into positive effects.

**Keywords:** economic long-term effects; sports mega-events; ex-USSR countries; economic growth; hosting countries.

**JEL Classification:** O52, O53, P27, P33.

## Introduction

Roche (2000) describes mega-sporting events as “large-scale cultural (including commercial and sporting) events which have a dramatic character, mass popular appeal and international significance. They are typically organised by variable combination of national governmental and international non-governmental organisations.” Horne & Manzenreiter (2006) build upon this description by defining two key characteristics that mega-events should hold: first, that the host nation, region or city should experience significant alterations to the regular cycle of events that take place in that place; and second, that such events should attract media representatives and viewers from numerous nations across the world. Increasing the security measures, organising transport and energy infrastructures, accommodation facilities, preparing new sport areas... are only some of the situations that the selected country has to plan in advance, with a short-time deadline and budget limitations (Ahlfeldt and Maennig, 2010).

Of the many sports (and variations therein) played during the world today, only a few can rightly claim to be classified as ‘mega-events.’ For the ex-USSR countries the following competitions are sport mega-event: 2011 Asian Winter Games in Kazakhstan, 2012 UEFA European Football Championship in Ukraine and Poland, 2014 Men’s World Ice Hockey Championships in Belarus, 2014 Winter Olympic Games and 2018 FIFA World Cup in Russia.

### 1. Mega-sport events in modern world.

The Asian Games, officially known as Asiad, is a multi-sport event held every four years among athletes from all over Asia. The Games were regulated by the Asian Games Federation (AGF) from the first Games in New Delhi, India, until the 1978 Games. Since the 1982 Games they have been organized by the Olympic Council of Asia (OCA), after the breakup of the Asian Games Federation. [1] The Games are recognized by the International Olympic Committee (IOC) and are described as the second largest multi-sport event after the Olympic Games.[2][3] The 2011 Asian Winter Games was a multi sporting event that was being held in Astana and Almaty, Kazakhstan and that began on January 30, 2011 and ended on February 6, 2011. It was the first time that Kazakhstan hosted such a large event since independence from the Soviet Union.

The UEFA European Football Championship is the main football competition of the men’s national football teams governed by UEFA (the Union of European Football Associations). Prior to entering the tournament all teams other than the host nations (which qualify automatically) compete in a qualifying process. The championship winners earn the opportunity to compete in the following FIFA Confederations Cup, but are not obliged to do so. The 2012 UEFA European Football Championship will be the 14th European Championship for national football teams sanctioned by UEFA. The final tournament will be hosted by Poland and Ukraine between 8 June and 1 July 2012. It is the first time that either nation has hosted the tournament.

The Ice Hockey World Championships are an annual men’s ice hockey tournament organized by the International Ice Hockey Federation (IIHF). First officially held at



the 1920 Summer Olympics, it is the sport's highest profile annual international tournament. 2014 IIHF World Championship will be hosted by Belarus in its capital Minsk. On May 8, 2009 the Belarusian bid was successful and got 75 votes in the race for hosting the 2014 IIHF World Championship. The application with the slogan "Welcome to the young hockey country" beat out those from Hungary (24 votes), Latvia (3), and Ukraine (3).

The Winter Olympic Games is a sporting event, which occurs every four years. The first celebration of the Winter Olympics was held in Chamonix, France, in 1924. The Winter and Summer Olympic Games were held in the same years until 1992, when the governing body for the Olympic Games, the International Olympic Committee (IOC), decided to place the Summer and Winter Games on separate four-year cycles in alternating even-numbered years. The 2014 Winter Olympics, officially the XXII Olympic Winter Games, or the 22nd Winter Olympics, is a major international multi-sport event scheduled to be celebrated from 7 to 23 February 2014, in Sochi, the Russian Federation with some events held in the resort town of Krasnaya Polyana. The 2014 Winter Olympics are the first Winter Olympics (and first Olympics altogether) for the Russian Federation, as the 1980 Summer Olympics in Moscow were in the former Soviet Union.

The FIFA World Cup, often simply the World Cup, is an international association football competition contested by the senior men's national teams of the members of Fédération Internationale de Football Association (FIFA), the sport's global governing body. The championship has been awarded every four years since the inaugural tournament in 1930. The World Cup is the world's most widely viewed sporting event; an estimated 715.1 million people watched the final match of the 2006 FIFA World Cup held in Germany. The 2018 FIFA World Cup will be the 21st FIFA World Cup, an international association football tournament that is scheduled to take place in 2018 in Russia. The tournament will involve 32 national teams, including that of the host nation. This will be the first time Russia has hosted the tournament, as well as being the first World Cup in Eastern Europe. It may also become the first World Cup held in more than one continent, namely Europe and Asia, according to the bid.

## 2. The methodology of analysis

There are three phases for a hosting mega-sport event country that is used to be taken into consideration:

- Pre-Event impact – impacts first start to occur soon after the city has decided to bid for championship, up to a decade prior to the actual event, but become more significant after the championship is awarded. The impacts here relate mainly to the investment and other preparatory activities required staging the mega-sport event, but tourism

could also start to pick up in advance in some cases due to the higher profile of the host city.

- Event impact – impact of the sport championships and the associated events immediately surrounding them.

- Post-Event impact – longer-term impact can last for at least a decade after the mega-sport event. This mainly relates to post-event tourism and infrastructure effects.

Moreover, the studies of how mega-sport events affect economies can be defined into two types:

- Ex ante (pre-event) studies investigate the potential ways in which host communities are affected by the introduction of a new sporting event or the withdrawal of a current contest, often focusing on "estimating the number of visitors an event is expected to draw, the number of days each spectator is expected to stay, and the amount each visitor will spend each day" (Matheson, 2006).

- Ex post (post-event) studies are more descriptive, detailing the actual economic impacts that took place during a particular mega-event on the basis of various economic indicators. Matheson (2006) identifies potentially useful economic indicators such as changes in gross domestic product (GDP), income per capita for residents of the host city in comparison to other similar cities, employment rates, sales of various goods, hotel occupancy and prices and airport traffic.

To estimate the long-run effects on hosting economies we use ex ante study with ex post study implications and we focus on post-event impact only.

## 3. Transition economy effects

Costs for the competition hosting in Ukraine amount to \$15841.77million, in Poland -\$35,427,480,000 U.S. dollars, in Russia - 21,068,070,000 U.S. dollars [2], in Kazakhstan -\$1577 million U.S. dollars, and in Belarus - \$ 12 million, which includes the modernization of the whole transport infrastructure, construction and reconstruction of the football stadiums, training centers, construction and reconstruction of hotels and security costs of competitors and spectators.

But will these costs bring profit in the long run? Everything will depend on how countries can deal with effects which are described below.

### 3.1. Crowding out and image of the city

One of the positive effects can be the increase of tourists' quantity in hosting country. However, the reverse side of this benefit may be crowding-out effect, described by Baade and Matheson in the context of the Sydney Olympic Games: "some non-residents, who might have visited the country, decide not to do so because of congestion and high prices during the event's period" and "... even the host city's residents who do not attend the games may

reduce their expenditures in the city if they avoid temporarily the neighborhoods of the stadiums”. Other tourists who might have visited the host region for reasons other than the sports mega-event may be unable to find accommodations or transportation and decide not to visit it at a later date. Another one phenomenon has been identified at sports mega-events: since the sports mega-events are planned six or more years ahead, potential tourists have many opportunities to plan the travel to other destinations. The abovementioned effect was detected after the Olympic Games in 1994, in Norway and 2000 in Australia, which has substantially reduced income from tourism in the next year for the sporting event.

Moreover, Tilley (2006) indicates that the global media coverage may enhance hosting cities’ reputations like in the case of Barcelona during the 1992 Olympics. But Florek & Breitbarth (2007) find out disappointed expectations of tourists who visited Germany in the time of the 2006 World Cup. Thereby, interestingly, only 19% of people had a positive image of Germany pre-event; this leapt fourfold after the event to 76.7%. This leap, combined with the fact that their outlook on the tournament itself did not alter significantly suggests that a mega-event can provide impetus to improve a nation’s image.

Poynter (2006) opines that the level of development of a country can affect the way it intends the world to see it. For example, North American and European cities aim to rejuvenate expansion in the post-industrial era, whilst Asian nations aim to put themselves and their products in the shop window for economic progression. Atlanta aimed to build a reputation as a major business center, whilst Barcelona and Athens hoped to attract tourists. All have been relatively successful, although it is developing nations that appear to reap the most intangible benefits. South Korea’s image post-2002 became one of a country in economic boom, with people exposed to the range of hi-tech equipment available (Brooke, 2002; Poynter, 2006) and testing by Kim & Morison (2005) indicated positive representation of the nation through the eyes of tourists.

To attract tourists Kazakhstan was first among other countries - the Asian Games organizers that realized the project “Cultural Asiad.” Cultural events that reflect the culture and traditions of Kazakh people were held for participants and guests of the Games as part of the VII Winter Asian Games in 2011.

However, not all intangible effects are positive – some mega-events have become better known for the background events aside from the tournament. These may include political ideologues being promoted by the hosts or terrorist attacks sparking fear into the fans. For instance, Berlin 1936 Olympics were seen as symbolizing the clash of fascism and democracy as the Nazi’s attempted to promote their ideals to the world.

On January 16, 2012 President Lukashenko announced

that any foreigners who want to attend the World Championships will not need a visa to enter Belarus, or the medical insurance required for entry. The only documentation required will be an original or electronic copy of a ticket to a game. It was the first steps to demonstrate country’s openness to the guests and participants and to show Belarus as hospitable and friendly nation.

### 3.2. *Hidden stadium and hotel costs*

The best examples of new or renovated infrastructure construction projects are stadiums, roads and airports. Essex and Chalkley (2004) report that non-event related infrastructure investment for winter Olympic Games over the past 20 years were often as large, or larger, than the direct costs of hosting these mega-events, so this type of spending can be significant. Investment in these projects may improve the quality of life of the local population long after a sports mega-event takes place. It is important to plan new infrastructure construction that can be used after an event by local residents, because benefit from the modernization of transport infrastructure, hotels and stadiums can turn hidden costs of maintaining stadiums and hotels. Crompton (1995) affirms that money spent on construction of sports facilities should be counted as a part of the cost of hosting mega-events, and not as a part of the economic benefit. Many economic impact studies erroneously include stadium construction costs as part of the benefits. However, these stadiums after the international competitions will generate significant operational costs, and their size may be too large for current and future needs of the sports teams in Belarus, Kazakhstan, Ukraine, Poland and Russia. For example, the average attendance at football matches in the Premier League in 2011 in Poland amounted to 6541 people in Ukraine - 9228 people in Russia - 12 969 people, that much less their capacities. Even with the increase in attendance of football matches these stadiums will not be used at full capacity.

During the construction phase of premium hotels is increasing jobs, increasing costs for construction materials and transport, as well as the increase in salaries of staff. In the countries with economies in transition, there are two risks. First of all, the risk that the hotels will be owned by foreign companies and, therefore, a significant portion of the profits will go to other countries. As well as the risk of lack of demand for premium hotel after the competition, this will lead to their bankruptcy. For example, after the Winter Olympics in 1994 40% of hotels in Lillehammer, providing a full range of services that have gone bankrupt. Net long-term effect of the increase in hotel capacity will be determined by the country’s ability to attract the attention of tourists during the sporting event, creating a certain image.

### 3.3. Lost opportunity costs

Security expenses and public safety possibility of transport collapse, sanitation and clean up and ecological impact are some of the costs that the host countries have to face. And the problem connected with opportunity cost appears here. Although it is very complicated to be measured, it must be considered that many other destinies to the public funds could be more profitable for the residents of the country by providing a better return to society than spending money on championships.

The billions of dollars for stadium renovation and construction and the unknown cost of hotel renovation and construction could be used to promote other economic growth-friendly policies, like improved secondary and higher education, encouraging small business formation, improved health care delivery or technological enhancements, with more efficient effects. Also, new technology development tends to be at very low levels transitional economies.

Meanwhile, the organization of large-scale sporting event possible effect of the increasing cost of health care, education and security. Construction and reconstruction of new stadiums, hotels, and urban infrastructure need to improve the quality of secondary and higher education, the promotion of small business development, quality health care and technical improvements [6]. Which can then contribute to further development of these industries.

In addition to abovementioned problems we should also notice that money allocated for sport mega-event may be stolen through various corruption schemes. According to the Kazakh Audit Committee the financial fraud achieves \$67.6 million during all the preparation period for the Asia Winter Games.

### Conclusion

The cases of countries like Russia, Ukraine, Belarusia, Kazakhstan and Poland show that the main feature of hosting international competitions in countries with transition economy is the effect of uncertainty when the same costs can contribute to economic growth and serve as a brake on the development after the event.

To attract more tourists after the sport event the governments should develop exact organizational process design and image policy. To dispose of hidden hotels and stadiums costs it should plan infrastructure with the further perspectives of their usage. To reduce lost opportunity costs the governments should pay attention to the other institutions improvement as well as hosting championship, and obviously audit all the expenditures.

Only in this case the hosting of mega-sport event may become fruitful and gainful tournament for the long-run period of time.

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## Tax Competition and Sustainable Economic Development

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### Abstract

In the globalization process, production factor mobility, especially capital mobility is increasing rapidly. Barriers related to the capital mobilization between countries, and financial borders have been disappeared. Financial liberalization also affects countries' tax policies closely.

The less developed and developing countries with insufficient domestic savings have lowered their tax burdens in order to attract foreign capital into the country. These countries enter the tax competition to attract capital by lowering tax rates. Tax competition between governments is a research topic of growing importance in the context of globalization. The tax competition literature has developed considerably in the recent years, but there were only a few attempts to define this phenomenon.

Despite the international organizations, especially EU and OECD, struggle against the negative effects of tax competition (harmful tax competition), in recent years, number of countries in which tax competition has been increased. Nobody knows what it will continue to. The gains and loses for this competition are not known exactly.

This paper focuses on the tax competition phenomenon, and its effects on the sustainable economic development. In this paper, we also define the concept of tax competition, and we provide a review of the literature to highlight its potential effects.

**Keywords:** Tax competition, Effects of tax competition, Sustainable economic development, Tax haven, Tax policy  
**JEL Classification:** H22, K34, O11, O16, O23

### Introduction

Developments in transportation, informatics and communication, integration of national economies with one another, adoption of free foreign trade policies, appearance of high mobility in financial capital, removal of obstacles in front of foreign capital and encouragement of it, and other similar factors have made the world a big village in economic, political and financial sense. As a result of this process, authorities of states arising from right of independence depreciate, and states cannot produce unique and independent economic and financial policies as in the past.

One of the most important indicators of state sovereignty is independent power of taxation. Based on this power, governments develop independent tax policies depending on traditions and conditions of their own countries. All tax payers, domestic or foreign, are obliged to pay taxes for their earnings over bases and rates set by host states. However, today, it becomes difficult for host states to levy a tax on foreign capital through current tax systems as factors of production, financial capital in particular, have acquired a high mobility.

Developments in transportation, communication and informatics force and blur political and financial boundaries of countries. For instance, it is disputable which

country should impose a tax in e-commerce transactions or which countries should levy a tax on hot money of billions of dollars flowing through almost the entire world. Tax policies are inevitably affected by developments in the world. States, in general, reduce tax rates and have to make new arrangements in their tax policies as a result of tax competition appearing between developing countries in particular.

This study discusses tax competition between countries in the globalizing world from the perspective of sustainable development. Changes occurring in tax systems and policies of states in the process of globalization are examined in the first place. Then, sustainability of tax competition is discussed through consideration of tax competition and tax havens.

Financial capital has obtained a high mobility as a result of decrease in obstacles in front of it. This capital in motion seeks for reliable havens that can provide high profit. Especially developing countries implement incentives and reduce tax rates in order to attract this capital.

### 1. Changes in Tax Systems and Policies of States in the Process of Globalization

Tax system refers to a whole consisting of current

taxes in a country. Each country has a unique tax system reflecting its own social, political, economic and financial structure. Tax systems have a mutual interaction with social, political and economic structure in a particular country (Muter, 1993). In the same way, economic, political and social developments in the world affect tax systems of countries.

Tax policy refers to adjustments made in amount and composition of taxes in order to achieve economic purposes (Ekonomi Ansiklopedisi [Encyclopedia of Economics], 1984: 1373). According to Seyidođlu, tax policy includes actions of governments such as utilizing tax instrument, which means increases and decreases in taxes, in order to achieve particular economic and social purposes (Seyidođlu, 1992: 956). Each country has a right and authority to establish its own tax system and determine tax policies (Bilici, 2004: 602). Accordingly, each country constitutes a unique tax system, and can increase or decrease tax rates as it desires. This situation poses tax competition between countries.

States set their financial policies themselves within their national boundaries by force of their right of independence. With globalization, states lose this power and have to share it with international organizations. International organizations have a chance to intervene in and lead financial policies of states within their national boundaries. For example, today, most of the countries are incorporating value-added tax (VAT) and special consumption tax (SCT) into their tax systems by turning towards consumption-related taxes. It is seen that a reduction has been applied to direct taxes, and indirect taxes have started to gain weight in tax revenue within this process. In addition, now, countries focus attention on monetary policy by using fiscal policy, one of economic policies, less.

States, in general, reduce tax rates and have to make new arrangements in their tax policies as a result of tax competition appearing between countries in the process of globalization. Each country must take into consideration practices of other countries at the stage of forming its tax policies. It is very likely that labor, capital and entrepreneurs move from countries with heavy tax burden to countries with lighter tax burden as a result of economic liberalization. In this case, it may be possible for countries, which lose some of their tax payers to other countries, to reduce tax rates and utilize other tax-related incentives to attract the said tax payers and other tax payers belonging to other countries and to expand the tax base. As a matter of fact, it is seen that developing countries have to be involved in tax competition. Even small island states are at the center of a cutthroat tax competition.

Tanzi argues that globalization negatively affects capability of countries to obtain high revenue via tax systems. E-commerce and e-transactions, electronic money, intracompany trade, off-shore financial centers and tax

havens, derivatives and hedge funds, inability to tax financial capital, growing foreign activities and foreign shopping, which are described by Tanzi as fiscal termites, are new fields which depreciate fiscal sovereignty of states and states have difficulty in imposing a tax on (Tanzi, 2001: 34-36). For instance, it is thought that e-commerce volume, which was 65 billion dollars in the world in 2001, has exceeded 1 trillion today (<http://www.eticaretgundem.com>) and ([http://tr.wikipedia.org/wiki/Elektronik\\_ticaret](http://tr.wikipedia.org/wiki/Elektronik_ticaret)).

Today, we face a process in which national economic policies are losing their weight. The state does not have absolute power over instruments such as collecting tax and encouraging growth, which are bases of its own legitimacy.

However, nation state has started to lose these ways without creating an equivalent to these bases of legitimacy due to decrease in opportunity of nation state to intervene in earnings and wealth as a result of increase in capital mobility in the globalization environment, aggravation in the tax competition and fall in tax amounts collected. The fact that trade, capital movements and technology flow spread and become intense by obtaining a supra-national dimension goes beyond the phenomenon of nation-state, and twists together cross-border interest groups and individuals belonging to different nationalities with tight interest relationships (ICOC, 1999: 51).

## 2. International Tax Competition and Tax Havens

In parallel with technological developments appearing in recent years, important progresses have been made in movement of goods and money between countries in the world, and capital has started to move in a borderless virtual environment. Depending on these rapid technological and economic developments, especially underdeveloped and developing countries make new arrangements in many fields, taxation being in the first place, and try to have the edge on capital inflows in order to attract investment capital potential, which is in motion across the world at any moment (SPO, 2001: 40).

International competition occurs when states attempting to attract investment decisions of individuals and corporations into their own countries try to affect movement of capital in particular (Öz, 2005: 57). Governments impose low taxes (or no taxes at all) in order to attract foreign capital into their own countries. Transactions are performed on the basis of commercial confidentiality in relevant countries, and no information is given to own country of the tax payer. Tax havens and unfair tax competition require new practices and strategies in tax systems and policies of the countries.

Tax competition mostly occurs in the same way. Tax payer (investor, company or employees) can go to a country with a tax system more appropriate for him. Accordingly, inter-country competition arises to attract labor and

capital factors just like the competition between employers in a free labor market to attract labor and the competition between businesses in a free capital market to attract financial resources (Teather, 2002: 59).

Tax competition consists of two aspects. The first is intergovernmental tax competition inside the country. There may be tax competition between local governments inside the country. The second is interstate tax competition. The present study focuses on interstate tax competition, which deepens more and more every passing day.

Since all modes of competition are beneficial, the question, “Is tax competition beneficial?” is answered as, “Yes, it is beneficial, too.” Monopoly companies do not have any motivation to be active, and they not feel the necessity to manufacture in accordance with desires of consumers. As the largest monopoly company, government is naturally non-active. Therefore, it has a tendency to increase activities and costs of these activities; accordingly taxes will increase (Teather, 2002: 58).

Advantages are same in all modes of competition:

competition responds to consumer demands in the best way, and is effective. The benefits of tax competition have been visible for the last 20 years; the postwar climate of high taxation was coupled with insularity and strong controls on emigration (at least of capital and business). As controls were swept away, allowing people and Money to move more readily again, governments once again faced the possibility of a flight of money, investment and (to some extent) people. Furthermore, in an increasingly multinational economy it was necessary for a country not only to retain its own people but also to attract others; this needed an internationally competitive taxation system and hence more efficient and streamlined government operations. (Teather, 2002: 59)

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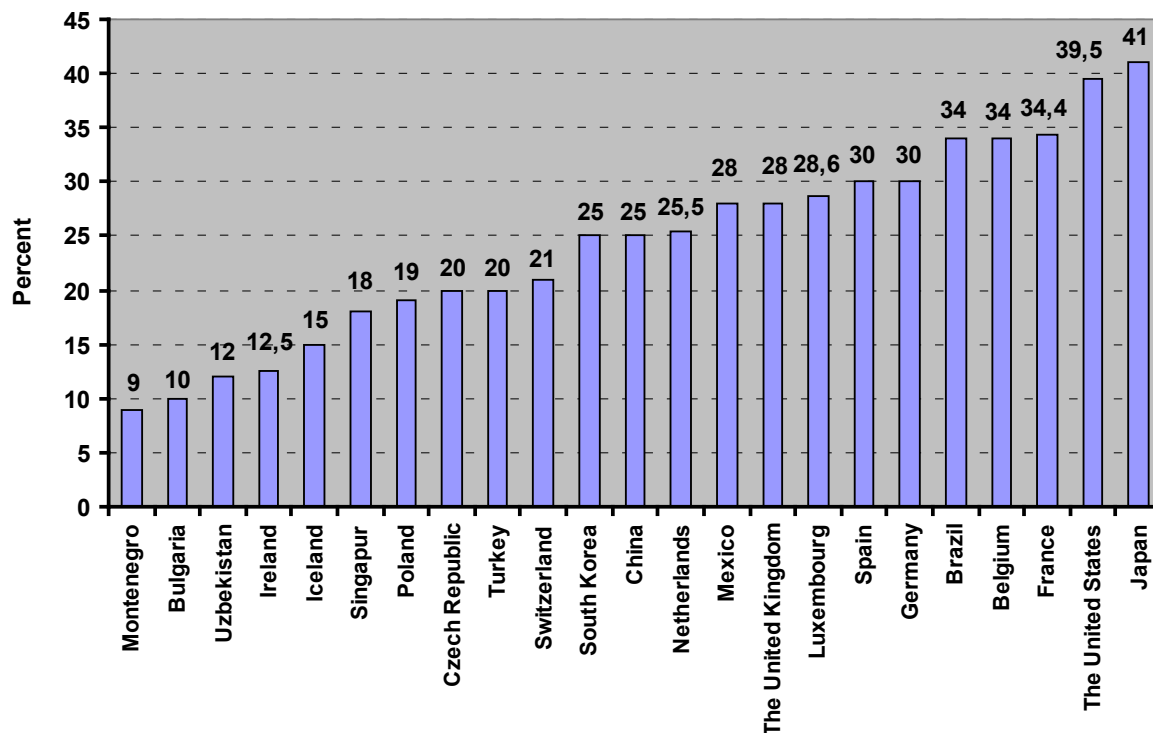


Chart 1: Corporate Income Tax Rates By Country (Percent %)

Source: Eser, 2011: 57

Ireland, which is one of the first countries opening to foreign capital among member countries with small areas that are geographically isolated and disadvantageous, is one of the prominent examples in the world in regard to realization of economic development through successful incentive policies. In the 1960s, Ireland partially benefited

from foreign direct investments, which were increasing by scales, due to tax and cash supports it provided generously in comparison to other European Countries. Corporate tax rate implemented as 12.5% for all companies in Ireland is lower than many countries. Ireland implements generous tax incentives and financial incentives through sectoral se-

lectivity (Eser, 2011: 55-56).

Georgia guaranteed foreign investments with the Law “On Promotion and Guarantees of Investment” approved on 12 November 1996. The said Law suggests granting rights and conveniences granted to investments of Georgian citizens exactly to foreign investments. Pursuant to this Law, 100-percent foreign capital companies can be established. Membership of Georgia having a liberal foreign trade regime to WTO enabled country to implement rules accepted in the international environment in foreign trade. Income tax rate varies between 12% and 20% by various income segments. Corporate tax is imposed on domestic and foreign companies. 20% of profit that a country makes at the end of its activities during one calendar year is paid as tax. A tax withholding of 10% is implemented on part distributed to shareholders as dividends (<http://www.ibp.gov.tr>).

### **2.1. Harmful Tax Competition and Tax Havens**

Harmful tax competition may be defined as the process in which countries that try to attract foreign companies and movements of capital through increasing financial mobility cause a fall in tax revenue of other countries by collecting no tax or implementing very low tax rates, lightening tax burden by means of tax incentives, and hiding information belonging to tax payers (Engin, 2002: 181; Yıldız, 2005: 43). Countries acting in this manner bring about losses in tax bases of other countries while expanding its own tax base in the medium-term.

Tax havens are countries where there is no taxation or just nominal taxation is effective, investors are guaranteed that no tax will be demanded from them for a long period in the future, administrative and regulatory constraints are not widespread, information sharing with other tax authorities is not welcomed, other countries are not let to utilize tax intelligence, and secrecy of taxes is regarded (OECD Report, 1998: 6; Bakkal, 2002: 101). These countries, in general, have a small population and territory.

Tax haven countries contain highly advanced opportunities (Bilici, 2004: 602) such as;

- Closeness to developed countries in terms of geographical position, and easy direct access to developed countries,
- Quality communication services,
- An internationally recognized legal system,
- Reliable and well-functioning banking system.

Since tax-related exemptions and advantages provided by these countries enable tax payers to make more after-tax profit, foreign capital flows are directed to these countries. Rich people who want to pay less tax or completely escape from taxes move their money to said havens through dif-

ferent offshore accounts they open.

Key features of tax havens can be described as follows (Bilici, 2004: 604-607; Yıldız, 2005: 57-59):

- Collecting no tax, or implementing low tax rates,
- Strict adherence to confidentiality rules,
- Transparency of tax laws,
- No actual operation,
- No cash audit.

There are 580 banks on the Cayman Islands, which cover an area of 264 square kilometers and have an estimated population of 42,397 (the year 2004). Deposits in these banks are around 500 billion dollars. On these islands, there are 2238 investment funds, 499 insurance companies, and 40,000 off-shore companies (Günaydın ve Benk, 2004: 394). It is reported on the web site of government that no income tax, corporate tax, death tax, inheritance tax, or estate tax is collected on these islands, which are tax havens (<http://www.gov.ky>)

### **2.2. Harmful Tax Competition and Fight against Tax Havens**

Right and power of countries to establish their own tax system as they desire, that is fiscal sovereignty of countries make up basic foundation of tax havens, too (Bilici, 2004: 602). Every country has also a power of determining independent fiscal policies. However, today, it becomes more and more difficult for governments to follow independent fiscal policies due to many reasons such as international cooperation and competition.

Mutual interaction and cooperation has increased as a result of globalization. At the present time, international cooperation through international organizations has increased, and international norms and rules have been introduced in economic and fiscal policies. Countries which are member of these international organizations have to determine and implement joint policies.

Both the European Union and OECD seem to be decisive about fight against harmful tax competitions and tax havens. The first striking issue from the perspective of European Union countries is that relevant provisions of The Treaty of Rome require prevention of harmful tax competition in the community and certain efforts are made in order to prevent any member country from gaining an obvious advantage through arrangements made on this matter. However, looking at developments on this matter up to now, it is seen that member countries that are relatively weaker economically in comparison to other countries persistently resist to this topic within community. Since required efforts concerning direct taxes, in particular, have not been made within Community up to now, member countries in need of capital and investment try to keep tax burden on capital,



interest income being in the first place, as low as possible, and want current situation to continue until reaching the level of strong countries (SPO, 2001: 40).

The Treaty of Rome introduced various provisions in order to prohibit practices among European Union countries that bring about discriminatory situations or disrupt competition. According to these provisions, member countries cannot support their own businesses, industrial products and industrial groups in such a way that would negatively affect trade between particular member countries. Nevertheless, The Treaty of Rome sets forth that social, regional and sectoral support can be provided in order to eliminate social and regional imbalances within the framework of borders indicated in the Treaty (SPO, 2001: 40-41).

Another remarkable issue is that, in the meeting dated 2 June 2003, Council of Minister of Economy and Finance of the EU accepted the directive prescribing gradual termination of 66 unfair tax practices detected in member countries until 2012 at the latest (Bilici, 2004: 613).

In its tax competition report dated 1998, OECD's committee on tax issued introduced recommendations concerning fight against harmful tax competition. Cooperation with relevant countries regarding information exchange and transparency constitutes the essence of these recommendations. There is OECD's "Model Agreement on Exchange of Information on Tax Matters" dated 2002 in the matter of information exchange (Bilici, 2004: 610). In 2004, OECD published the "Project on Harmful Tax Practices: The 2004 Progress Report", which included efforts made for preventing harmful tax competition, and future plans (Yıldız, 2005: 73).

Concrete fight of developed countries against 'tax havens' started in 2008 when the USA had a judicial inquiry opened against UBS, a Swiss Bank. UBS accepted to pay 780 million dollars in return for tax revenue lost by the USA government as rich Americans managed their wealth in the tax haven. Apart from that, UBS had to give the USA information of part of 52 thousand American citizens whose wealth they managed. Today, it is seen that both the USA and European countries have started to develop and implement action plans that increase control over activities of all financial institutions established in Switzerland within the framework of off-shore banking (Radikal, 2012).

Countries cannot fight against harmful tax competition and tax havens alone. This problem can be effectively solved only through association of states, efforts of international organizations, and an international cooperation. In this regard, this problem can be solved within the framework of a protocol including all states.

### 3. Sustainability of Tax Competition and Sustainable Development

Globalization and increasing mobility of capital have enhanced development of capital and financial markets, and have encouraged reduction of tax-related obstacles against capital flow and modernization of tax systems, reflecting this development (OECD, 1998:13-18).

Since foreign direct investments lead to increase in growth and welfare of economies of countries with technological developments and employment they bring along, a competition for attracting investments is experienced between developing economies (Acartürk and Dolu, 2005: 15). It is thought that this competition will increasingly continue if adequate measures are not taken. It is seen that discounts have been made in direct taxes, and indirect taxes have started to gain weight in tax revenue.

It is argued in the international tax literature that competition will continue until rates of taxes collected over capital come down to zero (Goodspeed, 2002: 53-55). This competition between countries will reduce tax revenue of the countries while causing individuals and companies operating in these countries to increase their profits. In this case, countries with decreasing tax revenue will meet their deficit through indirect taxes such as VAT, Special Consumption Tax and Special Communication Tax instead of direct taxes such as income tax and corporate tax. As tax burden of multi-national companies and investors is reduced, tax burden of consumers will increase in general. It should not escape from the attention that these taxes do not take into consideration ability of people to pay, and have a negative effect on redistribution of income and fair income distribution.

Corporate tax should be reduced due to easy reflectability feature it has besides international tax competition. Businesses can reflect corporate tax forward or backward. Corporate tax can be reflected forward through price of goods. Accordingly, corporate tax is undertaken by consumers. This situation is closely related to demand elasticity of the goods produced. In addition, rival companies should also be taxed under the same conditions. That is to say, it can be difficult to reflect taxes in case of existence of rival foreign companies (Quitau, 2004: 5-6).

Tax competition between countries and existence of tax havens seem to be unsustainable in the long term. States will not welcome developments that can reduce tax revenues in today's world where public expenditures correspond to big amounts. As a matter of fact, we encounter developments in this direction. States whose loss of tax has increased try to make measures, develop joint international policies, and enter into cooperation in order to fight against tax havens in particular.

Tax havens and harmful tax competition may undoubtedly have a negative effect on development besides tax

revenue of states. Sustainability of growth and development does not depend on a country's own economic, financial and political conditions alone. Situation and policies followed by other countries have a strong effect on this matter, too. Accordingly, existence of tax havens threatens economic growth and development in other countries. In this regard, international tax competition is harmful for sustainable growth and development.

According to estimation of the organization named Tax Justice Network fighting against tax havens, almost 80% of international banking transactions are performed by means of offshore banks. Amount of money kept in offshore accounts in the Cayman Islands is around 1.4 trillion dollars. At this point, another data explains the reason why the USA began to fight with tax havens, Switzerland being in the first place, following global financial crisis. Estimations suggest that annual economic loss of the USA resulting from offshore accounts amounts to 100 billion dollars (Donat, 2012).

Rich American citizens living outside the USA even prefer to cease to be a citizen of the USA so as to avoid high tax rates. According to American Internal Revenue Service (IRS) data, 4 thousand rich people ceased to be a citizen of the USA between 2005 and 2010. IRS demonstrates that this trend has showed a big increase in the last 3 years for American citizens living outside the USA. 1,024 American people ceased to be a citizen of the USA in 2011. This startling picture shows that the said number will rapidly increase if no measure is taken in this sense (Donat, 2012).

This is not something to do with the USA alone. The same threats are valid for also other countries. People who want to make big profits but do not want to pay tax may prefer tax havens. These people may cause their own countries to experience serious economic losses by shifting their economic activities and cashes to tax havens.

According to estimations, while European countries that complain about failing to collect taxes have resource shortages following financial crisis, tax havens host 18 trillion dollars of rich elites. Accounts in Switzerland are not included in offshore wealth estimated to be 18 trillion dollars according to data of the International Monetary Fund (IMF). In short, one third of total gross domestic product of the world which amounts to 60 trillion dollars is kept in tax havens (Donat, 2012).

Although said numbers are estimated numbers, tax avoidance reaches annoying dimensions. Tax havens have stopped being a place where just multi-national companies and billionaires haven, and they have started to attract also medium-scale rich people living on their own labor (Demir, 2002).

The European Commission is planning to make mutual information sharing obligatory as an important step in fight against tax havens. Currently, there is a 'soft' practice

set forth by OECD, which allows requesting information belonging to a limited number of 'specific' customers every year. Plan of the European Commission involves sanctions including limitation of access of Switzerland to European financial markets if the rule of information sharing is not abided by. Against these steps, Switzerland aims at replacing rich customers of developed countries with rich customers of developing countries that are unstable, and include political risks (Radikal, 2012).

EU does not seem to have a structure that can move tax competition to future. It is very likely that it turns to tax harmonization by determining a minimum rate, which is not low, in the field of Corporate Tax and Income Tax. However, it is different in the case of Turkey, which is in the full membership process. Turkey, which has to achieve total harmony in the field of legislation after full membership, may enter into tax competition by taking advantage of this situation in the negotiation process. Difference of level of developedness between Turkey and EU forces Turkey into tax competition.

Pressures of the USA and European countries on tax havens have increased after the global crisis. However, these pressures, norms and policies developed by international organizations such as OECD, and inter-country bilateral agreements have not been adequately effective in fight against tax havens.

## Conclusion

States experience big tax losses, taxation limits of states are exceeded, and fiscal sovereignties of states are limited due to financial liberalization, e-commerce, intra-company trade, tax havens and similar reasons. The idea that financial events should be dealt with at global level arises the result of transfer of fiscal sovereignties of nation-states to international organizations.

Globalization has a potential that can enrich poor people and increase welfare of all people (Stiglitz, 2002: 9). In the event that globalization is not used for beneficial purposes, it may cause rich people to become richer, and poor people to remain poor all the time.

Great transformations have been experienced in the economic field through globalization as in many fields. Especially those changes taking place in the field of taxation are a particular concern to all countries. In the past, effects of taxation would remain on a national level. Today, however, they affect other countries as well as a result of globalization. It becomes more and more difficult to levy a tax on capital, whose international mobility has increased. It has become nearly impossible to levy a tax on financial capital. On the other hand, more and more tax-related advantages are provided for direct investments for attracting such investments. Foreign direct capital is principally encouraged in developing countries as a way of solving

growth and employment problems due to lack of domestic savings and capital in these countries. Tax policies are effectively used in incentive policies, and an inter-county competition is experienced.

Turkey should both attract capital from abroad and encourage investment of Turkish entrepreneurs abroad. Turkish business people should achieve a growth and have a say not only in Turkey but also in the international arena. All in all, globalization is a process of mutual interaction and change in political, economic, financial, cultural and other fields.

Turkey should carefully follow international tax competition practices and evaluate different country practices. It can be expected for Turkey, which has not become a member to Union yet, to acquire the environment of trust and stability by taking advantage of membership process, and, in this way, to turn out to be profitable by resorting to tax competition practices. As a matter of fact, Ireland has derived large benefits by adopting tax competition practices. Turkey, which has a potential to attract investments from various aspects as a state in the membership process, may encourage foreign capital in terms of taxes as much as possible, without disrupting the harmonization process. Finance required for harmonization may be obtained in this way.

It may be expected for many world countries to come together and sign a gentlemen’s agreement in the matter of tax competition and show goodwill in this regard, as EU countries did. International standards and limitations may be introduced within this process. As a matter of fact, OECD has proposed a multilateral and global cooperation in fight against tax havens.

It should be accepted that the most effective tax incentive measure is imposing a low and general tax burden, and taxes should be chosen in such a way that they would intervene in economic decisions in the actively operating markets in minimum. Due to excessive tax burden, Turkish tax system is not in harmony with market economy, and creates an informal economy by preventing capital accumulation. Informal economy leads to unfair competition, and competitiveness of recorded businesses gets lost. Accordingly, this kind of an unfair competition may negatively affect entrepreneurs who want to make an investment in Turkey.

Regardless of non-tax factors, it is an undisputable fact that since capital is invested in countries with high profit, taxes influence the direction of these kinds of investments into developing countries. It should be remembered that countries follow policies aimed at maximizing their own welfare rather than ensuring tax neutrality for achieving international effectiveness goal. It is already impossible for countries to ensure tax neutrality by themselves even if they try to ensure tax neutrality in distribution of investments. Thus, Turkey should adopt the tax policy that would

serve national interests best.

There is no doubt that a country cannot achieve development by only resorting to the way of tax competition. It is, of course, not possible for Turkey to attract foreign direct investments just through a tax competition in the field of Corporate Tax. Other economic, social and political policies should be followed in harmony besides competition in this field. Efforts for improvement of the investment environment should rapidly continue, and it should be aimed at increasing domestic investments and savings. Existence and sustainability of political and economic stability is a prerequisite for making investments in a country.

International tax competition will be beneficial if it is at a reasonable and acceptable level, and is in accordance with international norms. However, any tax competition which creates a trouble in the international environment and brings disadvantage to some countries while bringing advantages to some others is regarded as harmful tax competition.

Existence of harmful tax competition and tax havens seems to be unsustainable in the long term as economic and financial integration becomes stronger in the entire world, information sharing becomes systematic and obligators, and, most importantly, all governments start to take common actions.

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## Internationalization of Higher Education *The timeline of International Academic Mobility*

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### Abstract

Though international academic mobility is not a new phenomenon, it is worth mentioning that internationalization of higher education has become an essential part of the globalization process. Throughout the history, the international academic mobility comprised not only the movement of students and academicians but also the movement of institutions and programs across the borders. This process was driven by academic, cultural, political, and economic rationales.

This article will present the internationalization of higher education in a historical context. It will discuss how international mobility of students, scholars, programs, and institutions of higher education evolved overtime, and how it is occurring in today's global knowledge economy.

**Keywords:** Globalization, Internationalization, Academic mobility, Internationalization rationales

**JEL Classification:** I 23

### Introduction

The high rate of students' enrolment in foreign educational institutions in their home country or abroad, the use of the internet to take courses at colleges or universities in other countries has made higher education increasingly international in the past decade.

Though, the globalization and internationalization are related to each other, they are not one and the same thing. Globalization represents the context of economic and academic trends that are part of the reality of the 21st century. While, Internationalization of education comprises the policies and practices undertaken by academic systems and institutions—and even individuals—to cope with the global academic environment (Altbach, Knight, n.d.).

Knight (2008) acknowledges that globalization and the emergence of the knowledge economy, regionalization, information and communication technologies, new providers, alternate funding sources, borderless issues, lifelong learning, and the growth in the numbers and diversity of actors are new realities and challenges of the current environment of higher education. She also states that there are basically two components developing in the internationalization of higher education.

One is internationalization at home comprising activities that help students to develop intercultural skills and international understanding, preparing students to be active in a much more globalised world. This process is more curriculum-oriented including curriculum and programs, teaching and learning processes, extra-curricular activities,

liaison with local cultural/ethnic groups, and research and scholarly activities.

The second movement is internationalization abroad, including all forms of education across borders: mobility of students and faculty, and mobility of projects, programs and providers.

Internationalization of higher education includes several important elements:

- internationalization as a process
- internationalization as a response to globalization
- internationalization comprising both international and local, intercultural elements (De Wit, n.d.).

### The timeline of International Academic Mobility

#### 1. The Greco-Roman and the Islamic Worlds

The growing interest and debates about internationalization of education drives us back to the origins of this process. Welch (1997) cites the Sophists as the first examples of international academic mobility who appeared around 445 BC. Sophists were professional teachers who traveled in the Greek-speaking world, teaching the children of the wealthy, for which they were paid.

Trade routes that crisscrossed the Mediterranean Sea and the Black Sea basins and a common language, Greek, united The Hellenic world. Students and scholars from all over the world travelled to Athens which was considered to be the intellectual capital of the Hellenic world at that time. Athens was the home to Plato's Academy (385 BC) and Aristotle's Lyceum (335 BC) (Guruz, 2008).



Alexandria ranked next to Athens as an intellectual center in the waning years of the Hellenic world. The first state-sponsored research institution in the world, a center of study and research for centuries, which attracted scholars from all over the Hellenic and the Roman world, was the Museum and the adjacent Library of Alexandria (283 BC) (Guruz, 2008).

Pergamum, an ancient Greek city in modern-day Turkey, became the chief rival to Alexandria as an intellectual center during the weakening years of the Hellenic world.

Unlike Greeks, the Romans expressed more interest in law, governance, military and civilian technology, and engineering. They put emphasis on rhetoric, so that one could express oneself eloquently in business, law, and politics (Guruz, 2008).

The Hellenistic intellectual heritage from the West and oriental knowledge from the East, mainly Chinese and Indian, pervaded the Islamic intellectual life. During 750-850 Baghdad came into sight as a cosmopolitan, intellectual center attracting scholars and students from places as far away as central Asia.

The vigorous trading and a common Arabic language, which united the Hellenic and Islamic worlds assisted the mobility of ideas and made it possible for students and scholars to travel over a vast regions. In these worlds everything beyond reading and writing was considered higher learning.

## 2. The Medieval Times

The emergence of the university as a uniquely Western European institution, an autonomous, corporate body, sanctioned by a higher authority, with the right to set its curricula, appoint teachers, admit students, and award degrees, takes its roots in medieval times.

The medieval university consisted of the liberal arts faculty offering a curriculum at the undergraduate level, which was preparatory to the three graduate schools: theology, law, and medicine. The works of Greek philosophers and Muslim scholars became a major part of the curricula both in the lower faculty of arts and the graduate schools. Students and teachers came to study and teach in these institutions from all over the world (Guruz, 2008).

The Lingua Franca of European education and science at that time was Latin. The medieval universities had a similar organizational structure, a common curriculum, similar admission and graduation requirements, which were all supervised by a higher authority (Altbach & Teichler, 2001).

From the fourteenth century on, international academic mobility started to weaken, and European higher education became increasingly regionalized. The rulers started to take protective measures to prevent the flight of capital abroad by forbidding students studying abroad or requir-

ing from them to spend some time in the local institution before going abroad. The universities became increasingly aristocratic. Studying abroad was the privilege for the offspring of aristocrats and wealthy merchants.

The first transport revolution of the late fifteenth and the early sixteenth centuries opened the doors to intercontinental sea voyages and took the university to the newly discovered lands. The universities were founded in Santo Domingo in today's Dominican Republic, in the Asia-Pacific, Latin America, and the Middle East (Perkin 2006; Roberts, Cruz, and Herbst, 1996).

However, the huge wave of international mobility during 16th and 17 centuries in Europe was followed by the wane again in the eighteenth century.

## 3. International Academic Mobility from the Nineteenth until Now

The German universities of the nineteenth century became the intellectual centers for giant studies, great scholars and researchers and prepared the grounds for the Second Scientific Revolution.

By the end of the nineteenth century, Britain, France, and Germany became the leading academic centers of the world. Institutions of higher education founded in other countries were based on one of these models or a combination of them. As a result, British, French, and German teachers were recruited to teach abroad, and students were sent to these countries to be trained as future faculty members for institutions back home. The era of European colonization increased the external mobility of educators from Europe and the inflow of students to Europe (Altbach & Teichler, 2001).

International academic mobility started to be viewed as an instrument of foreign policy at the beginning of the twentieth century.

After World War II the use of academic exchanges accelerated as foreign policy instruments. International organizations, such as NATO and the EEC (European Economic Community, today's European Union, the EU), started new programs and established many scholarships. Even the United Kingdom and France had special scholarship programs for their former colonies (Klineberg, 1976).

In the second half of the twentieth century due to the interaction of governmental policies with the views promoted by international organizations, higher education started to be viewed from an international perspective when implementing national policies.

The internationalization of higher education worldwide, in both the content and the scope of its activities, started with the advent of globalization.

Muller (1995, p75) states that we have entered the information age, in which knowledge has become "a commodity, that can be manufactured, bought, and sold". The

information age, with the end of the Cold War, ``seems to be well on the road towards a single global marketplace of ideas, data, and communication``.

According to De Wit (2002) there are four broad rationales for internationalization: Political rationales, economic rationales, social and cultural rationales and academic rationales.

Political rationales that include foreign policy, national security, technical assistance, peace and mutual understanding, national and regional identity, have been very vital and dominant in the internationalization of higher education, especially after the Second World War, and in the Cold War period.

The economic rationales, comprising growth and competitiveness, national educational demand, labor market, financial incentives, have become more essential in present-day globalization of our economies.

The third group of rationales is the social and cultural rationales. The cultural rationale is important for creating an intercultural understanding and an intercultural competence for the students and for the faculty and in their research. And the social rationale has to deal with the fact that the individual, the student, and the academic, by being in an international surroundings, become less provincial.

Development of international and intercultural dimensions in research, teaching and services, expansion of the academic horizon, the improvement of the quality, and international academic standards can be viewed as the academic rationales.

It is evident that these rationales are not mutually exclusive, and may differ in importance by country and region, and can be changed in dominance over time.

Quality assurance is a major concern in global provision of higher education. Countries like the United States, the United Kingdom, and Australia are major exporters of higher education services providing the standards to ensure the quality of the higher education and degrees awarded.

In the 21st century the Bologna process can be considered as the reform of higher education systems in order to create `` the European Higher Education Area ( EHEA). The process includes (Guruz, 2008):

- Adoption of a system of easily readable and comparable degrees
- Adoption of the undergraduate level with a minimum duration of three years and the graduate level, the second cycle upon the completion of the first
- Establishment of the European Credit Transfer and Accumulation System (ECTS)
- Students , teachers, researchers, administrative staff mobility
- European cooperation in quality assurance, introduction of standards of accreditation and peer assessment

- Promotion of the European dimensions in higher education, including joint degrees

The interdependence of the global higher education agenda items have resulted in the creation of a ``global higher education market`` which is characterized by intense competition for students, scholars, and resources. It's worth mentioning that competition is no longer just among traditional institutions, but increasingly comprises the new types of providers, and is now global in scale.

## Conclusion

The increasing demand for higher education has corresponded to a changing view of the role of the state in the global knowledge economy.

The globalization of economy and society has had its impact on research and education and at the same time has been influenced by the ones. Consequently, internationalization has increased in response to globalization (Guruz, 2008).

According to Van der Wende (2001), internationalization can no longer be considered only as the international mobility of students and teachers; rather, this process should be acknowledged as an important element of higher education policy at both the institutional and the national level in order to address the challenges posed by globalization.

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# Knowledge Economy and Its Implications for the Education System of Georgia

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## Abstract

Modern developments in social, political and economic fields the world over have caused reshaping state policies. These changes have been particularly visible in the field of education. With the growth of Eastern economies it has become virtually impossible to stay competitive on the global market in terms of production. Accordingly, many states have chosen to invest in the development of intellectual capital and in addition, put emphasis on the field of service provision rather than production. This strategy presupposes the development of strong education systems and the process has become known as ‘knowledge economy’. This article aims to look at the tendencies brought along by modern world policies and their effect on individual states in general and Georgia in particular.

**Keywords:** Globalization, knowledge economy, educational reforms, school management, post soviet states, Georgia  
**JEL Classification:** I20, I28

## Introduction

Modern world is replete with words which create an impression that they denote something very technical and meaningful but, at the same time, whose meaning cannot readily be perceived. ‘Globalisation’, ‘global society’, ‘knowledge society’, ‘knowledge economy’, etc. are only a few of the terms which have had huge effect on the modern world, the society, political, economic, social and cultural life, but whose essence has been controversial up to day causing much dispute among scholars, researchers, policy-makers, analysts, or the society in general. However, we will not embark on a lengthy discussion of each of the terms, but rather concentrate on the latter in an attempt to get to the core of the concept and define it. Thus, this piece of work will observe the essence of ‘knowledge economy’, provide its implications for the world education systems in developed as well as developing states, and concentrate on the Georgian context.

### 1. The Concept of Knowledge Economy

Knowledge economy is a notion which, as it was mentioned in the introduction, has been causing much controversy and dispute. The term itself was first used by Drucker (1969) to denote a typically new modes of knowledge generation and business transaction. It is “the new global buzzword of development policy in the early twenty-first century, promoted heavily by the World Bank, OECD and allied development and aid organisations” ( Kenway et al., 2006; Robertson, 2008, cited in Tannock, 2009, p. 259).It is interesting to look at separate words in the term and what

their holistic meaning is in order to try to understand why there is so much argument about the nature of the phenomenon. In many cultures knowledge is often compared to light and ignorance to darkness. “Knowledge is like light. Weightless and intangible, it can easily travel the world, enlightening the lives of people everywhere” (World Bank, 1991, p.1, cited in Tannock, 2009, p. 257). This metaphor ensures that light, and knowledge respectively, always has positive connotation. It is connected with progress and development, and change, change for the better, bringing improvements and innovations in social, cultural, economic and political life of the states world over. “Knowledge’ has always been a vital resource for creating and sustaining a strong economy, society and culture” (Van Doren, 1992, p. 57).

Once knowledge has always been an important component for the economic growth, political and cultural development, as mentioned above, an essential question that might arise here is, how modern knowledge-based economy is different from previous economies. The argument which we should present in order to attempt to seize the difference between economies before and after the introduction of knowledge-based economy is the difference in the way knowledge was generated previously, and how it is generated now. There is an agreement among scholars and researchers that all economies throughout the world have been “... directly based on the production, distribution and use of knowledge and information” (Engelbrecht, 2009, p. 404).Once there is no controversy on the historic connection between formation of statehood, cultural and political growth and economic development at one end of the continuum and knowledge generation at the other end, there is

much difference in how knowledge was generated and put into practice historically and how it is employed now.

What marks the development of the modern knowledge economy is that an important component of the modern knowledge became separated from the day to day production of goods and services; it moved “offline”, as it were, into specialized organisations, technical institutes and universities. This process accelerated from the eighteenth century onwards ... when states took increasing responsibility for the funding of research and the support of ... education.

(Metcalf, 2010, p. 10)

Thus, the argument presented by Metcalf shows that knowledge generation has been divorced from daily practice and labour putting special emphasis on educational institutions which have become increasingly responsible for knowledge stock created within the state. As this section showed there is interconnectedness between knowledge and state development, its economic strength, political stability and cultural development. Accordingly, it is not surprising to observe the state’s vested interest in creating strong systems of education trying to sustain its economic growth and political and cultural development. Therefore, the following section will look at implications of knowledge economy for education systems.

## 2. Knowledge Economy and its Effect over the System of Education

In a globalized world, where cultural, political, economic interconnectedness is unavoidable the role of knowledge has been intensified. As a result, the field of education has been greatly affected, its role and importance being increased. Through efficient education systems Western states try to be competitive on the global market, retain their dominance and challenge fast growing Eastern economies (Green, 1999). Even so, the concept of knowledge economy is not well-shaped and well-defined in the field of education, though its impact is tremendous over the education provision. Interest towards establishing knowledge economy principles in the field of education is driven, as already mentioned above, by aspirations of national governments to construct effective and efficient systems which will ‘breed’ (my emphasis) highly competitive professionals, or human resources, as referred to through management perspective, who will determine the success of the country. The concept of ‘knowledge economy’ provided rationale for many states and international institutions to put special emphasis on education as tradable commodity which will ensure economic growth both nationally and internationally (Peters, 2002). Through education as commodity approach it is important to determine who will buy education product, how and at what price, as it will largely determine

the success of education business (Power, 2007).

An important question which has been addressed earlier in this article is why there has been increase in the role of knowledge and education in general. “Knowledge has indeed played an important role in all aspects of human relations, including the economy” (Yigitcanlar, 2010, p. 1769). However it is important to increase our understanding of the concept of knowledge. In order to fulfill this task, as Metcalf suggests (Metcalf, 2010), three important issues should be addressed here – first, what type of knowledge is generated through knowledge based approach, how this knowledge is organized, and lastly, how the generated knowledge is applied. Modern world educational systems have mainly been involved in generating answers to these important issues.

What is characteristic to the process of knowledge creation at educational institutions through knowledge economy rhetoric an attempt of wide application of Adam Smith’s (1776) principle of knowledge generation, which implies the division of labour in order to specialize narrowly in one particular field with the intention of increasing productivity and efficacy. However, it can be argued here that, though Smith’s principle which was applied to knowledge generation in the field of production at that particular stage in history as compared to entrepreneurial and production principles of that day was successful, if generalized so that to embrace the field of education in general, especially in today’s world, the principle might stand on loose grounds. “The effect of specialization is to greatly increase the efficacy of knowledge production processes but this comes at a price” (Metcalf, 2010, p. 9). As Metcalf (2010) defines, the fact that individuals become specialized in one field by creating sound knowledge may lead to the state when they are completely ignorant of other branches of knowledge. Educating individuals who are knowledgeable in one field but completely ignorant in others, led to the argument, that in knowledge production, and more specifically, in the field of education knowledge economy may result in the formation of ignorance economy.

Ignorance economy can be viewed in through two radically different perspectives. One, more positive stance implies, what I would call, ‘optimistic’ or ‘romantic’ understanding of ignorance economy. While talking about ignorance economy, Engelbrecht (2009, p. 405) recalls an old saying, which goes as follows, “The more we know, the more we find out that we do not know.” This represents the stance what I called the romantic approach to learning and knowledge accumulation, as it highlights that actual process of learning occurs and nothing is wasted. However, there is another perspective, once new knowledge is created, very often it occurs on the expense of the old, and finally the latter is depreciated, or even worse, wasted. Thus, “... creation of knowledge often depreciates or destroys existing knowledge, or leads to the neglect of certain forms

of knowledge” (ibid).

The argument presented above leads to the belief that it is necessary to have precise and efficient coordination in order to deal with the drawbacks of knowledge economy and fragmented knowledge created through this approach. Metcalfe (2010, p. 9) develops the stance in which he states that “... the division of labour not only leads to a greater refinement and fragmentation of the different kinds of knowledge, but that it also offers rich possibilities for the combination of different kinds of knowledge from different disciplines.” As we can see from the argument, coordination within educational organisations and disciplines, as well as among individuals plays a vital role in the success of education business.

Global policies have introduced dominant discourses throughout the world, and ‘knowledge economy’ is among them. This occurred “not so much because of its relative descriptive accuracies or predictive merits about the significance and potential of knowledge and education in society and the economy, as its instrumental value to business and political elites around the globe in their own interests and agendas” (Tannock, 2009, p. 259). Georgia is not an exception in this respect as through policy borrowing and lending reforms based on ‘knowledge economy’ principles have been broadly adopted in the Georgian context. Thus it is interesting to observe the effects of entrepreneurial policies on the field of education, to be more specific, school education, the issue the next section will deal with.

### 3. Knowledge Economy and the Georgian School System

Though the effects of knowledge economy is well-present in the whole system of education of Georgia, in this section, due to my personal interests and the importance of secondary education for overall success of the system of education, I will largely concentrate on the changes that new educational philosophy has introduced in the Georgian school system.

Georgia is the country which has been facing constant changes throughout the recent decades in social, political, economic domains, and these fluctuations have been particularly important, as the country is on its way to building statehood. If we look at the formation of European nations, their development is tightly linked to their ability to build a fit system of education (Green, 1997). As for Georgia, improving education provision bears even more importance, as efficient schooling and higher educational institutions are claimed to be an answer to the accumulated social, political and economic problems. Besides, it is broadly agreed that economic development is in direct correlation with strong systems of education (Sahlberg, 2006). Not surprisingly, the Georgian government has a vested interest in building strong system of education as this can provide

answer to economic issues and create the basis for the nation building.

After declaring independence in 1991 Georgia had a hard legacy of the Soviet regime and had to face many problems of social, political, economic and cultural nature.

Countries of the former socialist block in Central and Eastern Europe all share the same legacy of centrally planned economies and public services, including education. Schools primarily served political regimes, and pedagogy – particularly objectives, content, and method – was unified and often externally controlled. Teaching focused on delivering selected and often ideologically flavoured knowledge, with little or no space for the learner’s own interpretations, initiatives, or critical thinking.

(Sahlberg & Boce, 2010, p. 31)

After the fall of the Soviet Union new western capitalist market economy became a dominant way of economic regulation and laid a milestone of the formation of different political structures. Political agendas have been driven by the concepts of market, management and performance which ensured that a ‘caring’ state has been replaced by ‘New Managerialism’ when market regulates social reality. The principle of knowledge-based economy has been broadly employed in the Georgian context. As it has been noted earlier, the fall of the Soviet Union was particularly vulnerable in many respects, however I will concentrate on major ones. Firstly, all the systems of social, political, economic, and educational among them, collapsed as they were previously tied to the central planning through central authorities. Accordingly, Georgia continued existence without any strategic planning until the momentum was not wasted. Another vulnerable issue that presented itself after the collapse was lack of professionals in many fields. Many organisations largely relied on outsourcing when they needed specialists in certain fields of knowledge and expertise. Though the stage of recovery from the devastation has long been overcome, still much has to be done in terms of state building, creating democratic society, social, economic and political considerations, and, as it has been noted earlier, education has a major role to play in this respect.

Based on recommendations from international aid organisations (the World Bank, the International Monetary Fund), the Georgian government embarked on a large-scale educational reform which aimed at school transformation – decentralisation of the school system of Georgia. The reform aimed at education system rehabilitation and school improvement (The World Bank, 2006) and the reform is still underway. The initiative intends to make a school management process transparent and delegate the functions of day-to-day school transaction, as well as long-term and short-term management strategies to individual schools, which will lead to overall school improvement. Of

course, the process carries political meaning and attempts to meet the demands of participatory democracy. Through school boards educators, pupils, parents, community and other stakeholders have been given power and authority to express their will and shape the decisions concerning themselves (Parjanadze, 2011).

All these changes in the state structure have been observed in the Georgian context through educational policy borrowing and lending. New policy initiatives introduced in Georgia as new reform initiatives can be placed in the scope of managerialism governance, whose characteristics are deregulation of the field of education, standards, calculability and accountability.

Decentralisation policy represents a Neo-liberal agenda of deregulation of power and authority and delegation day-to-day governance tasks. In the Georgian education context this initiative empowers principals to nurture the team they can rely upon in the process of leading and managing. Leaders are free to choose highly qualified professionals and they are empowered to practice distributed leadership approach when power and authority are equally shared among educators. The rationale for this initiative is that it will build the school culture of collegiality and cooperation and promote a sense of belonging. However, there is a contradiction in the deregulation-devolution policy as it can be compared to steering and rowing when educational 'agencies, such as schools and local educational authorities are given the autonomy to row freely as long as they arrive at the state-determined destination' (Wilkinson, 2006, p. 87). Besides, instead of narrow specialization, the basic principle of knowledge economy, decentralisation requires school principals to enhance their knowledge and sharpen their skills in various aspects of school governance – pedagogy, school finance and budgeting, strategic planning and development, teacher recruitment and development, resource management, curriculum management, etc.

Standards present next characteristic of education management through knowledge economy principle. Setting a framework of standards is underpinned by the intention to ensure equal access to education for all despite their sex, social belonging, financial status or religious or any other affiliation. However, the same standards ensure 'no hands' control of educational establishments which ensures 'steering at a distance' by the state through increased accountability (Ball, 1994, p. 54). The importance of accountability is manifested in the current Georgian legislation of general education which provides a detailed narrative of how effective accountability should be built and what its components are (Manual for School Principals, 2010). Accountability to the State, parents, students, community will question the independence of educators.

Education as a tradable commodity is the tendency that has been observed first in the Western developed states, and currently, through educational policy borrowing and land-

ing, in the Georgian context as well. Previously, even in the Soviet system, education was considered to be public good and everyone should have had equal access to it. Though this rhetoric has been preserved, there is often argument, which has been presented here earlier on, education has become more a commodity rather than public good. In all Georgian education policy documents the policy rhetoric of social inclusion and social equality is broadly present, through school marketization and competition, school have to sell their 'service' to the 'best' buyers – and very often best buyers are more affluent families. This tendency is well-observed and determined in Western developed states as middle class is well-shaped in their context. With relatively less social stratification social inequality can be less visible in Georgia, but it does not mean that school marketization policy works well in the Georgian context.

### Conclusion

Throughout the article we have observed that globalisation has brought along re-interpretation and re-shaping of relationship between the states when there is a strong competition between national governments, in some cases, to retain political and economic power, and in other, to gain dominance over the rest. Education has been given a key role in order to promote national economies and create intellectual product, a tradable commodity, which can be sold at the global market. This tendency has been defined as Knowledge Economy when knowledge ensures power and success of states in the strong competition over the piece from the 'global cake'. To ensure the effectiveness of national educational systems many states have employed new mode of governance which has been popularly referred to as Knowledge Economy principle, which literally encompasses all the characteristics of New Managerialism stance – deregulation-devolution, accountability, steering at a distance of the public sector by the governance, calculability and measurable data to judge whether the institutions are a success or doomed to failure.

In terms of the Georgian field of education, a general overview of the Georgian legislation of general education and the reform initiative makes it possible to draw parallels between the Georgian state educational policy and educational policies of other leading or developing states. The Georgian educational policy is a typical representation of modern Neo-liberal political discourse which puts an emphasis on standards and accountability, and knowledge generated through narrow specialisation. All components of knowledge-based education and economy is present in the Georgian context. Per capita funding introduced in the field of school leadership and management requires schools to compete with each other for the students, as the number of learners at educational institutions determine the volume of budget an individual school gets annually.

As for school leaders, knowledge economy does not support narrow specialisation, but rather, put it mildly, encourages school leaders enhance their knowledge and expertise in many, I would say, loosely related fields, such as, pedagogy, curriculum, academic instruction, financing, budgeting, management, marketisation, strategic planning, etc., which really makes the job of principals a hard endeavour.

36 (1)

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# Fostering Economic Growth through Adaptable Educational Mix in Georgia

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## Abstract

Cultures are preserved or transformed due to educational systems. People's behavior corresponds to the educational goals encouraged by the educational system which ultimately creates a social capital. Globalization policies have introduced new demands for different cultures and economic systems. These demands are not always fully adaptable to different cultures mainly because education is directed by different norms rather than those required by globalization policies. This is why the most crucial problem at present is how to develop educational system which will be adaptable to nation's cultural demands, and at the same time, to economic and environmental policies that characterize contemporary world. Georgia in incredibly short period of time through inconceivable reforms has broken soviet and post-soviet survivals, overshadowing Georgian identity, national values and capacity of education. Nowadays Georgia still faces several difficulties; Georgia lacks adequate knowledge and experience to bring higher education in line with the demands of a market economy and a democratic state. Certain resources are nevertheless available. The adoption of the Law on Higher Education provides a reasonable legal framework. Both the government and the society must show their will to transform the law into a reality. Another important issue is the quality versus quantity; The case that has been a subject of dispute between policymakers and experts even before the Millennium Development Goals program was initiated in Georgia. Quantity of educational institutions by itself does not sufficiently explain economic prosperity, while quantity combined with quality has a significant correlation to economic prosperity; Educational quality must be considered as a part of the package of government education policies if the goal is to achieve higher economic level which, in turn, is followed by an increased average education level, higher level of employment and earnings, more productivity and competitiveness leads to a greater economic growth of the country.

**Keywords:** high-quality education, quality versus quantity, students learning outcomes, competitiveness, labor market demands, MDG (Millennium Development Goals)

**JEL Classification:** I25, I28

## Introduction

Cultures are preserved or transformed due to educational systems. People's behavior corresponds to the educational goals encouraged by the educational system which ultimately creates a social capital. Globalization policies have introduced new demands for different cultures and economic systems. These demands are not always fully adaptable to different cultures mainly because education is directed by different norms rather than those required by globalization policies. This is why the most crucial problem at present is how to develop educational system which will be adaptable to nation's cultural demands, and at the same time, to economic and environmental policies that characterize contemporary world.

### 1. Searching for Adaptable System of Education through Globalization Principles

Different cultures developed different kind of skills correlated to specific economic demands. Any kind of innovation in education system might not be absorbed due to the unequal distribution of skillfulness on the globe, and to the incapacity of tuning generated by the lack of special-

ized human resources. Globalization must be described by an enormous responsibility concerning the preservation of cultural capital developed during the history, trend towards avoiding damaging consequences for the environment that appears because of the incorrect understanding of reproductive demands required by another culture. A great responsibility from this point of view is being carried by education. Classic systems of education are not able any more to guarantee environmental protection, economic adaptability, or trust in other cultures values. A deep and philosophical change must be produced in education, at the same time, to become non-aggressive for environment, adjustable to global economic demands, or able to support inter-cultural values.

It seems to be impossible to define and develop a system of education that might be internally steady, or philosophically non-changeable, but it is not. New technologies developed a new vision about communication; new vital scientific theories have the tendency to improve our way of thinking rejecting some of our paradoxes and misunderstandings. The globalization process removes the borders between nations and economies, thus supporting the cross-cultural ideas.

## 2. Educational Reforms Made in Georgia since the Rose Revolution

Nowadays the attitude of the most countries, including Georgia comprises education as completely different from what we consider now to be a classic education. By practicing globalization principles, being more flexible regarding the standards, promoting trust in other cultures and eradicating other potential factors of instability, governments try to more and more develop new rules of social game in which communication necessities will reduce the level of cultural offense. Cultural prosperity represents the biggest gift for contemporary world. This is why it must be stimulated by a global system of education designed to value different cultural solution for the global society. The design of this new education is a very great challenge for every educator and for every human, it may lead to the best result, a new economy, and social life, at the same time becoming the guarantee of stability and prosperity, factor, reducing serious economical and mental crisis of the society.

The empirical results and statistics on human capital (Human capital- is the stock of competencies, knowledge, and personality attributes, including creativity, expressed in the ability to perform labor so as to create economic value) indicate a high correlation between literacy and economic development. In this context, more cross-country comparative programs and teaching are clearly needed, in order to further understand the importance of human capital in the transition to modern economic growth.

Leadership changes in Georgia brought about by the 2003 Rose Revolution assisted the establishment of a new framework for the consolidation of national identity. The government obliged itself to restore territorial integrity and develop the country as a modern European state. The reform priorities of the government may be listed as follows:

- ▶ Fostering economic growth;
- ▶ Improving the business environment;
- ▶ Implementation of targeted employment policies and poverty eradication;
- ▶ Creation of equal economic and social opportunities in all regions;
- ▶ Guarantees of uninterrupted power supply for paying customers;
- ▶ Ensuring universal access to basic healthcare;
- ▶ Strengthening educational standards;
- ▶ Increasing investment in education and science;
- ▶ Enforcement of high standards for the protection and sustainable use of natural resources;
- ▶ Promotion of public input in decision making.

Poverty is defined as the condition of a person or a household characterized by a lack or inadequate level of income necessary to satisfy essential needs (food, shelter, physical safety, basic education, potential for personal growth, health care, and communication). One of the main

reasons of falling into such bad condition is simply the lack of high-quality education;

It is essential for Georgia, with respect to Millennium Development Goals, to ensure that a coherent and high-quality educational system is instituted in line with those of developed countries. That's why the targets, presented by MDG Project mainly in Georgia, taking into consideration new trends and innovations of present-day education system aim:

- By 2015 maintain universal primary education;
- ensure the transformation of school education into 12-year cycle;
- inclusion into the International Systems of School Education Quality Assessment (Quality Assurance departments/offices in HEIs);
- achievement of institutional coherence with modern school education systems;
- by 2015 ensure establishment of accreditation system for tertiary education institutions;

Achievement of institutional coherence with modern tertiary education systems (Indicators to be introduced: increased harmonization and coherence with the study programs of European and American institutions);

- by 2015 ensure the transformation of vocational education into the labor market consistent system;
- Facilitate the establishment of institutional support to private sector development in vocational education (Indicators to be introduced: training and re-training programs and increase of the employment coefficient);
- facilitate the establishment of institutional support to private sector development in vocational education;
- by 2015 ensure the function of inclusive and integrated educational programs;
- incorporate the principles of inclusive education into the national study programs (Indicators to be introduced: the role of inclusive education in study programs and the practice of their implementation), etc.

Since the Soviet period, the Georgian education system has comprised compulsory primary, basic (grades 7-9) and general secondary education. Primary, basic and secondary schools operate in all populated areas and provide access to a complete secondary education. The education system also takes into account the interests of national minorities. They can receive instruction in their mother tongue. The number of private education institutions is increasing at all levels of the system.

Nevertheless, the education system is in not yet one of the top ones. The quality and the scope of knowledge provided by the system is not fully adaptable and effective for present day requirements. This stems from a number

of factors:

- ▶ The scarcity and inadequate mechanisms of financing;
- ▶ Un-availability of improved comprehensive curricula, textbooks and material to meet present-day requirements;
- ▶ Irrelevance or absence of some standards;
- ▶ Outdated system of teacher training;
- ▶ Subjective system of student assessment;
- ▶ Weak links between the labor market and higher and vocational education policies.

▶ Growing number of Educational Institutions;  
Concerning the last point, the case of quality of education verses quantity has been an issue of contention between policymakers and scholars even before the inception and implementation of the MDGs.

### 3. Quality versus Quantity

From the one hand, during the last decades, government have believed that by increasing their expenses on educational quantity (i.e. increased number of population involved in educational process), they can ensure high levels of economic growth. While according to some research on existing information, it does not fully explain the relationship. The analyses made by researchers testifies an important role educational quality plays on levels of economic prosperity. It also shows that educational quantity by itself does not sufficiently explain economic success, while quantity combined with quality has a direct impact on the development of economy and education, essential factors of success and welfare of the nation in whole.

The government of Georgia has made some changes regarding educational policy since the Rose revolution.

One of the possible solutions on the first stage has been worked out in Georgia by the Legal Entity of Public Law (LEPL) - National Center for Educational Accreditation;

At the national level, institutional accreditation carried out by the National Center for Educational Accreditation (Today the LEPL - National Center For Educational Quality Enhancement), resulted in reduction of over 240 private and public universities in Georgia to a total of 60 (spring 2009).

The results of this assessment support the above mentioned theory and lead to the following conclusions:

1. Educational Quantity by itself does not adequately predict the effect that government educational policies have on economic prosperity;

WHILE:

2. Higher Educational Quality is a strong and significant predictor of a nation's economic prosperity, which leads to:

- increased individual achievement;
- greater productivity and competitiveness;
- higher income;
- increased individual achievement/education level;

- higher probability of employment;
- better employment and earnings;
- higher wages when employed;
- healthy social environment and safety;
- considerable decreases in major crimes.

### 4. Importance of Students' Learning Outcomes

Many if not most developing countries currently lack performance measurement that would allow them to know which policies were working and which were not or where performance was most in need of change. Learning outcomes define the purpose of the course, guide educators in developing appropriate learning experiences for students, and play a major role in assessment. In an outcomes-focused course, assessments measure the outcomes students have achieved. Lack of measurement of student learning outcomes clearly makes any system of direct rewards for success difficult if not impossible. With that purpose all representatives of HEIs should do its part in making learning outcomes part of the overall educational goal. It will contribute to ensuring that the measurement of learning achievements is undertaken in a more systematic way and is properly taken into account in the employers dialogue with employees. We will also hope that Government together with the Ministry of Education and Science of Georgia will invest in developing the appropriate evaluation tools to monitor this crucial part of educational development.

As for developed countries, the full economic impact of higher educational quality comes in part through greater school attainment.

Several recent studies suggest that education is important in facilitating research and development and the spread of technologies, with primary phases of education more important for getting skills necessary for contemporary labor market needs, that later in case of higher education will already lead to the invention of significant ideas.

### Conclusion

Georgia in incredibly short period of time through inconceivable reforms has broken soviet and post-soviet survivals, overshadowing Georgian identity, national values and capacity of education. Nowadays Georgia still faces several difficulties; Georgia lacks adequate knowledge and experience to bring higher education in line with the demands of a market economy and a democratic state. Certain resources are nevertheless available. The adoption of the Law on Higher Education provides a reasonable legal framework. Both the government and the society must show their will to transform the law into a reality. The main objectives of Higher Education reform should include the full autonomy of Higher Educational Institutions (by no





means ignoring the rules and regulations of those state organizations which make best efforts to enhance the quality of learning and teaching at HEIs), the establishment of a competitive climate for public and private institutions, the abolition of the state order tradition and the introduction of the “money follows the student” system. Another important issue is the quality versus quantity; The case that has been a subject of dispute between policymakers and experts even before the Millennium Development Goals program was initiated in Georgia. Quantity of educational institutions by itself does not sufficiently explain economic prosperity, while quantity combined with quality has a significant correlation to economic prosperity, supporting the theory that educational quantity by itself is not enough to ensure that a country can achieve a significant economical growth. The role of quantity of schooling for economic growth is not inefficient but the quality of education matters even more for economic growth. Educational quality, being one of the most significant factors of economical prosperity of the country, should be measured by the learning outcomes of the student in order to assure students’ preparedness for a competitive and knowledge-oriented world economy.

Thus:

- ▶ Changes in Education system adaptable to nation’s cultural demands, and at the same time, to economic and environmental policies that characterize contemporary world;

- ▶ Educational quality versus quantity;

- ▶ Making students’ learning outcomes the main measuring tool to solve problems related with employment; Outcomes must be considered as main components of the package of government education policies and adaptable educational mix in Georgia, if the goal is to achieve higher economic level which, in turn, is followed by an increased average education level, higher level of employment and earnings, more productivity and competitiveness leads to a greater economic growth of the country.

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## Key Features of Georgian Women Entrepreneurs Recent Success: Why it is Important for Georgia to Share US Experience

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### Abstract

Rapid growth of the women-owned firms in Georgia in 2003-2012 is a result of joint efforts taken by women movement activists, business women, society, and the government. It mirrors global tendencies towards women empowerment which is more likely to be achieved through women's free and unrestricted access to economic opportunities. The article analyzes social and political situation of the country to explain the reasons why Georgian women have achieved success in the field of business which was predominantly male dominated until very recently. A number of factors, both local and global, have affected women's promotion as entrepreneurs. The analysis of the available data and facts has shown that the support of the government and international society directed towards women's greater access to economic opportunities encouraged women's active involvement in business. Women entrepreneurs' advancement in Georgia reflects worldwide propensity towards women empowerment in the field of higher education, professional training, and equal employment opportunities. The analysis of the interviews with Georgian business women is presented in the article to highlight their aims and goals. Some of the reasons that may influence women's entrepreneurial decisions are also outlined. Women respondents talk about their achievements as well as main obstacles and difficulties they have to overcome in order to achieve success.

Financial independence of the women has become a central point in the struggle for women equality in America since 1990s. Empowering women's entrepreneurship, enhancing their knowledge through education and training, giving access to loans and encouraging their initiatives play an important role in achieving this goal. Financial assistance to women's business projects was supported by local and international funds and banks, as well as by state and federal projects. These initiatives ultimately contributed to fast development of the women businesses throughout the US.

The article discusses some interesting examples of international programs directed towards Georgian women entrepreneurs to highlight the significance of the support provided by USAID, EBRD, Canada International Development Agency, Swedish International Development Cooperation Agency, and other donor organizations. Close cooperation between women entrepreneurs of different countries is absolutely necessary. Women have to share their experience and knowledge in order to promote gender equality and women empowerment.

**Keywords:** Women in business, women entrepreneurs, SME in Georgia, women business association, business training for women  
**JEL Classification:** J16

To achieve equity for women has been a top issue for the societies of democratic countries already for half a century. Women's struggle for active involvement in small and medium-sized business started since 1980s in the US and Europe, but in Georgia women entrepreneurship has respectively a short history. In the Concept on Gender Equality adopted by the Parliament of Georgia in 2006, special emphasis is given to ensuring equal rights of women and men and improving women's participation in the social processes. Underrepresentation of women in government is a real threat to the democratic development and economic effectiveness of the country. During the post-communist transition period, Georgian women took on numerous responsibilities to support their families. Nevertheless, women's desire to think of innovative entrepreneurial activities was persistent. A brief overlook of the political and socio-economic situation of the transition period will help to identify the reasons of women's increased share in small and medium-sized enterprises (SME), and

the significance of women empowerment for active participation in the economic development of the country.

The process of democratization has brought new challenges to Georgia. Low incomes, reduced financial resources, and undeveloped market institutions have become characteristic of Georgia's transition period to market economy. In the result of ethnic conflicts in Abkhazia and South Ossetia, 300 000 internally displaced persons had to survive their families mostly by self-employment. Nowadays, unemployment still persists as a major problem for Georgia; according to statistical data the number of unemployed female population exceeds the number of unemployed men (in private sector 36% of employees are women) ([http://www.undp.org.ge/files/24\\_802\\_145990\\_gender-dimersion-eng.pdf](http://www.undp.org.ge/files/24_802_145990_gender-dimersion-eng.pdf)). Although women are equal under the Georgian legislation, “de-facto” patriarchal environment strengthens gender specific stereotypes and social norms. In practice, Georgian families are strongly male dominated where women are traditionally considered



homemakers. They generally have fewer employment opportunities and comparatively lower wages. Thus, women's involvement in the economic activities is relatively low that results from various factors: high level of unemployment both within female and male labor forces, unstable and gender discriminative jobs market, limited job offers for women, ineffective and "gender blind" labor code, unequal payment, and little effectiveness of trade unions. For example, women's payment in manufacturing in 2007 was only 57.3% of those of men ([http://www.undp.org.ge/files/24\\_802\\_145990\\_gender-dimension-eng.pdf](http://www.undp.org.ge/files/24_802_145990_gender-dimension-eng.pdf)). Women have less opportunity to obtain stable and decent jobs than men do. The women who want to be successfully involved in small business activities have to overcome greater difficulties than men do. Since 2004, business environment started to change and women were given greater access to business opportunities. Number of factors, both local and global, has affected women's promotion as entrepreneurs. One of the goals of the article is to identify some of the reasons why Georgian women start and manage businesses of their own.

What are the motives and incentives of women for business activities? What are main obstacles women have to overcome to be successful? What are their needs and perspectives? Women entrepreneurs' advancement in Georgia reflects worldwide tendency towards women empowerment in the field of higher education, professional training, and equal employment opportunities. The number of women with higher education in Georgia is increasing, and according to 2008 survey it surpasses the number of male graduates. (62.510 women and 40.590 men). There is a significant increase in number of women who continue education in the universities at science, business, economic and technological departments which were formerly male-dominated. This tendency is testified also on the example of International Black Sea University. The number of females exceeds the number of male students in above-mentioned departments.

To obtain data what motivated women to start their own businesses a method of interview was applied. Our target group was small and medium-sized women entrepreneurs. We also studied what motivated Georgian women to start their own businesses and tried to find similarities and differences between Georgian and American women motivation factors. Before discussing the results of survey on Georgian women entrepreneurs, we present American 1982 survey results on women business owners to compare and highlight the similarities and differences between motivation factors of American and Georgian women entrepreneurs.

Financial independence of the women has become a central point in the struggle for women equality in America; According to the Census Bureau, in 1982 there were 2,9 million women-owned businesses in the United States.

Vast majority of which - 93 percent ( 2,7 million) - were the sole proprietorships, nearly five percent were women-owned partnerships. (Source: US Bureau of the Census, extracted from Ando: 223). By 2012, the number of the enterprises – small and medium, owned by the women has increased dramatically. The quantity, size and quality of the women-owned firms now differ a lot from the middle 80s when the women celebrated their first important achievements in the sphere of business.

The 1982 Characteristics of Business Owners (CBO), a survey conducted in the US, studied the motives and identified that particular workforce patterns and experiences more common to women influence entrepreneurial decisions of women entrepreneurs. Also, the Survey tried to discover if the women were motivated by some of the same factors that encourage men to go into business, as well as by some that distinguish them from men. Besides psychological factors which are considered to be central in the process of decision making, financial independence is one of the main reasons why women decide to be involved in private business. Access to capital helps women to overcome wage and benefit discrepancies. Since majority of women are involved in family affairs, private business enables women to be flexible in terms of time management enabling them to meet mixed responsibilities. Multi tasking is often a main reason why they quit from the job, and, as the time passes they lose their qualification; therefore, job opportunities are limited for them and one of the best solutions to the problem seems to be engagement in private business. Private entrepreneurship enables women to put their talents to better use, improve their socio-economic status and meet expectations of their families, as well as the society at large. Demographic, socio-economic, and entrepreneurial characteristics of the enterprise owners play a significant role in their business performance. Most business women are married (72%) but still they are less likely to be married than their male counterpart (85%). Education and previous managerial experience have a significant impact on success of business activities, also in cases when their credit risks are evaluated. The CBO survey found that 53% of non-minority female business owners had completed one or more years of college education. Also 40% of non-minority females had been employed in a managerial capacity before going into business for themselves. The data in both – education and experience were on average 10-12% lower than in male counterparts. (Ando:225).

A key question that evolves from the above discussion is how women-owned businesses actually perform. The CBO contains four measurements of a firm's performance, two of which – sales or receipts and firm survival – were analyzed. (Ando:227). The percentage of firms surviving to 1986, according to the CBO survey, equaled to 58% among women, and only 7% more, 65% was among men. Another performance indicator – receipts showed to

be low and it was tolerated for a relatively long period of time. Main reasons for tolerance were as follows: start-up business excuse, perspectives for the rapid increase in the nearest future; a side activity of the business owner, one who chooses to have also a part-time job. Because women typically earn less than men, their business opportunity costs are lower. Although women owner firms had smaller profits than those owned by men, women were less likely than men to cite insufficient profits as the primary reason for discontinuing their businesses. (Ando:229). The CBO survey also revealed that married women had financial returns from their businesses that were substantially above those of never-married women. Bank loans were generally less common among female owners; Loans had been taken out by 61 percent of non-minority women. Though, few women cite inadequate funding as a main reason for non-survivals.

The analysis of the American women’s motivation was important for the understanding of the main reasons why Georgian women start business activities. As we learned from our interviewees, (10 respondents, age 32-60), the reasons they started business are similar to those identified among American women. Big majority admit that economic difficulties encouraged them to start business. It was necessary to support families, finance their children’s education, so they had to seek self-employment opportunities. Though big majority of Georgian entrepreneurs have higher education (this number among Americans were much lower), they all found to have lost their qualification because of political and economic changes in Georgia. So, they found it necessary to engage themselves in private business. Most of the respondents mentioned that working in private enterprise gives them a chance not only to find a new profession, but also to enlarge and enrich their jobs. Psychological factors also appeared to be very important since the self-realization was mentioned as one of the major psychological incentives. Women seek financial independence to get personal independence and raise the level of self-esteem. Most of our respondents stated that they had entrepreneurial ideas they wanted to realize; beside, they think that starting business is supported by flexible and entrepreneur-friendly state policy in Georgia. Women have equal access to bank credits with men. Nonetheless, it is generally assumed that women face more problems when applying for funding their businesses.

What are the most important obstacles that impede Georgian women advancement in business? First and foremost, it is a lack of necessary skills, knowledge and information; Secondly, business environment is less favorable for females which results in low accessibility to start-up capital and bank loans, other factors, such as cultural phenomenon, that prevents women to own property (especially in rural areas), and unequal division of family responsibilities between man and woman. More attention needs to be

paid to women entrepreneurs in Georgia, and consequently surveys on a large scale should be conducted to investigate the methods they are using to make their dream come true and what barriers they face.

Government of Georgia adopted the Regional Development Strategy in 2010 that lists specific activities to support socio-economic development of Georgian regions. Main aim of the strategy is to increase incomes of local households by promoting small and medium sized business in Georgian municipalities. International donors also provide support for the implementation of the regional development strategy. The Bologna Charter on SME Policies adopted on 15 June, 2000, “recognizes the increasing importance of small and medium-sized enterprises (SMEs) in economic growth, job creation, regional and local development, and social cohesion, also through the role played by women and young entrepreneurs”. The Charter places emphasis on developing programs and initiatives aimed at supporting the growth of the SMEs in countries with transition and developing economies. “Support and financial services, including those carried out by intermediaries (e.g. self-help organizations, business associations, technical assistance centers, etc), be promoted in ways that foster international co-operation and partnership among SMEs and provide improved access to information, financial and technological resources and new markets”. The policy of European Union is to assist the development SMEs in transition economy countries by fostering: the implementation of transparent, stable and non-discriminatory tax regimes; innovative and entrepreneurial culture, including continuous training and lifelong learning; effective access to financial services, particularly to seed, working and development capital; developing of new technologies for SMEs; strengthening public-private partnerships; insuring the cost-effectiveness of SME policies and their consistency with other national policies, as well as with existing international programs. (The Bologna Charter on SME Policies, OECD, 2000). The policy outlined by Bologna Charter should be used by the Government of Georgia as guidelines to promote the long-term development of the sector and encourage women entrepreneurs by enhancing the availability of financial and non-financial instruments.

The United States, European Union take leading roles in assisting Georgia by providing multimillion direct budget support to the government of Georgia and offering technical assistance in the implementation process. Rapid and stable development of SMEs is a guarantee of gender equity which is necessary for democratic society. Besides small business, Georgian government together with international organizations should promote a development of social enterprises in Georgia as a viable business model for organizations that are driven by social objectives/mission. Funding of the winning projects and their successful implementation will contribute further to popularization of

the concept of social enterprises in Georgia.

The analysis of the US strategy shows that the result of the active support of the government, international organizations and society in promotion of women entrepreneurs is truly amazing.

We think it is highly advisable for any developing economy to analyze and implement American supportive strategy towards women entrepreneurs. Presently, a significant change emerged in terms of size and quality of the enterprises run by women in the US. For example, one in five firms of \$1 million or more is now women-owned, while small-sized firms with 10 to 100 thousand annual dollar turnover were predominant 20 years ago. In the 2010s the picture changed and women are capable of managing million-dollar firms. 3% of all women-owned firms have revenues of \$1 million or more compared with 6% of men-owned firms.

Besides the knowledge-enhancing strategy, America has taken joint efforts towards creating various associations, organizations, and community centers. Such organizations are important financial and information resources for women entrepreneurs. They support women's ventures, creative ideas, offer education and training opportunities, open access to finances and technical resources, offer legal and financial support and advice. The number of such organizations has increased significantly for the recent period, and the current tendency is that they will continue to grow because the effectiveness of such help is reflected in the fast economic growth of the country. Some of the examples of such organizations are: The Center for Women's Business Research, The National Association of Women Business Owners (NAWBO), National Women's Business Council, Women Impacting Public Policy, Inc. (WIPP), The Peer Advisory Organization (WPO), Women, Money & Opportunity, Women Accessing Capital, Women and Technology (WATT), Entrepreneurs, Energy & Environment Center, and hundreds of other centers, funds or NGOs which have emerged throughout the country and play active role in support of women entrepreneurs.

Promotion of the SMEs in Georgia has not been at the top of the agenda until very recently. Naturally, women entrepreneurs were given little attention both by the government and the society. We consider it absolutely necessary to investigate the results of women initiatives in developing business in Georgia on a large scale to study the size, quantity or quality of women's enterprises. The experience of the US and other developed countries showed that providing business-women with adequate information and training opportunities to grow professionally is critical to women's success, also it is essential for sustainability of Georgian economy.

According to national statistics office 80 % of businesses are of a large size, and 20% is of a small and medium-sized respectively. In the US the SME sector con-

tributes about 80% of turnover, share in GDP as well as employment. Also small businesses bear social security function in a country and its sustainable development should be supported by the government.

Georgia Business Perception survey conducted by IFC in 2012 studied business environment in Georgia. Women entrepreneurs were not studied separately, but the problems revealed by the study equally affect women's businesses. Owners and managers of 1,029 active firms were surveyed by face-to-face interview. 365 were small entrepreneurs with annual revenue of less than 100,000 GEL out of the whole amount. 398 were medium ones with revenue between 100,000 and 1,500,000 GEL and 267 large ones with revenue greater than 1.5 million. The survey was mainly dedicated to the Georgian Tax Simplification Project. The survey shows that the main problems of businesses are access to finance, tax burden and utility costs. Corruption is in the last place out of the problems firms face. Larger firms had better growth results in 2011 compared to smaller firms, which were more likely to decline. 52% of large businesses grew in 2011, while 43% of small businesses declined. 62 % of large firms plan to expand in the future, while only 29% of small ones do it. Firms name the low purchasing power of the population as the main reason for the decline of business. It could be assumed that among those 43% businesses which declined were also women owned businesses. "Some claims made by small businesses are objective because they really lack finances. We have to work intensively to solve these problems." says Isakadze, the president of Georgian Small and Medium Enterprise Association. (Source: The Financial Intelligence Business Publication "Web: [www.finchannel.com](http://www.finchannel.com)"). The IFC survey provides vast information about the growth of the number of small and medium-size business firms and sheds light on Georgia's progress in combating the corruption. According to Isakadze, it is important to work together with the government to improve the environment for business and help entrepreneurs benefit from recent Tax Reforms. Those and many other problems address two business associations: Georgian Small and Medium Enterprise Association (GSMEA) established in 2010, and The Georgian Association of Women in Business, a non-profit organization which has 10 years of experience in providing business incubation services and supporting small business development.

The Mission of the GSMEA is to advocate common interests of the business community, aiming to improve business environment and increase competitiveness and productivity of Georgia's private sector. One of its goals is to improve programming to serve youth and women members. The Association has a lot to do in this direction. Our perception is that the GSMEA should be more gender sensitive and acknowledge the necessity of support to women's business activities.

Currently, The Georgian Association of Women in Business operates 3 business incubators: Tbilisi Business Incubator, Svaneti Business Incubator and the new Gori Business Incubator. The primary objective of the Gori Business Incubator is to provide support to populations and IDP women affected by war in the Gori region, and to channel this support into socio-economical development by increasing women involvement, development of entrepreneurship activities and assisting in employment of IDP population. Women in Business Association should have a stable government and society support to addresses the wide range of problems women entrepreneurs face today in Georgia.

### **Some examples of international support to Georgian women entrepreneurs**

Sustaining women entrepreneurship in Georgia is one of the primary goals of international community. They acknowledge the importance of women support and have offered to Georgian women various training opportunities, seed money for start-up businesses, and important contacts for development of cooperation. The dynamics of the increase of the share of women-directed businesses in America and in other developed countries clearly indicates to the fact that women empowered with equal opportunities will be just as successful as their male counterparts. The article provides a few important examples to highlight the significance of international support programs.

USAID-sponsored program help Georgian business sector to develop rapidly. USAID's economic growth activities focus on developing institutional and human capacity within government agencies and the private sector. Projects are designed to improve the business environment, expand access to capital, enhance business skills, improve agricultural productivity, increase competitiveness of targeted business sectors, and expand economic opportunities in rural communities. USAID extended a Development Credit Authority (DCA) loan portfolio guarantee to Bank Republic and Basis Bank to facilitate commercial credit in the amount of \$9,000,000 for Georgian SMEs, including agribusinesses. USAID has assisted 163 individuals, mainly from vulnerable groups, including IDP women, with small grants averaging from \$1,200 to \$1,500 to create sustainable microenterprises including cheese and poultry processing, beekeeping, and flower cultivation.

For example, Sopiko and Teona using what they learned in the training conducted market research to determine that a beauty salon would be a profitable business option. The friends recruited other women to join in their venture, developed a business plan, and received a \$3,000 group DGP grant to start their business. Combined with their personal savings and a commercial loan, the women invested in equipment, furniture, and skills training for the

beauty salon. Today the beauty salon employs five women; and they are considering the prospects for expansion to enable them to employ more people and offer diversified services for attracting and maintaining more customers.

The TAMBAS Women in Business Program has been implemented in Georgia thanks to donor support from Taipei China, the Canada International Development Agency (CIDA) and the EBRD Early Transition Countries (ETC) Fund. The EBRD Turn Around Management and Business Advisory Service (TAMBAS) program recognize gender equality and gender-related issues as a fundamental component to promote the development and sustainability of the micro, small and medium-sized business (MSME) sector. The trainees learned about the latest technologies and were introduced to a business models that foster collaboration between employers and training centers. For example, Tamara Gabisonia from the Caucasus University in Tbilisi, applied the newly acquired training methodologies in her internet-based training classes. Vilnius University International Business School and Caucasus University with support of Ministry of Foreign Affairs of the Republic of Lithuania initiated a joined international project Women's Entrepreneurship Encouragement in Georgia in the context of European Union which provided a business management training course for the Georgian women. The main purpose of the project is to decrease the level of poverty and social segregation, reduce unemployment and strengthen the country's economy through support and development of women entrepreneurship.

In 2008, with funding from the Swedish International Development Cooperation Agency, Eurasia Partnership Foundation (EPF) funded Women's Fund, a Georgian NGO, which offered a training course on: “How to Start Your Own Business”. The training course was developed by the Dutch-based Friends of Georgia Foundation (SVVG) in cooperation with the University of Groningen's Department of Entrepreneurship. The course had been previously tested in two regions of Georgia - Ajara and Kakheti. The present project targeted potential women entrepreneurs in other regions - Imereti and Samegrelo-Zemo Svaneti, who received training in small business start-up. Women's Fund assisted participants in refining their business ideas and designing well-argued business plans. The trainees were encouraged to seek funding with Microfinance Institutions (MFIs) for their plans. Women's Fund also intended to support participants' loan applications by providing loan guarantees with money raised from Dutch Rotary Clubs. Of the 46 women trained, 21 started their own businesses, including guesthouses, fisheries, bakeries, beauty salons, and computer centers that are still operating today. Ten of these businesses received a loan from an MFI (without the need for a loan guarantee), while the remaining 11 entrepreneurs managed to raise start-up funds on their own. In May 2009, five female entrepreneurs re-

ceived additional loans from MFIs to expand their businesses. In total, more than 24 jobs were created by the new businesses. In January 2009, Women's Fund presented the project results to various stakeholders, including the deputy minister of Economic Development. Representatives of MFIs who attended the meeting expressed an interest in cooperating with the organization, should the activities be replicated in East Georgia.

One of the successful women entrepreneurs Roza Shukvani-Chartolani was the participants of the training. With support from Women's Fund, she established a guesthouse in Mestia, Svaneti, which she runs with the help of her husband and two daughters. "Participation in the training in Zugdidi pushed me to start thinking about launching a small business. I received a small loan from Lazika Capital and started my own guesthouse in Mestia," says Roza. Later she received two additional loans from the same MFI to further improve the guesthouse. Along with accommodation, Roza's Guesthouse offers additional services to guests, including transportation to remote destinations in Svaneti.

In conclusion, women in business related issues must be conceived as part of a broader political agenda. Women's empowerment in business activities affects on the fast growth of the country's economic potential. Women dominated enterprises are as much competitive on the market as male -dominated ones. State policies which reflected outmoded assumptions about women confining them to certain roles have been significantly changed for the last decade, and it is credited to the increased role of the women play in small and medium scale business. Women entrepreneurs' astounding achievements within a considerably short period of time throughout the world suggests that women have both the will and the capacity to bring radical changes in economic as well as social spheres.

The results of preliminary study of the data about number of registered women sole-traders, small and medium business-owners in Georgia indicate that there is a rapid increase in number and size of the firms for the last three years. There is an urgent need for accurate statistics on women entrepreneurs. The availability of such information will provide opportunities for thorough study of the wide range of problems the business-women face today. It is critically important for the country's economic development to ensure equal participation of women and support their initiatives in business. Accordingly, women should be more persistent and creative in developing social networks to support women entrepreneurs. To achieve this end, the Georgian government, business community and women's organizations should be actively involved to work out gender sensitive state policy which will deal with the following:

- a. Raising awareness and understanding of gender dimensions of economic growth among government officials and wide public;
- b. Institutionalization of gender equality mechanisms with core focus on women's economic empowerment at all levels.
- c. Improving women's access to financial services;
- d. Facilitating access to information and training;
- e. Supporting business initiatives and innovations offered by women entrepreneurs;
- f. Supporting creation of women associations, organizations and women centers which will address existed problems.

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## Is the Interest Policy Responsible for 2008 Global Financial Crisis?

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### Abstract

Resisting the interest for 1500 years, longer than the lifetime of Islam since its birth, the Vatican accomplished an historic mission by referring to the Islamic banking system to the current western financial world in the aftermath of 2008 Global Financial Crisis as a solution to frequently happening financial crises. That reference can be regarded as the beginning of a new age of cooperation between the Western communities and the Muslim societies, an age when the whole mankind can expect a better future in terms of peace and socio-economic welfare for all. This historic call of Vatican drew the attention of researchers to the rapidly growing Islamic finance sector nearly in all Muslim and non-Muslim countries and to Islamic understanding of interest and interest-free modes of finance and banking. This paper first aims to define interest and its kinds from the Islamic perspective since it has brought precise principles thereabout. In addition to the interest of debt which is known by all, the prophet Mohammad introduced to the mankind another kind of interest, that is ‘interest of exchange’ that appears as an unearned and imaginary income in the exchanges of goods, foreign currencies and financial derivatives. Then, the paper primarily aims to examine the role and the place of interest mechanism in the crises, particularly in the 2008 Global Financial Crisis.

**Keywords:** 2008 Global Financial Crisis, Interest, Financial Bubble, Business Cycle

**JEL Classification:** D3, E4, E43

### Introduction

The 2008 Global Financial Crisis (GFC) that resulted in the collapse of large financial institutions, the bailout of banks by national governments and downturns in stock markets around the world is considered to be the worst financial crisis since the Great Depression of the 1930s. The housing market suffered, resulting in numerous evictions, foreclosures and prolonged unemployment. It contributed to the failure of key businesses, declines in consumer wealth estimated in trillions of US dollars, and a significant decline in economic activity, leading to a severe global economic recession in 2008.

The financial crisis was triggered by a complex interplay of valuation and liquidity problems in the United States banking system in 2008. The bursting of the U.S. housing bubble, which peaked in 2007, caused the values of securities tied to U.S. real estate pricing to plummet, damaging financial institutions globally. Questions regarding bank solvency, declines in credit availability and damaged investor confidence had an impact on global stock markets, where securities suffered large losses during 2008 and early 2009. Economies worldwide slowed during this period, as credit tightened and international trade declined. Governments and central banks responded with unprecedented fiscal stimulus, monetary policy expansion

and institutional bailouts. Although there have been after-shocks, the financial crisis itself ended sometime between late-2008 and mid-2009.

Many causes for the financial crisis have been suggested, with varying weight assigned by experts. The United States Senate issued the Levin–Coburn Report, which found “that the crisis was not a natural disaster, but the result of high risk, complex financial products; undisclosed conflicts of interest; and the failure of regulators, the credit rating agencies, and the market itself to rein in the excesses of Wall Street.” Two factors that have been frequently cited include the liberal use of the Gaussian copula function and the failure to track data provenance.

Critics argued that credit rating agencies and investors failed to accurately price the risk involved with mortgage-related financial products, and that governments did not adjust their regulatory practices to address 21st-century financial markets. The 1999 repeal of the Glass–Steagall Act of 1933 effectively removed the separation that previously existed between Wall Street investment banks and depository banks. In response to the financial crisis, both market-based and regulatory solutions have been implemented or are under consideration<sup>1</sup>.

Interest policy is one of the most important reasons of business cycles, which is considered by many inherent in the market systems. We can rather say that business cycles



are not inherent in a pure market systems but in the interest-based economic systems. With its uncertain outcomes, interest is one of the most important reasons of economic fluctuations. Intervention in the markets through interest policies distorts the markets' natural structure. In this paper we research if there were any effects of interest in the reasons of 2008 financial crisis.

The 2008 Global financial crisis affected many countries as well as many sectors of them including unemployment increases, foreign debt increases, income decreases, bankruptcy increases and so on. The surviving package of USA was 750 billion dollars which could be identified that the losses were put on to be bear by the American people. When the effects influenced the other countries, this simple reflection was lived for them too. Iceland banks made debts an amount of 120 billion dollars when mentioned country's GDP was nearly 40 billion dollars. Globally 40 million employees were unemployed in this financial process. (Ferguson, 2009: video).

In the crisis many reasons were effectual: High risk appetite which embraced the sector players and which reached to the level of gambling as witnessed between insurance companies and investment bankers. Deficiency of regulation and tight supervision on finance sector and capital markets that SEC (The American capital markets authority) permitted the financiers to move through high risks in collecting funds to 31 times of equity. (Ferguson, 2009: video). NINJA credits to the 'no income no job' groups of people was another effect in the crisis that the lending processes were not applied safer. Securitisation of the receivables was another bad effect which Islam had not permitted. Lack of liquidity seemed to have been an important factor, but in fact that was secondary reason which

increase in the outcomes by being engaged in the produc-

tion processes. came from other main reasons such as the main argument: Interest and its relations.

"In an Islamic financial system, banks perform the same essential functions as they do in the traditional banking system but are constrained to carry out their transactions in accordance with the rules of Shariah." (Mirakhor, 1992: 396).

Islam objects interest which has come from and acquired various shapes and qualifications. According to Islam, money-based or good-based capital always have potentials of having interest in transactions. The Prophet's hadith says: "Lending which provides beneficium is interest."

"Historically, in total, we count 124 banking crises, 208 currency crisis and 63 sovereign debt crisis over the period 1970 to 2007. Note that several countries experienced multiple crises. Of these 124 banking crises, 42 are considered twin crisis and 10 can be classified as triple crisis." (Dia-Eddine, 2010: 1.) Sometimes the reasons of these crises are argued in very different respects as about 2008 Global Financial Crisis: "The very reasons of this crisis lay in the funding of external wars. The US administration spent over 5 trillion dollars on the total military operations it conducted over 7 years." (Kahf, 2010: 1.)

**1. Finance and Capital Movements**

Capital markets, banks, various types of institutions like insurance companies, investment funds, real estate investment trusts, factoring institutions.., have all helped the flow of financial accumulation to the desired locations for years. Islam considers capital as an 'accumulated labor'. So, Islam does not deny the right of the capital that causes

tion processes.

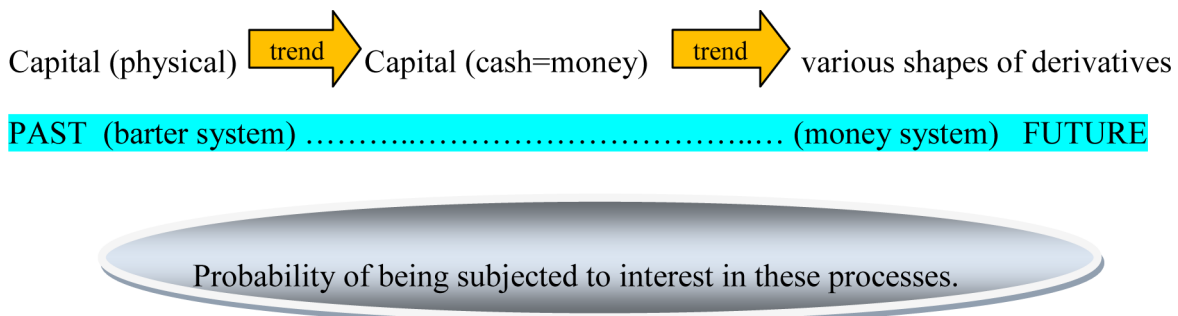


Figure 1: Capital status changed by the effect of trade and finance composition.

## 2. What is Interest?

According to Islam, the income kinds of profit and/or rental-fee are permissible while the interest income is prohibited. From the Islamic perspective, interest (or usury) is an actual or potential excess or surplus without any comparable equivalent in loans or exchanges. This excess or surplus has not any consideration that can be matched with so that it can be regarded as legitimate and rightful earnings. Thus it causes a financial loss to either of two parties. (Ozsoy, 1995: 26).

Interest is of two kinds. First, interest of loan (*riba al-dain* in Arabic), one that appears in loans as a percentage or any fixed payment added to the principle, is the most widespread, and the most debated, kind of interest known by all. Lending money, say €100, at a certain interest rate, say 5%, is the example. Second is interest of exchange (*riba al-bai'* in Arabic), one that appears in exchanges.

The second one -interest of exchange- is also divided into two kinds; one is called interest of surplus (*riba al-fadl* in Arabic) that appears as a quantitative surplus in one of the exchanged goods of the same kind -as in the case when two measures of corn is exchanged for three measures of corn, even if it is due to the difference of quality. And the other is called interest of delay or deferral (*riba al-nasia* in Arabic) that appears in exchanges as a quantitative or potential surplus (value differentiation) when the delivery of one of the goods exchanged is delayed, as in the case when a ton of iron is sold for the same amount of iron on a deferral basis; let alone for a larger amount of delayed iron.

Here, interest arises as a potential value differentiation between two goods -iron for iron- due to the delayed delivery of one of the goods. Time, or term, is a primary reason for the “value differentiation” between the present and future goods exchanged; hence, it causes a potential excess in one of the goods when compared to the other good. Due to the fact that nobody knows in advance for whom and how much this potential surplus proves to be realized, Islam prohibited all the delayed sales or futures.

The exception of the interest of delay is the exchange wherein only one of the items is ‘money’ since any delayed ‘money-for-commodity’ or ‘commodity-for-money’ exchanges do not establish any interest relationship. This is because of the value measuring character of money for commodities, and the need of the people not having cash for pressing demands.

All the futures in the form of forward rate agreements, and exchanges of financial derivatives for each other without corresponding to any real value change in the underlying real assets on which derivative are based, also include interest. For example selling cash €100 for delayed \$130 includes interest of delay.

Similarly, exchange of loan-for-loan with different

quantities or with different interest rates gives way to interest as with the derivatives so widespread in the developed countries, in US particularly. The exception to this is swap wherein two loans of the same quantity and of the same term are traded.

Shortly putting, interest is a measurable or noticeable imbalance or disproportionate in exchanges or loans for one party to the loss of the other. Interest is a value transfer from one party to another without any reason, any equivalence or any comparable matching. With its this nature, interest causes economic disparities between individuals, factors of production and even nations, resulting in considerable social and economic problems. These imbalances appear as bubbles and crises eventually in the financial markets when they can not be sustained.

Though not expressed so far so clearly, interest based transactions are the most effectual reasons of the economic bubbles and their consequences in the form of crises (Wikipedia, 2008: Economic bubble). This is a reason for interest to be banned by all the religions and for its being criticized by most of the philosophers and scholars throughout history (Ozsoy, 2010: 140).

Interest of debt is not other than determining the share the monetary capital, whose contribution to the production is not possible to be predicted beforehand, receives from the production. Although mankind can not foresee what to earn in future other than simply estimating, interest policy means determining the future without seeing it. The deviations between the initially determined interest rates and the finally realized –or not realized- real rate of return are the weakest side of interest policies and are the reasons for financial imbalances, instabilities and the unavoidable crises.

### 2.1. Value Differentiation

In fact, the value differentiation between the present goods and the future goods is pointed out by the Prophet Muhammad fifteen centuries ago who therefore prohibited delayed sales saying,

“Sell gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt - like for like, equal for equal, and hand-to-hand; if the classes differ, then you may sell as you wish, provided that the exchange is hand-to-hand.” (Muslim and MUSAQAT, 81.)

However, there is a remarkable difference between the conclusions drawn by Böhm-Bawerk and the Prophet Muhammad with regard to the value differentiation between the present and the future goods.

Based on the time value of money; capitalism, which embraced the theory of Böhm-Bawerk requires the debtor to pay a fixed interest to the creditor, deciding at the very beginning of lending that this value differentiation will al-

ways be against the debtor; although it might appear for either side, -for the creditor against the debtor or for the debtor against the creditor-

As regards the position of Islam that is based on the saying of the Prophet Muhammad on the differentiation of value, it does not agree to set a price for ‘time’ during which a sum of money is loaned, or a due payment is postponed to a future time, since it is not possible to know what ‘time’ will bring for either side. This is because a great importance is attached to the value equality between the two items that are exchanged. In this respect, a ready €100 can not be exchanged for a delayed €110 for it is impossible to foresee the future and to forecast the outcome of the business at which a loan with a fixed interest is used. Hence, these two amounts may not be equal in value at the maturity; it is probable that €100 of today may turn to have the value of €90 next year due to the revaluation of that currency; there may be a negative time preference instead of positive one. For instance, it might be better to have 90 m3 natural gas for heating now in the winter than having 100 m3 in the coming summer. Likewise, a refrigerator, now in the winter, may be worth less than it will be in the summer to come. As seen, not always the present goods are more valuable than the future ones and it is not possible to determine the exchange rate between them.

Similarly, since it is impossible to predict for which side (for the creditor or the debtor) the value differentiation would appear, Islam has forbidden all delayed sales in order to protect the financial rights of both sides. Thus, while a ton of iron can be exchanged today for 100 packs of cement at the market price, the same exchange is not permitted in case one of the two goods is delayed. Nor the two goods of the same kind are allowed to be exchanged because of the possibility of value differentiation in one of the two goods, even if they are of the same amount. Thus, a ton of coal in summer can not be exchanged for the same amount of coal to a term in winter, let alone for an excess amount of it.

fiction.” (Harrod, 1996: 21.)

## 2.2. Financial Bubbles

A more important example that can be suggested to have given way to the financial bubble after the burst of which the 2008 Global Financial Crisis occurred is the sale of, say, a financial certificate of \$100 with 10% rate of interest and 1 year time for a higher amount and/or for a higher interest for two years time. Thus, a financial bubble is built if the nominal increase in the value of the financial certificate is not balanced with a real value increase in the underlying assets upon which the financial certificates or derivatives are based.

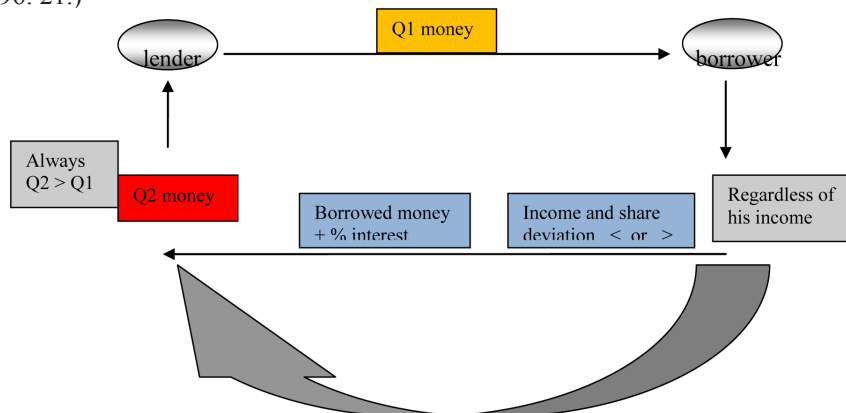
In short, because it is not possible what ‘the time’ brings in the future, any exchange on a deferred basis is not allowed in Islam in order to avoid any financial loss that may arise on behalf of either side while capitalism seems to favor only the creditor (Ozsoy, 2010: 143).

## 2.3. Interest Cycles and Steps of Crisis

“In Shariah riba is the additional sum the creditor charged from the debtor as a fixed rate on the principal lent as a condition for the loan or for an extension in its maturity.” (Maudidi, 1996: 21.)

“Riba is also the specific kind of excess, whether the excess is on the commodity or money.” (Asqalani: 1996: 21.)

“Samuelson states that ‘interest is the price or rental of the use of the use of money’ (Samuelson, 1996: 21) while Don Patinkin (another economist) defines interest as, ‘one of the forms of income from property, and the other being dividends, rent and profits.’ (Patinkin, 1996: 21). This definition of Patinkin according to Abu Suud is confusing because Patinkin seems to have treated goods as synonymous with money capital. (Suud, 1996: 21). J. M. Keynes did not in any way define interest but focused on the rate of interest which he sees as ‘the percentage of excess of a sum of unit of money contracted for forward delivery.’ (Keynes, 1996: 21). Roy Harrod provided a unique position in his description of interest as something untrue and therefore a



**Figure 2:** *Unearned and disproportional share qualification of interest in ‘debt interest’ cycle.*

In fact, interest is used for the attemption of future planning contrary to the inflation which shows the past.

**3. Kind of Interest in the Crisis: Interest of Exchange**

Islam introduced the concept interest of exchange that occurs in the exchanges of goods and currencies on the spot (hand-to-hand) and/or forward (for a fixed term) basis. While the Koran deals with interest of debt, the Prophetic tradition (the hadith) predominantly deals with interest of exchange.

Interest of exchange appears in the exchanges of goods, different foreign currencies, and financial derivatives. In the crisis period mortgages were sold step by step from lenders to investment bankers, investment bankers to investors. Velocity of money collapsed all around the financial system as a commodity which was bought and sold instead of velocity of utilities representing the production wealth, manufacturing the goods or servicing real benefits.

The interest of exchange (riba al-bai‘) is also divided into two kinds; one is called interest of surplus (riba al-fadl) that appears as a quantitative surplus in one of the exchanged items of the same kind<sup>2</sup>; and one is called interest of delay or deferral (riba al-nasia) that appears in exchanges as a quantitative or potential surplus (value dif-

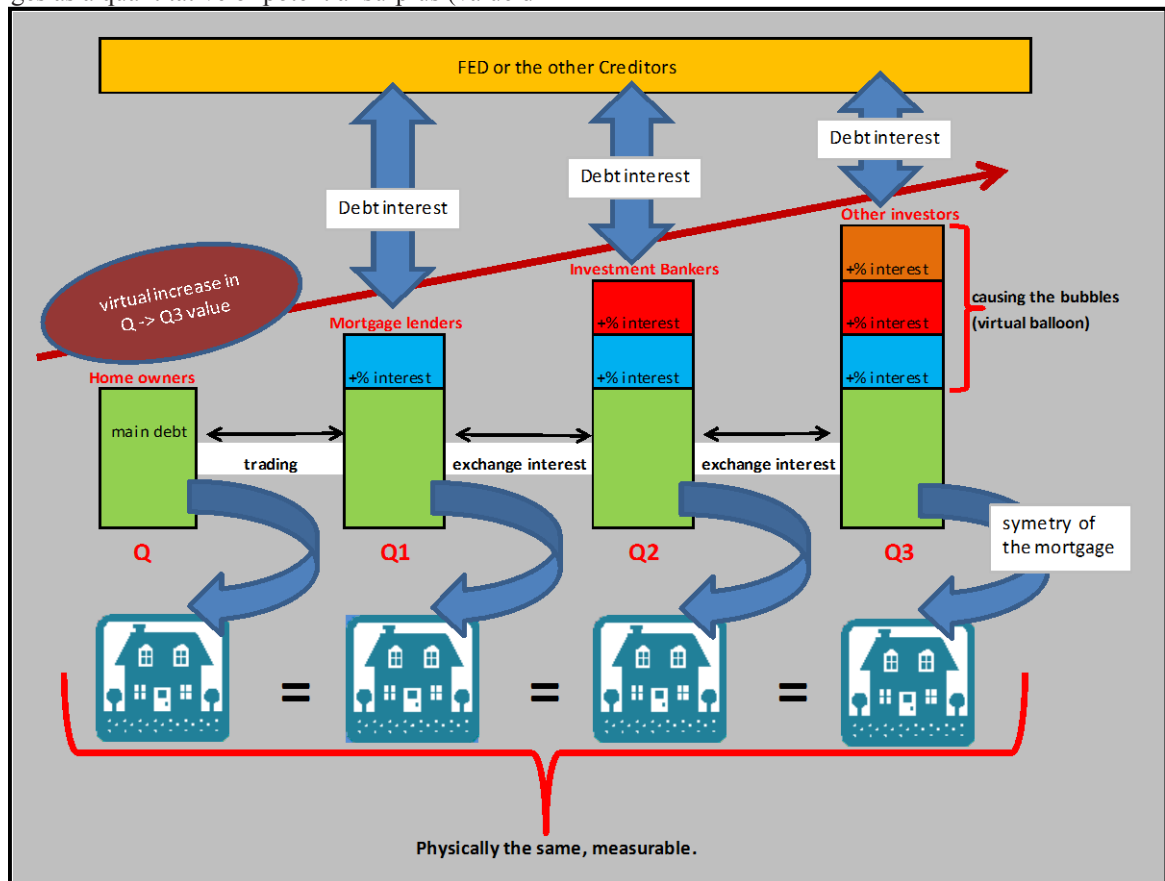
ferentiation) when one of the items exchanged is delayed, except the exchange wherein one of the items is money<sup>3</sup>. Thus, the concept interest in Islam is both different and more comprehensive than in other systems.

“The term nasi’a comes from the root nasa’s which means to postpone, deter or wait and refers to the time that is allowed to the borrower to repay the loan in return for the addition or the premium.” (Chapra, 1996: 21) “This type of riba which is addressed in Qur’an 2:275 is unlawful in Islam on the ground of its predetermined positiveness of the return. The Shariah position is that the waiting involved in repayment of a loan does not by itself justify a positive reward.

The other type of riba is called riba al-fadl or riba al-buyu’ (sales). This type of riba occurs when an exchange of an object for the same kind of an object takes place with an increase in quantity. This is barter trade of identical commodities.” (Kilani, 1996: 24.)

Interest based mortgage system has been implemented as the help of the mentioned qualifications of interest which corrupts the money flow, mortgage system, national income system and global balance.

**3.1. The Interest Mechanism**



**Figure 3:** *Interest steps in the mortgage cycle which cause unearned and imaginary income and disproportional share.*

The mortgage system was based on interest basically and the qualifications of interest harmed the processes step by step.

-Unearned: Processes on money as for the prices of receivables which have not been collected yet caused high risks in selling the receivable operations. Though the receivables are degreed as AAA, the reality of collecting risks did not change. When the home owners began to pay nothing the system was collapsed. In other words, the receivables included the interest volume which represented unearned incomes.

-Imaginary: No guarantee of the future earnings caused the high-level variances of real prices to real wealth, even losing the national economy stabilization and national wealth.

-Disparities between people: The liabilities guaranteed by the debtors to lenders made lenders be unaffected by the losses of risky processes as in the exchanging the certificate to a real liability or cash payments in the exchange operations.

-Imbalance or disproportionate: The transaction of exchanging receivables made one party a loser in spite of his reluctant attitudes.

-Actual or potential/prospective excess/surplus: Supporting the disproportionate in the cycle, the earnings can be mostly different at the tenor as in prime certificates or else in sub-prime (weak) ones

In figure 3 the points of views can be defined as follows:

-The symmetrical value of the mortgage is the same: A house. A physical wealth has got a potential to lose in value or come into value by demand/supply condition. In addition, housing sector is one of the most speculative areas. The mechanism has been set up as the mortgage prices have been always increasing considering the house prices in the market would always increase. (Virtual and speculative increase in value).

-As  $Q < Q1 < Q2 < Q3$ , the house prices were open to be affected by the supply and demand principle. Physically the same house, a physical capital, but valuably + / - value of it could be changed in the market tendency. (Virtual value increasing versus demand/supply principles). Another enforcing factor was that the speculative demand made the home prices increase.

-Home owner and mortgage lender relation was followed up as commercial dealing with a result of buy and sale procedures. The home owner would have a house with a heritable security on it. Home owner buy the house in installments. (Trading transactions).

-Between mortgage lenders and investment bankers, also investment bankers and the other investors like insurance funds there were interest-bearing transactions. Interest of exchange occurred between the parties which could be observed that no real income took place. Virtual income,

which have been supplied from a receivable of selling mortgage, have been observed and it represented only a liability/receivable certificate as it had no physical value itself. Lenders sold the certificates in groups as they had payment dates on them for future (Interest of Exchange).

-The money borrowing and lending processes lived between FED/Other Creditors-Lenders-Bankers-Investors. This case was subjected to debt interest which caused bubbles, imbalance and disproportionate in loans. (Debt interest)

The parties of the cycle are identified by Jonathan Jarvis as:

-Home Owners: Prime and sub-prime groups who were debtors to the mortgage lenders.

-Mortgage Brokers: Found houses and arranged communication between mortgages lenders and home owners in terms of a commission.

-Mortgage Lenders: Lent home owners in terms of mortgage certificates.

-Investment Bankers (Wall Street): Bought mortgages from lenders by a maturity date before term with a down payment agreed between them as if they invested on payments of mortgages with a tenor.

Investors: They are the group of pension funds, mutual funds, insurance companies,... which bought mortgages from investment bankers with a maturity date as if they invested on the earnings of these certificates.

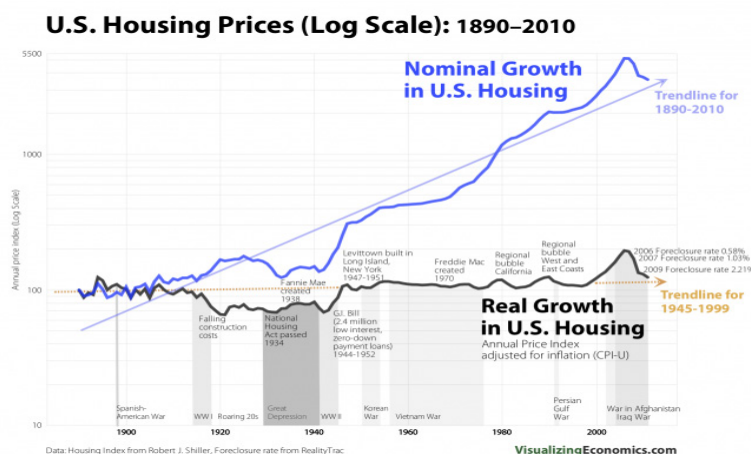
It was defined by Jarvis that the causes of the mortgage crisis had been originated from the factors:

- sub-prime mortgages,
- collateralized debt obligations (CDOs),
- frozen credit markets,
- credit default swaps. (Crisis of Credit, 2010: video).

The chain began as debt interest in relations of FED and the lenders and investors. The credits were cheap and the investment earned with a very low level: The interest rate was %1 supplied from FED which was very low and very low to earn.

The second interest type was interest of exchange which the lenders sold the receivables to the investors for another maturity date. So, the mortgage papers began to show unreal prices in the market. They showed the expectations, hopes, ambitious appetites of lenders and investors. In the end the real home prices broke off from the paper price which can be described as derivatives.

In the crisis the principle of demand and supply worked again. At the beginning the mortgage system encouraged the home buyers to buy more and the lenders to lend more and the investment bankers to make more CDOs (Collateralized Debt Obligations can be identified as a group of mortgage certificates) and to sell them more. The supply increased in the market and the prices of houses decreased. The home owners asked themselves why they were paying more (i.e. \$300,000) than the real market prices (i.e. \$90,000).



**Chart-1:** Nominal increase in house prices while the real market prices tend in a stable trend.  
**Source:** Visualizing Economics, <http://visualizingeconomics.com/2011/03/23/real-vs-nominal-housing-prices-united-states1890-2010/> DataSource for Housing Price Index from Robert Shiller’s Irrational Exuberance Accessed on May 26, 2011.

In fact, the above chart shows the trend of the real based prices which were abandoned from the beginning of 1900s. Nominal prices have been increasing while the real prices have been following a stable route. The gap between the real prices and the nominal prices has been widening. As an example to see the speculation and bubble in prices, the 1970s, 1980s and finally 2008 house prices peaks can be observed in the chart.

When the payments were turned to houses, at first there was not any problem for banks, but rush of selling houses continued after and lots of houses in the market became to be waiting to be sold. The prices decreased and the

problem enlarged. Forsaken houses, which the mortgage lenders, the investment bankers and the other investors possessed, lost their papered values. The investment bankers also had lots of debts for that they borrowed from the other creditors, acquiring valueless mortgages.

#### 4. Islamic Approach

Islamic approach differs from the realized conditions in mortgage steps. These important points can be summarized as follows:

*Table 1: Steps of Mortgage Cycle with Conflicts with Islamic Approach*

Process Steps	Islamic Opinion
Contracting a mortgage: money to home buyer, mortgaging home and interests to be paid	The contract between buyer and broker is a loan contract. Contract should not include interests.
Selling the contract from broker to commercial bank for a fee or part of the to-be-paid-interest	It is not allowed to sell debts for benefits.
Creating securities through MBS in way to make them easier tradable and cross cover the risks	It is not allowed to sell debts for benefits
Creation of SPV and transferring the securities to them, releasing the bank from some legal obligation related to the ratio on Debt/asset and improving Balance Sheet's outlook	The purpose of such creation is rejected. The transfer of debt is not allowed. The "manipulation" of the BL is not allowed.
Slicing and dicing the securities hold by the SPV	This type of distribution of risks is rejected since risks are not dividable and not a good to be sold as such. The different treatment of ultimate holders is also rejected even if accepted by them. This case is considered a gambling.
Insuring the certificates (CDS). The purpose is to get an insured sum if default happens and to improve the rating of the CDOs in way to make them acceptable to institutional investors.	This is insuring what is undefined, since it is not known where the default may happen, neither its size because the risk are distribute unevenly, at the same time, in the case of default the protection buyer delivers the defaulted CDO to the protection seller against the sum insured and not obligatory the face value, which is again a selling debts. The purpose of this insurance is not evident, since it includes the will to improve the rating to attract institutional clients. The other issue is the coverage and reserves put by insurers to cover the certificates. These insurances don't cover all risks since they are mixed. For example what happen if only a certain type of mortgages is defaulting because of changes in regulations concerning these mortgages and not the other.
Rating the CDOs through rating agencies in way to get CDOs' market price for potential global investors	Rating for improving the selling chances through institutions paid by issuers represents an unethical step and a conflict of interests. The examples show the misleading information propagated by rating agencies during this crisis as well other crises.
Selling to institutional investors	Investors are cheated due to his conviction that he is doing a good investment based on the information presented by different partners, without having himself any idea about what is behind the CDOs. The greed of the purchasers and the sellers as well as the costs linked to any possible investigation about the assets backing the CDOs will stop any deeper analysis. Uncertainty and deceiving are not allowed.

Source: Dia-Eddine, K., Nada, N., (2010), pp.17-20.

#### **4.1. Open Market and Supply-Demand Relations Principle - Money**

“Such a paradigm had the effect of making the market the only determinant of efficiency and equity in the allocation and distribution of resources and of virtually eliminating the role of all other factors, including social val-

ues and institutions. Market-determined prices (and costs, which are also prices) became the only filtering mechanism and self-interest the only motivating force. It was argued that self-interest would lead the sovereign consumers to buy at the lowest price whatever was in conformity with their preferences, the only constraint being their disposal income. Self-interest would also induce the producers to



produce at minimum cost whatever they considered to be the best for maximizing their profit.” (Chapra, 1996: 17.)

The importance of term or time comes from the possibility that the value balance, wherein established between the parties –seller and buyer-, may be destroyed in the forward sales and value differentiation/disparity/inequality in exchanging goods or money. Some of the significant causes of this value differentiation and inequality can be listed as follows: Instability of the market conditions, -that is, rises and falls in money and commodity markets-, the loss of opportunity of the creditors because of their deprivation of using money or commodity during the term, and the unexpected increase of the burden on the debtors because of the sudden and unpredictable value changes upon borrowed money or commodity.

In the crisis, it is experienced that the house prices were always increasing, so the expectations were mixed with their ambitions of earning more and more with no limits of increase. But one thing was not taken into considering: In fact, supply and demand functions are not in the hands of people that no one can play roles on it naturally.

Business cycles appear as self-correction, self-defense, and self-stabilization mechanisms of the markets. At first, when house prices were increasing, investment bankers were buying the mortgages from the lenders. However, open markets’ self correction was forgotten. With its important instrument: Money.

Price is the main instrument of an open market economy even if it is permitted to live free of under pressure. But in the mortgage cycle the prices went to be a wrong indicator by the causes of interest. Interest caused bubbles in the prices as producing virtual indicators. This mechanism took root from the qualifications of ambiguity of interest. In other words, the system was designed on this ambiguity.

#### 4.2. Time Value and Location Value

Does money have a time value? Money is not a commodity to sell, it is a measurement tool to measure the goods and to compare them. Criticized the term ‘time value of money’, it is a unit of value/measure not a commodity to be transferred with a surplus to another.

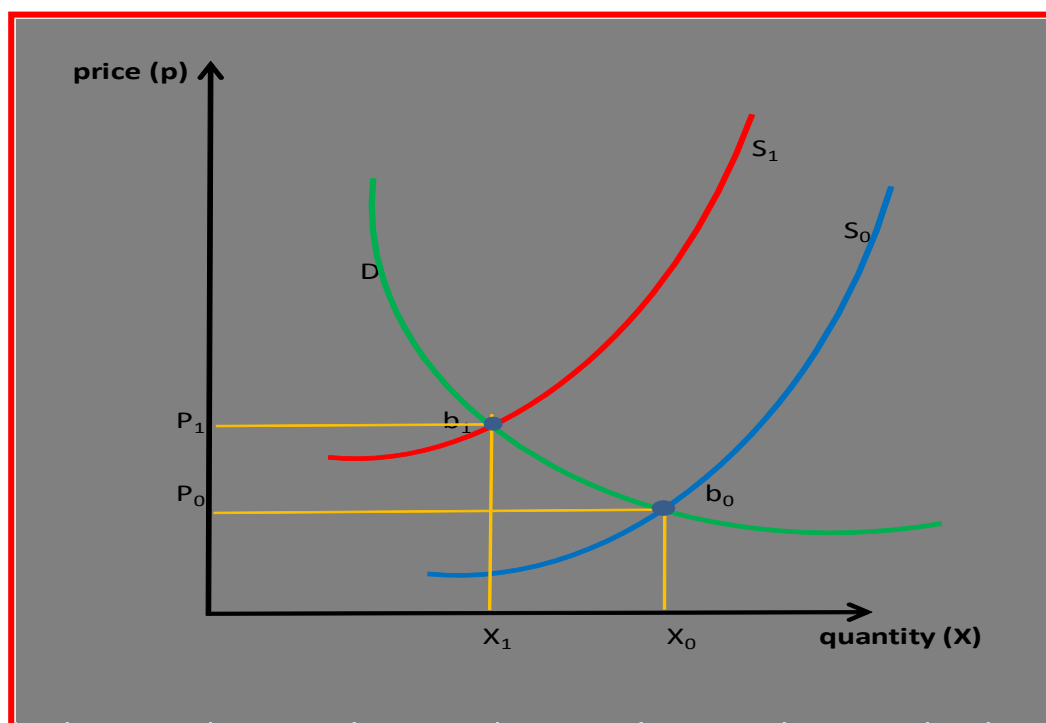


Chart 2: An open market reality: interest or profit, supply and demand functions in cash and forward sale.



In chart 2 the points of views can be defined as follows:

- a) Quantity represents commodity, price represents money.
- b) At first,  $b_0$  is the balanced price of Supply (S0) and Demand (D).
- c) When the cash demand changes to a deferral payment demand, the supply goes to S1 because of collecting money difficulties. In that case new price reaches P1 and the demand accepts the new price P1 because of reaching the good earlier than collecting money i.e. for years.
- d) So, now the new balance is  $b_1$  which shows the balance of payments by installments sale.
- e) The difference of P1 and P0 is the term difference value of the good: Profit. This is an acceptable and legal activity of an open market economy truth which the Islamic perspective confirms.
- f) If any placement considering the money (monetary capital) in place of commodity (physical capital) as seen in the x axis, it is observed that there would be imbalance, injurious, disproportional share between the Demand and Supply sources. Because, price represents money and commodity quantity represents the same money. So, money which is a measure, not a commodity itself means to be sold as a commodity. Thus, corruptions, harms and diseases are expected clearly afterwards.

So, it is obvious that P1 and P0 difference indicates profit when one part represents a commodity and the other represents money, otherwise interest which has been sourced from an unreal income makes the difference of P1 and P0 as interest when two axes represents money.

**5. Steps of Crises While Living Blind to Interest – Papered Economy**

Injustice occurs such as between people, like placing or labeling a thing in spite of its genesis. So, when you place money instead of the quantity referring the commodity, you will see P1 and P0 difference represents the interest. It is not a valid and a realistic value in Islamic perspective for the reason that money is not a commodity. The mortgages in the crisis represented money, debt and they were sold like commodities step by step without considering the realities. In papered economy, the goods are the hopes, imagination, not manufacturing any real commodities, benefits, service or else.

**5.1. Consuming Without Producing – National Wealth - Earn More Than Adding, Disproportional Share**

High rates of interest cause happiness to lenders while the lower rates are pleasing the borrowers. The confliction has lived in interest transactions for years as stock ex-

changes has been living in the opposite direction. When the rates get higher, company’s workers, the equity holders, the capital owners, the brokers, all of them get happy. In the crisis, all the lenders, bankers, investors were nourished by the virtual income of mortgages. No real income, no real production, no real assets. Only a debt flow was observed in the economy. Transferring the mortgages misleded the owners as if they worked on a real based production or service.

When any default and bankruptcy occurs, the damage makes all people be affected by the decreasing value: as higher prices, unemployment, worthless economy..., etc. In the crisis period, papers were protected in hands of lenders, bankers, investors..., for a few periods. What was observed which was produced? No real wealth, but lots of amount of real debt. In this way, the volume of finance was getting higher and GDP was multiplied in terms of nothing referring finance transaction (derived actions).

- Instead,
  - “a) Profit and loss sharing (instead of interest based transactions),
  - b) Risk sharing (and not risk transfer as prescribed by conventional system),
  - c) Link between assets, financial transactions and real economies” (Dia-Eddine, 2010: 10).
- should have been the main activity.

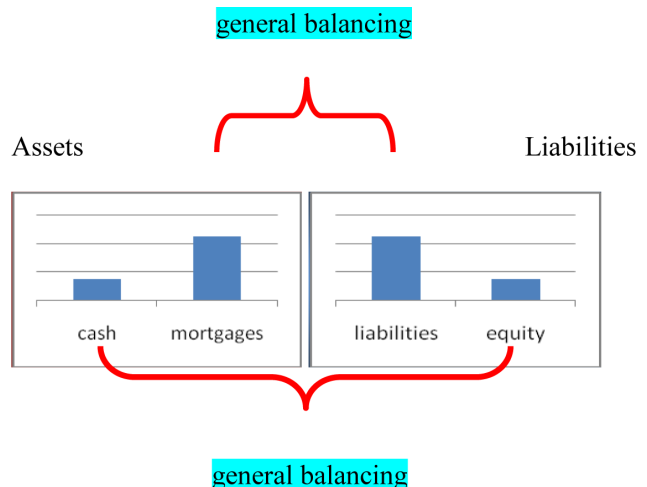


Figure 4: Simple structure of mortgage holder's balance sheet to follow up his assets and liabilities.

Mortgages (the mortgage bonds) were sold by installments and they carried out returns in terms of time as tried to be described. But the balances were broken. What was the real reason, what caused the crisis, how was interest played its role? ‘To be lawful, any profit or benefit should be linked to the performance of a real asset and to its risk.’ Interest caused an unreal asset, at least unreal values.

### **5.2. Banking System Ready for High Level of Debt: Where to Go**

“Leverage is borrowing money to amplify the outcome of a deal” (Crises of Credit, 2010: video). Leverage level for investment bankers reached thirty one times bigger than the shareholders’ equity in the mortgage cycle. In debt interest mechanisms the banks borrowed multiples of real money amounts.

Investors had been staying on high levelled volume of funds willing to make an action to earn more. Having high returns than the FED’s offer and others’, mortgages had potential advantages of income as they saw. Then, a chain was established between the lenders – investment bankers – investors. The mortgages were sold from the beginning step, from lenders to the investors with different rates of interest which were bound to their risk groups. Safer mortgages had lower interest, risky ones had higher. In this point of view interest represented the risks. But this risk could not conceal the fact that it harboured the debt selling transaction which depended on a base without adding any value to national production and real assets.

“The bankers made the mortgages into three slices: safe, okay and risky. Accompanied by a fee, insurance was established. After that rating agencies were called to rate these three groups of mortgages, high commissions were given to risky mortgages which were used in and sold to other risk takers. The behaviours which were not accepted ethical were that the investment bankers insured their CDOs because they expected that they would not be paid at the maturity dates.

“To fulfill the first condition of justice, Islam requires both the financier and the entrepreneur to equitably share the profit as well as the loss. For this purpose, one of the basic principles of Islamic finance is: ‘No risk, no gain.’ This should help introduce greater discipline into the financial system by motivating financial institutions to assess the risks more carefully and to effectively monitor the use

of funds by borrowers. The double assessment of risks by both the financier and the entrepreneur should help inject greater discipline into the system, and go a long way in not only increasing efficiency in the use of resources but also reducing excessive lending.” (Chapra, 2009: 22.)

“Inadequate discipline, thus, promotes excessive lending and high leverage, and leads first to a bubble and then to a debt crisis. This injects built-in instability into the financial system (see Fisher, 1992, pp. 24–44; and Minsky, 1975)”. (Chapra, 2009: 11.)

The broker, the lender, the investment banker and the investors earned so much till the beginning of defaults of payments. After some of them having mortgages in hands were not paid by home owners, thousands of mortgages which were in the hands of investors, bankers and lenders became worthless.

### **5.3. Risks in Crediting, Why the Liabilities Boomed?**

“Mortgage is an essential credit form in the capitalist economy..... Despite the banks are traditionally conservative in doing business; banks didn’t use the same strict conditions to lend the money as the prime market. Mortgages were given with less control; loans were given to clients with poor or no credit histories...The operational structure of the system itself. The capitalist system is by nature greedy, steady growth is the key word, the company or the personal or the nation successes are measured by terms of money, expansion, growth, and control...Everything is a commodity for sale as long as partners accept the terms. Within this frame, time is considered a good; money, debts, information, rating of companies, security, personal resources, feelings, values, virtual objects and documents recognizing debts, all are goods. Since they are all goods, this means that they are tradable according to the rules of trading goods; it also means that they are quantifiable and subject to the market laws, to abundance and scarcity as well.” (Dia-Eddine, 2009: 5.)

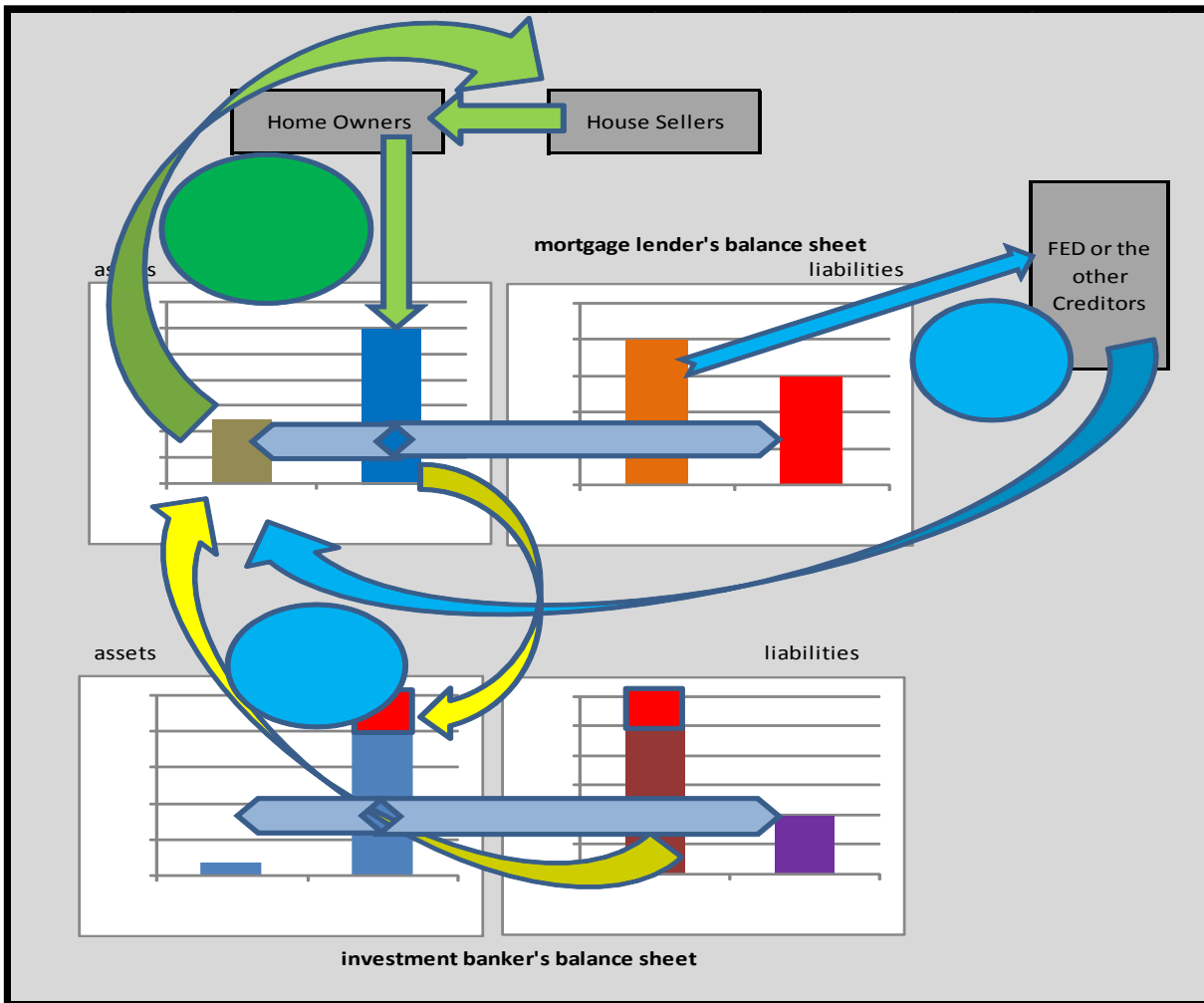


Figure 5: Interest of exchange in the financial structure in the mortgage cycle, example of balance sheet.

In figure 5 the points of views can be defined as follows:

- Mortgages were given to the lender and the assets were increased while the liabilities were working to supply money from creditors by the way of debt interest.
- Home owner was indebted to the mortgage lender by mortgages while possessing a house from the house seller by the help of lender's payments.
- Mortgage lender sold the mortgages to the investment banker with a cost plus forward sale. Liabilities were increased while the assets were increasing by the amount of mortgages.
- Mortgage certificates have arrived next station: Other investors. Cost plus forward sale were followed and observed conveniently.
- Selling mortgages in forward sales brought unreal and imaginary income, but on the other hand it caused real liabilities doubtlessly.
- When the mortgages debtors (home owners) were fallen to pay, it was compensated by cash. In the case that

damage was going on, the equities were obliged to be paid in terms of debts. And after that inability to pay began, bankruptcies were started to be unavoidable.

In this system the mortgages caused a virtual income and the liabilities caused a real expense. In the end, the expenses have been spent expectedly. But no income has gathered to be put in the budget. The gaps were charged to cash at first for the reason of insufficiency, secondly charged to equity, at last the mortgages became worthless.

At the beginning of the cycle it was easy to pay to lender. Thousands of mortgages were in their hands. The banks got money and paid back his loans and earned lots of money. The investors were very pleased to have more than 1% which the FED offered to them. The banks turned to lenders and lenders to brokers. And they saw that no home owners left for getting mortgages to sell. When the home owners were default to pay, the lenders got the houses for the reason of mortgages.

"Lenders added risks to new mortgages in order to sell and get more money and the corruption was seen in the balance sheets. Using Leverage System which has eased

banks to get credits from investors in terms of 1 / 100 loans, they have reached high amounts of money.” (Crisis of Credit, 2010: video). They were the obligor on the liability side that they had to compensate it by the mortgages on the assets side. Mortgages were the assets having high returns to be paid than the FED and others. But in any default position and sequence prior liability to use was cash. Lack of adequacy, the mortgages were turned to cash and were spent for the liabilities. If still any inadequate position occurred, the equity was decreased for balance, and in the end defaults come and a frozen market was seen in this cycle.

The crisis was not avoided in any case of the seek of survival. “By moving their mortgages “off balance sheet” banks were freer from reserve and capital requirements. Between 1980 and 2000, this securitized debt expanded 50-fold, whereas bank loans expanded 3.7-fold. By the end of 2007, two-thirds of all private U.S. debt passed through Wall Street (Wilmer, 2009: 10, A19).

## 6. Avoiding Interest

The risk was increased by: no down payment, no proof of income, no other documents..., etc. Instead of responsible ones, less responsible ones called sub-prime mortgages. Myopic and uncontrolled lending and furious of money caused wastefulness, as a matter of fact some experts explain the reasons by the ethical principles also.

Since all of the interest-based transactions have the characteristics of harming either of the parties, payer or receiver, any kind of extra payment above the principal is considered as interest/riba and clearly prohibited by the Koran, regardless of its being ‘simple’ or ‘compound interest’, or its being named ‘rent’, ‘profit’, ‘return’, ‘revenue’, or its being called with different terms in any language.

Islam attached a great importance to the term ‘right’ and its protection. Thus, it prohibited interest identifying it with injustice and wrongfulness.

“The 2008 crisis has experienced the Vatican at a highly position not suffering the wrong approach by saying make Islamic banking (interest-free banking). This unexpected warning and offer attracted the attentions to a very interesting and important call and offer because it came from the Vatican, the center of the Catholic world, which is the most radical branch of the Christian World. The daily ‘L’Osservatore Romano’, the semi-official newspaper of the Vatican, offered the system of interest-free banking as the way out from the crisis. The article in the newspaper stated, ‘The ethic principles on which Islamic banking is based facilitate trust and cash flow.’ The offer that came from a completely unexpected address caused remarkable reactions especially in Europe. As a matter of fact, Financial Times, one of the most prestigious economy newspapers in the world, quoted that article and interpreted on it. The analysis that the newspaper did was more interesting: The Vatican rarely makes a statement about economic issues. That the Vatican recommends the Islamic finance system gives enough clues about the dimensions of the global financial system. Praising the Islamic finance system, the Financial Times advised banks to take Muslims as models during crisis in the future. It emphasized that the Islamic finance system could help form new rules in the Western finance world.” (TKBB, 2010: 29.)

The pointing out the base behind that Islamic financing was that a realistic economical relation and real based transactions.

### ***6.1. Money, time and wealth deprivation were observed in the solutions***

Table 2: Measures taken by Countries against Crisis (TKBB, 2010)

	BANK RESPONSIBILITIES				BANK ASSETS		OTHER		
	a) Giving full guarantee or increasing the guarantee for deposit accounts	b) Guarantee for or purchasing the debts of banks	c) Capital injection	d) Nationalization	e) Ring-fencing bad assets	f) Planning of purchasing toxic assets	g) Funding private bonds	h) Funding financial stocks based on assets	i) Limiting or banning short-selling
America	x	x	x	x	x	x	x	x	x
Japan		x	x				x	x	x
Europe Region	x								
Germany	x	x	x			x			x
France		x	x						x
Italy	x		x						x
England	x	x	x	x	x		x	x	x

The solutions remind the facts that;

a) National wealth was engaged for these guarantees of surviving affected corporations.

b) Guaranteeing the virtual growth tasks were given to banks.

c) Accumulated savings (capital) were used for the deficiencies of faults instead of investments required by people.

d) Contrary to focusing on the main activities that must be fulfilled by the government many other businesses were charged to governments.

e) The wrong results of the operations were charged to all people and their budget.

f) National wealth was harmed.

g) Unplanned expenses were observed and spent for in the place of funding planned investments or possible alter-

native investments.

h) This result was bound to leverage system that was used with ambitions of investors in order to be richer and richer. "Insolvent firms must not be recapitalized with taxpayer funds. A systematic procedure for examining portfolios of these institutions needs to be followed to identify which are insolvent." (Scwartz, 2008.)

After the crisis United States of America (USA) was shrunk by \$500 billion with a GDP growth rate of -2,9% while China has been growing \$400 billion with a GDP growth rate of 8,7%. (www.dünya.com, 2010). So, the gap between these two countries was decreased by nearly \$1 trillion. It is noticed that the countries which lived interest causing virtual balloons and getting fat in the GDP were observed as if a growth was lived in their economies. However, unreal growth in their economies shrunk the

GDP as usual.

## Conclusion

Vatican offered Islamic Finance and Banking system as a solution to the financial crises. Then what does Islam offers? To answer this question we had better give an ear to the saying of Prophet Muhammed once more and to try to understand it: “You should sell gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt - like for like, equal for equal, and hand-to-hand; if the classes differ, then you may sell as you wish, provided that the exchange is hand-to-hand.”

This saying suggests that all the futures in the form of forward rate agreements, and exchanges of financial derivatives for each other without corresponding to any real value change in the underlying real assets on which derivative are based, also include interest.

Interest is a value transfer from one party to another without any reason, any equivalence or any comparable matching. For example selling cash €100 for delayed \$130 includes interest of delay.

Similarly, exchange of loan-for-loan with different quantities or with different interest rates gives way to interest as with the derivatives so widespread in the developed countries, in US particularly.

The exception to this is swap wherein two loans of the same quantity and of the same term are traded.

A more concrete example that can be suggested to have given way to the financial bubbles after the burst of which the 2008 Global Financial Crisis occurred is the sale of, say, a financial certificate of \$100 with 10% rate of interest and 1 year time for a higher amount and/or for a higher interest for two years time. Thus, a financial bubble is built. If the nominal increase in the value of the financial certificate is not balanced with a real value increase in the underlying assets upon which the financial certificates or derivatives are based.

There are two stages in a mortgage transaction. First stage is a trade that is a sale of a house to a client. Second and consequent stages are simply interest bearing and bubble building processes.

Trade is a process of purchases and sales that increases the place/location, or time value of a commodity with the intention of profit. So, trade is “increasing the time value of commodity” when a house is bought by the bank and it is sold on credit to a client, who otherwise could get it months or years later with his regular savings.

Thanks to this transaction, the client begins to benefit from that house immediately. The additional payment made by client, which makes up the profit of the bank, is in return for the increase in the time value of this house thanks to its immediate delivery to the customer and its increased usage value by the time.

But when the receivables are not kept in the safe of the bank and when they are sold to a mortgage firm at discount, there begins the process of interest and bubble building.

Because the mortgage firms sell these receivable at higher prices for longer terms and interest rates, by slicing them into small pieces.

To prevent the process to build financial bubbles, it is necessary to limit all delayed sales of these securities at different interest rates and time and keep these securities in the vaults of the bank till they are paid by the clients; as in Turkey during the 2008 Financial Crisis, the country that was far from its damage and now exhibiting the second highest development rate in the world.

When we ask the question “Is the Interest Policy Responsible for 2008 Global Financial Crisis?”, we can definitely answer “Yes” when looked at the matter from the Islamic perspective that has very precise definition and description of interest and its kinds, regarding it a value transfer from one party to another without any comparable matching, thus resulting in imbalances between individuals, social groups, factors of production, and even nations. These imbalances appear eventually as bubbles and crises in the financial markets when they can not be sustained.

## Notes

1. 2007–2012 global financial crisis. (2012, May 20). In Wikipedia, *The Free Encyclopedia*. Retrieved 21:05, May 20, 2012, from [http://en.wikipedia.org/w/index.php?title=2007%E2%80%932012\\_global\\_financial\\_crisis&oldid=491148553](http://en.wikipedia.org/w/index.php?title=2007%E2%80%932012_global_financial_crisis&oldid=491148553)
2. As in the case when two measures of wheat is exchanged for three measures of wheat, even if it is due to the difference of quality.
3. As in the case when 1 tone of iron is sold for the same amount of iron on a deferral basis; let alone for a more amount of iron delayed. Here, interest arises as a potential and prospective value differentiation between two items due to the delayed delivery of one of the items. Time is a reason for this value differentiation between the present and future items exchanged; hence, it causes a potential excess in one of the items when compared to the other item. Because nobody knows in advance for whom and how much this potential surplus proves to be actual, Islam prohibited all the delayed sales in principle.

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## Historical-Legislative Aspects of “Silk Road” (TRACEKA – Transport Corridor Europe-Caucasus-Asia)

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### Abstract

The article deals with a very important question – “Silk Road” and its historical and present role in modern political and economical space. There are three ways of delivering Caspian oil to the western market – through Russia, Iran and Georgia. From the political and economic standpoint, for the west, and especially for America the first two ways are not acceptable and Georgia, therefore, remains the only partner for the USA. For realization of this project the famous TRACEKA and “Silk Road” have been formed and this fact is not less important for Georgia’s national interests and is an effective way for participating in global worldwide processes and as a result making suitable profit out of this major project.

**Keywords:** Silk Road, Transcaucasia, transportation, affirmation, participation, subscriber parties, international transport corridor, main line construction, international legal status, political mentality

**JEL Classification:** Q38

### Introduction

Historically it is well known that even in the second century B.C. the transcontinental commercial-caravan road was based and it was called “silk road” connecting the China’s Mediterranean Sea with the Black Sea’s coasts. It started in the China’s city – Sian, passed the city – Lunkhua and then it continued with two directions towards the west. The first direction passed through the Central Asia, Caspian Sea and the Caucasus. It was connected with Byzantium and Rome through the Black Sea from Pazis. The second one passed through the northern Iran and from there it was directed towards the Mediterranean Sea. Through the “Silk Road” basically the high class China silk was produced (and not only), based on it we have the designation of this road today.

The silk export was realized in Rome and later in Byzantium with solicitation of the Middle East biggest countries Parthian and later Sasan Iran. For the part of the “Silk Big Road” passing through the Middle East and the Caucasus Rome and Byzantium had long and tiring wars during many centuries first with the Parthian and then with the Sasan Iran.

In VII-IX centuries the commerce via this way was under the Arabian state control. Then they were changed by Mongols. The “Silk Big Road” lost its functional meaning in the XVII century when the Europeans got there drawing in the Africa and obtained the ocean ways directed to the India and China. It was followed with the discovery of the American continent by Columbus in the XV cen-

tury. Through Africa these discoveries and establishing new marine ways created the other concern for the western countries and the routines of the old Silk Road were changed. Creating such conditions caused the life and death war among the three strongest states of the European world (Spain, England, France).

### Historical-legislative Analysis

In the beginning of the XX century (1918 – 1921) the temporary liberation of Georgia and Transcaucasia states took place trying to restore the international function. Its foundation became the subordination of Baku petroleum under the protectorate of the Britain empery and Batumi port and Georgia’s transport main line control by Kaisers Germany, but as a result of Russia’s Soviet Empery annex of Transcaucasia in 1921 this “welfare” ended and it became the part of the Soviet plan and economics and politics for 70 years.

Almost after three centuries the myth “Silk Big Road” became the reality of our life in the beginning of the XX century. Ilia Chavchavadze and later Ivane Javakhishvili paid enormous importance to this way connecting Europe and Asia.

In the beginning of 1989 the authority of the UN mission science, education and culture international commission (UNESCO) adopted the resolution to start the huge project “Silk Road”. According to the idea it obtained not only silk commerce restoration but serious intellectual activities conducted before. Two detailed historical- geo-





graphic atlas publications were planned and besides the documentary films, festivals, sport activities (In the Kazakhstan territory riders running across through China up to the Caspian Sea) should have been conducted, Kuwait committed sail regatta on the track of “Sindband”, the huge exhibition should have taken place in Venice about Marco Polo, the exchange exhibitions between Venice and Baku about “Italy – Azerbaijan middle centuries commerce”, etc.

In February, 1989 the meeting of UNESCO “Silk Road” project organization committee took place. This meeting received the dispatch of the minister of culture of Azerbaijan Salmanov asking to allow Azerbaijan the participation in the project and therefore, it was met. In the same meeting from the name of the Georgian centre of the London University Tamar Dragadze requested the meeting to accept Georgia in the project. Based on the solution the request would have been met in case if the Georgian authority affirmed the mentioned request upon the participation in the project. The historian Ramaz Klimiashvili took the necessary documentation from abroad and gave them to the historian, archeological and economical institute of the Georgian academy of the science and culture in order to arise a question and make the authority of the state to operate appropriately in this direction. At that time in the press the publications towards the problem were published. The Georgian scientists (M. Lortkipanidze and others) appealed the authority to get into direct contact with the corresponding organizations of the UNESCO and participate in the important and interesting program”.

Based on the solution of academy of the science the council of the Georgian ministry of the internal affairs issued the regulation (#415 P) based on which the commission of 20 persons of the “Silk Road” UNESCO project was formed and the necessary activities’ plan was confirmed. After studying the issue it was clear that the majority of tasks planned in the project practically were not accomplished because of the one reason: the initiative to solve the program finally should be taken either by the foreign ministry or by the academy of science, In the May, 1990 the council of the Georgian ministers again issued the regulation (322g) with the enumeration of the following issues:

1. To form the organizational committee in order to participate Georgian inner affairs ministry in the international project in the Soviet culture fond program and UNESCO (“big silk road” complex study”).
2. The date of conduct the international seminar Caucasus –culture bridge between East and West.
3. Marine expedition conducted in Poti, Genua in 1990, July-September.
4. To confirm the adaptation date 1991, May-June of the Georgian international overland expedition that was followed by the regulation of the ministers’ council (#332g

24 May, 1990) and the changed were adopted in the membership of the commission. Besides, the above mentioned the caravan expedition of the “Silk Road” though the Turkey and Iraq was considered. The archeological expeditions in the Caucasus and the Middle East were planned as well and also the marine expedition via the “Argonavts” way. The academy of Science from its side took the responsibility passing the range of the activities and recognized this project as the “important vital way” for the country’s social-economical development.

Also it was recognized that one of the main priorities of that time Georgia’s foreign economical policy was the improvement of the international system and its infrastructure, the effective use of the priority of Georgia’s territorial location. From this standpoint the development of all kinds of transport and their infrastructure is important including European-Asian corridor (TRASEKA), regeneration of the “big Silk Road”, solution of the issue concerning the transportation through Georgia of the oil and gas between Caspian and Black Seas.

In spite of the above mentioned the Georgian government could not pass the effective arrangements, on the contrary, it kept inertness that is confirmed with the following regulation on one of the documents – “this document does not regard with favor, please take necessary measures” 5.10.90. The matter deals with dispatch of Vinogradov, the Former Soviet Inner Affairs ministry, who is requesting once again the Georgian government to hasten representing the activities’ plan to the commission. The text is following: “we ask you to hasten the respond of the given request of the document of 1990, August 6, #1034 (resolution of the ministers’ council upon the participation of the Soviet Union in the UNESCO project, dealing with the complex study of the big Silk Road) impending of the necessary respond from your side practically blocks the final discussion of the issue and project realization. The position of the Georgian government possibly was caused by the political processes in the country at that time.

Georgian government has active position in the project realization since 1992 and participates in all the international meetings connected with the problem. In 1993, May, in Brussels’ conference where besides the European Union there were the participants from the Central Asia and Transcaucasia the collaboration of the technical assistance programs financed by the UN mission was affirmed which would develop the transport corridor from Europe up to the Central Asia via Eastern Europe, Black Sea, Transcaucasia and Caspian Sea. That practically meant the modernized variant of “Silk Road” of the Georgian branch.

At first the project included the marine, overland and air transport but owing to some problems and difficulties the issue only included the marine and overland transport. At the primary stage of TRASECA program, three countries of Transcaucasia (Azerbaijan, Georgia and Armenia)

and five countries of Central Asia (Turkmen, Tajikistan, Uzbek, Kazakhstan, Kirgizia) united, later, this project joint the Ukraine and Mongolia.

In 1998, September 8, in Baku the deliberation of the subscriber parties took place where the first persons of Azerbaijan, Mongolia, Armenia, Russia, Bulgaria, Georgia, Tajikistan, Turkey, Kazakhstan, Uzbekistan, Kirgizia and the Ukraine participated and the multilateral agreement was signed about the Europe-Caucasus-Asia international transport development. The agreement consists of 16 articles and is followed with three additional notes towards Azerbaijan, Kazakhstan and Rumania. Besides, the agreement is followed with the technical appendix about the international automobile transport which consists of 6 articles and the 11 articles technical appendix about international commercial, marine, custom procedures and documentary review consisting of 4 articles.

Together with the European countries the personal interests has the USA in all the parts of the world including Georgia which is basically caused by our geo-political position and is directly connected with the USA political and economical interests in the Caspian and Middle Asia region. Also the gas and petrol resources in the high technological epoch represent the strategic material and therefore the control of this material is the interest of the USA.

There are three routes to deliver Caspian oil to the western market: via Russia, Iran and Georgia. From the political and economical standpoint, for the west and especially for America the first two routes are not acceptable, correspondingly the priority was given to Georgia. As a result TRACEKA and “Silk Road” projects were formed. The specialists unanimously recognize that these projects are not less important for the Georgian national interests and give the good opportunity for our country to join the global economical and political processes and get its part of profit.

In 1999, June 3, the senate of the USA adopted the “Strategic Act of Silk Road”, here is noted that the oldest silk road which was the vital artery now crosses the populated countries and it must contribute the collaboration among silk road states and restoration of the historical relations. The solid economical, political and secure links development among the South Caucasus, Central Asia and the western countries will strengthen the stability and it will be discharge of the political and economical tenseness, it will also be the positive stimulus for the international, private Institutions, for widening the commercial relations with the rest of the world. The process of the transport system among countries leads to the mutual strategy of integration into the international transport systems. Interesting steps have already been made from this standpoint and the positive results are noticeable.

The existence of the Europe-Caucasus-Asia corridor via Georgia was noted in many international documents

that are responsible for the proper relations in the transport communication and it gave them the international legal status. The agreements such as “about Euro-Asian transport corridor creation and functioning of the Georgian government together with the Azerbaijan and Ukrainian minister cabinet”.

The Odessa agreement of 1996, February 16 and the agreement of Sarakhs 1996, May 13 concerning the collaboration transport delivery regulation sphere among Georgia, Azerbaijan and Uzbekistan republics are considered as the transport corridor international-legislative relations basis documents. According to the first article of the second agreement the free transit regime is started in the inner territory of the country and outside the country considering those necessary regulations such as not to differentiate the transport means according to the flag, origin, points of leaving and entering the borders and other any circumstances dealing with the cargo or the transport means possession. The Odessa agreement is started with the recognition that Euro-Asian transport corridor is a transit of the Baku-Tbilisi-Poti-Batumi-Ilichevski-Odessa-Kiev direction and the door is open for the interested countries as the transport means net is wide, in particular, marine, railway and automobile deliveries’ overland infrastructures. The special attention is paid to the means of the information net and links’ quality which is discussed in the separate regulation. AS the formation of the special infrastructure, technical exploitation standards and other systems are necessary during transportation the cargo preservation, ensuring security of the passengers’ movement that will be a guarantee to set the preferential tariffs on the transport deliveries’ ensure. All above mentioned obliged Georgia to have marine ports in order for proper function of the transport corridor. With this target in 1996 between the transport ministry of Georgia and the Ukraine the agreement was signed between “the Poti (Georgia) port and Ilichevski (the Ukraine) port about the automobile-ferry deliveries mutual exploitation and organization”.

For Georgia the multilateral agreement made in Baku, 1998, September 8 is quite necessary and we have already discussed the development of the international transport corridor Europe-Caucasus-Asia, and it was signed by the President of Georgia at that time E. Shevardnadze. The mentioned agreement consisted of 16 articles and it lasted 10 years. The agreement became valid since 1999, May 23, based on the agreement, article 9, the permanent secretariat should have been established situated in Baku. The basic regulations regulates the international cargo and passenger deliveries between parties, also transit deliveries via parties’ territories in order to develop transport transit and assisting to promote into the international market, secure movement, cargo preservation and environmental protection, promotion of the equality of rights among the transport particular means. As for the transport deliveries, it is

free of all kinds of charges and taxes. The transit delivery service tariffs are set according to the preferential conditions.

During the latest period, the rapid development of the computer technologies became the basis of foundation of “virtual silk road”. The Silk Road was adopted in 2001, October 29 on the session of NATO science committee in the state Georgia. The adopted state act considers provision with the new computer network technologies among the member states based on the agreement. The new informational net “Silk Net” was established.

### Conclusion

For the farther development of the Europe-Caucasus-Asia transport corridor Georgia has serious claims. In order to solve the state’s problems in the Georgian economical development ministry the investment centre of Euro-Asian transport corridor is formed which is directed towards solving the problems, the legislation base is being regulated and it makes the Europe-Caucasus-Asia transport corridor legal. Besides, the Georgian specialists actively participate in other international projects. The Europe-Asian joining main line construction is planned which will be started in the city Havr in France, via France, Germany, Poland, The Ukraine, the South part of Russia and Kazakhstan and will cross the territory of china up to Shankhai.

This problem was discussed on the international conference in Tbilisi in 2008, March 6 with the deadline “automobile ways underground communications” where the hard disputes about the modern automobile main lines and project conceptions took place.

The Georgian specialists received the proposal to make the project of the 200 km. area connecting Kazakhstan and China border regions. This proposal is caused by the huge experience of the Georgian specialists of making projects of high class automobile main lines in tense natural conditions, for example, Sochi - Adleri Black Sea area in Russia, Kumla-Gerati-Kandaari in Afghanistan, etc.

The new project “Nabuko” was established. Unfortunately not all the big countries approve such international projects realization. There is a narrow “political mentality”, restricting other valuable spheres and preventing the country’s economical and cultural promotion. In this case, Georgia is also included in the list of “ineligible countries”, but we hope that, the international law and the corresponding structures will solve the problem.

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# Unification of European Conflict of Law Rules for Non-Contractual Liability: the Rome II Regulation and its Sphere of Application

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## Abstract

Integration into the European Union is one of the most important tasks of Georgia. It is impossible to reach this goal without harmonization of Georgian legislation with that of the European Union. The legal bases for this process have been laid down in Partnership and Cooperation Agreement between Georgia and the European Communities and their Member States (signed in 1996, entered into force in 1999). In compliance with the agreement the EU and Georgia assumed mutual obligations which covered numerous spheres of cooperation.

The very important task in the process of approximation of Georgian legislation with that of European one is careful study and analyses of European unification acts.

The adoption on 11th July 2007 of EC Regulation on the Law Applicable to Non-contractual Obligations (Rome II) marked a major advance in the unification of private international law. The Rome II Regulation applies to conflicts of law situations involving ‘non-contractual obligations’ in ‘civil and commercial’ matters.

The article provides analyses of most important issues concerning regulation’s substantive and territorial scope. In this context all the terms which determine the sphere of application should be interpreted properly in compliance with other acts of unification and with practice established by European court of Justice.

**Keywords:** European unification, conflict of laws, non-contractual liability, Rome II regulation, application

**JEL Classification:** K19, K39

## Introduction

The ongoing internationalization in all spheres of human activity makes the process of harmonization and unification of laws of the different countries extremely urgent and inevitable.

The legal unification process in Europe despite its massive nature, did not create a substantive legal base, which includes the uniform rules for any private law relations. This also applies to non-contractual obligations, where despite the efforts carried out by Member States' substantive law have not been unified completely. Nevertheless it should be mentioned that on the academic level significant work has been undertaken (Several study groups aim to contribute to the enhancement and harmonization of tort law in Europe through the different frameworks. See: European Tort Law. Retrieved from <http://civil.udg.edu/php/biblioteca/items/283/PETL.pdf>; Draft Common Frame of Reference (DCFR). Retrieved from [http://ec.europa.eu/justice/contract/files/european-private-law\\_en.pdf](http://ec.europa.eu/justice/contract/files/european-private-law_en.pdf); see also: Koch, 2005).

As there is not an unified system of private law and the rules vary from state to state, whenever a private law issue must be solved in an international context the question arises which substantive rule of decision should be selected. Uniform choice-of-law rules make possible to solve

the conflict between different legal systems and produce uniform results allowing member state courts to designate the same national law irrespective of the country of the court in which the action is brought.

Harmonization process of Private International Law in EU began from the end of 1960s. First attempts at harmonizing European Private International Law lead to the 1968 Brussels Convention on jurisdiction and the recognition and the enforcement of judgments in civil and commercial matters (Afterwards Brussels I). This was followed in 1980 by the Rome Convention on the Law Applicable to Contractual Relations (Afterwards Rome I Regulation). Whereas the Brussels Convention covered both contractual and non contractual obligations, the Rome Convention only covered contractual obligations.

Over the years an active work has been done in the field of non-contractual obligations. As a result on July 11, 2007 the European Parliament and the Council adopted a Regulation on the Law Applicable to Non-contractual Obligations (commonly known as Rome II), which entered into force on January 11, 2009. (<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:199:0040:0040:en:PDF>)

The Rome II continues tradition of Rome Convention (afterwards Rome I regulation) on the way of unification, but as opposed to Rome I Regulation, under its sphere of

application fall the obligations which arise not from contract, but from special legal facts.

Integration into the European Union is the most important task Georgia aims. It is impossible to reach this goal without harmonization of Georgian legislation with that of the European Union. The legal bases for this process have been laid down in Partnership and Cooperation Agreement between Georgia and the European Communities and their Member States (signed in 1996, entered into force in 1999). In compliance with the agreement the EU and Georgia assumed mutual obligations which covered numerous spheres of cooperation. Art.43 of the agreement provides: The Parties recognize that an important condition for strengthening the economic links between Georgia and the Community is the approximation of Georgia's existing and future legislation to that of the Community. Georgia shall endeavor to ensure that its legislation will be gradually made compatible with that of the Community. (Partnership and Cooperation Agreement. <http://eu-integration.gov.ge/uploads/PCAGeo.pdf>).

The very important task in the process of approximation of Georgian legislation with that of the European one is careful study and analyses of European unification acts. The careful observation of the new approaches laid down in the Rome II Regulation is very important for the improvement of Georgian law in this field. The nature of choice-of-law rules, which is directed towards the regulation of relations with foreign elements, makes taking of proven international approaches into consideration especially important.

This article discusses the scope of Rome II Regulation, in particular issues concerning regulation's substantive and territorial scope. In this context all the terms which determine the sphere of application of regulation, such as foreign element, civil and commercial matters, non-contractual obligations should be carefully examined in order to interpret them properly in compliance with other acts of unification and with practice established by European court of Justice.

## 1. Sphere of Application

By Article 1(1), the Rome II Regulation applies, in situations involving a conflict of laws, to non-contractual obligations in civil and commercial matters. It does not apply, in particular, to revenue, customs or administrative matters, nor the liability of the State for acts and omissions in the exercise of State authority ("actiureimperii").

### 1.1. International Nature

The Regulation applies to the situation in which more than one legal system is involved, and thus its sphere of application covers conflict of law cases. By the Explanatory

Memorandum accompanying the Commission proposal, this term was defined as "situations in which there are one or more elements that are alien to the domestic social life of a country", and that entail is applying several systems of law (The Explanatory Memorandum was introduced by the European Commission in 2003 with the original draft proposal. Explanatory Memorandum to the Commission Proposal of 22 July 2003, COM (2003).

The application of regulation is not defined by reference to specific factors. In principle, any foreign element (typically the nationality or domicile of the parties, the place where the direct or indirect damage arises or where the event causing the damage occurs, or even the fact that the damage is suffered in the context of pre-existing relation governed by a foreign law) triggers the application of the Regulation (Garcimartín Alférez F, 2007)

The very important issue is to clarify: is mere selection of a foreign law by the parties enough for regulation's application. Art.14 gives to the parties opportunity choose the applicable law to their non-contractual obligations. The choice can be made for any law despite the fact that this country has no objective connection with the tort. This choice is valid also in the situations where all the elements of case are situated in one country other than the country whose law has been chosen. It can be argued that parties can choose the foreign law even where there is not a foreign element in relation. The issue is complicated by the fact that in the moment of choosing the applicable law parties are not able to resolve conflict issue, as to define the criteria in virtue of which should be excised the presence of a foreign element in relationship is under the legal system which evaluates it, and this is not clear at the moment of relation's formation. In order to prevent parties from internationalizing a domestic case merely by choosing a foreign law, art. 14(2) sets: Where all the elements relevant to the situation are located in a country other than the country whose law has been chosen, the choice is valid, and the foreign law will apply, but without prejudice to the application of provisions of the law of that other country which cannot be derogated from by agreement. The article also specifies the time when the case can be evaluated as 'domestic' - the time when the event giving rise to the damage occurs. Thus, an ex post internationalization does not seem enough. Nevertheless, this rule is a limit to the parties' autonomy and should not be interpreted in a restrictive way (Explanatory Memorandum to the Commission Proposal of 22 July 2003, COM (2003).

### 1.2. Substantive Scope

The regulation covers all non-contractual obligations in civil and commercial matters, except those listed in art. 1(2). This obligations can be divided in two major groups: those that arise out of tort or delict, and those that do not

(unjust enrichment, ‘negotiorumgestio’ (acts performed without due authority in connection with the affairs of another person), and ‘culpa in contrahendo’ (dealings prior to the conclusion of a contract).

### 1.2.1. Civil and Commercial Matters

The regulation applies in civil and commercial matters like the Brussels I and Rome I regulations. Civil and commercial matters must be interpreted autonomously and its meaning is independent of the national laws of Member States. The aims of regulation are disclosed by various recitals. These relate to the achievement of certainty, predictability and uniformity of result, regardless of forum; the achievement of justice in individual cases; and the achievement of a reasonable balance between the interests of the parties involved. Recital 7 specifies that the substantive scope and the provisions of the Regulation should be consistent with the Brussels I Regulation (OJ 2001, L 12) and the instruments dealing with the law applicable to contractual obligations (in particular with Rome convention, afterwards the Rome I regulation). Thus between the scope and provisions of unified acts in the field of private international law must be logical links. The case law regarding the term ‘civil and commercial matters’ in the Brussels I Regulation (and its predecessor, the Brussels Convention) will thus also be relevant in the context of Rome II. According to the *LTU v. Euro control* case, reference shall not be made to the law of one of the Member States but to the objectives and scheme of the Regulation and to the principles that stem from the corpus of the national legal systems( ECJ 14 October 1976, Case 29/76, [1976] ECR 1541).

The relevant element to characterize an issue as “civil and commercial matters” is the legal relationship between the parties and not the nature of the court where the case is litigated. Recital 8 declares that regulation should apply irrespective of the nature of the court or tribunal seised. It means that the regulation must be applied also to decisions given in civil matters by criminal, labour or administrative courts.

Article 1(1) states that the Regulation shall not be applicable to revenue, customs or administrative matters nor the liability of the State for acts and omissions in the exercise of State authority (“actiureimperii”). Recital 9 explains that claims arising out of “actiureimperii” includes claims against officials who act on behalf of the State, and liability for acts of public authorities, including liability of publicly appointed office-holders. The mere fact that one of the parties in the case is a public authority does not mean that the Regulation is not applicable. The decisive factor is the fact that the Public authority is acting in the exercise of its public powers(16 December 1980 – 814/79 – Netherlands State [1980] ECR 380714 November 2002

– C-271/00 –Baten [2002] ECR I-10489 = [2003] EuLF (E) 90).

### 1.2.2. Non-Contractual Obligations

The Regulation is applicable to non-contractual obligations. According to Recital 11 the concept of a non-contractual obligation varies from one Member State to another, and therefore for the purposes of the Regulation “non-contractual obligation” should be understood as an autonomous concept. The conflict rules in any case cover non-contractual obligations arising out of strict liability. Since the scope should be consistent with Brussels I and the instruments dealing with the law applicable to contractual obligations, the case law of the European Court of Justice on the demarcation of contracts under Article 5(1) and torts, delicts, and quasi-delicts under Article 5(3) Brussels I Regulation as well as the scope of Rome I on contracts are significant. Under Brussels I – obligations that are not contractual, are non-contractual within the meaning of Rome II. The Rome I and Rome II Regulations are complementary instruments and the scope of each excludes the other. It is submitted that an obligation in civil and commercial matters is either contractual or non-contractual and the concept of non-contractual obligations is residual, defined negatively in terms of that which is not. Non-contractual obligation comprises the liability for damages caused by a person that does not derive from an obligation freely assumed by one party towards the other. Thus, for obligations in civil and commercial matters, the Rome I’s ‘contractual’ scope has a decisive importance.

It should be mentioned that the application the Regulation is not depended on the forum’s characterization of claim. It applies to ‘non-contractual obligations’ and focuses on the events out of which they arise, and does not interested in claim’s purpose or object. While the regulation is indifferent to the claim’s nature, the data which include an obligation’s nature, incidents and the constitutive elements of the event, must be derived from the law to which the claimant pleads the claim. It does not mean that that law’s characterization is adopted (Scott A, 2009).

The Regulation applies to damages and non-contractual obligations that are likely to arise 2(2).

In order to clarify the scope of the Regulation and to prevent characterization problems, article 1(2) contains a list of exclusions. Many of these exclusions repeat the Rome Convention 1980. Thus there are exclusions in respect of obligations arising out of family relationships, and relationships having comparable effects, including maintenance obligations; obligations arising out of matrimonial property regimes, property regimes of relationships having comparable effects to marriage, wills and succession; obligations arising under negotiable instruments; obligations governed by company law; obligations relating to trusts voluntarily created; obligations arising out of

nuclear damage (this reflects the liability of States under the international scheme of nuclear liability established by various treaties); obligations arising out violations of privacy and rights relating to personality, including defamation. The original proposal contained a special rule on violations of privacy and rights relating to personality. One of the controversies between the Council and the European Parliament concerned the contents of this rule. Since it was not possible to reconcile the opposing views, the Commission chose to exclude these rights altogether (Explanatory Memorandum Amended Proposal 2006).

Finally, Article 1(3) provides that the Regulation shall not apply to evidence and procedure, without prejudice to Articles 21 and 22. It is clear that those are procedural issues and must be governed by forum's law.

It is clear that issues which are excluded from the scope of Regulation will be regulated by national conflict rules.

### 1.3. Territorial Scope

By Article 3, any law specified by the Regulation must be applied, whether or not it is the law of a Member State. This means that regulation has an universal application. This is a firmly-rooted principle of the law concerning conflict of laws and already existed in the Rome Convention (afterwards Rome I regulation). It means that no link to the EU is needed other than that the court of an EU Member State has jurisdiction and is thus dealing with the case (Kramer, 2008). For example, the Regulation even applies to a conflict between two extra-Community citizens in relation to a damage suffered in a third State that, for any conceivable reason, come to litigate to a Member State. It has been argued whether Article 65 EC Treaty gives enough basis of competence to embrace any "extra-Community case". Nevertheless, the solution finally adopted was convincing. Such regulation avoids the entirely perverse complexity which would arise from any attempt to distinguish between intra-Community and extra-Community disputes. The establishment of a dual-system, i.e. a uniform set of conflict of laws rules for intra-community cases and different sets for extra-community cases, would result in a highly complex solution for the real addressees of this Regulation: private operators, lawyers and judges (Hamburg Group for Private International Law, "Comments on the European Commission's Draft Proposal for a Council Regulation on the Law Applicable to Non-Contractual Obligations, 2003).

In general, the universal nature of regulation satisfies the need of certainty and contribute to the predictability and uniformity of results.

### Conclusion

The adoption of Regulation on the Law Applicable to

Non-contractual Obligations (Rome II) was remarkable step on the way of European unification of private international law. It was preceded by Regulation on jurisdiction and the recognition and the enforcement of judgments in civil and commercial matters (Brussels I) and Rome Convention on the Law Applicable to Contractual Relations (Afterwards Rome I Regulation). The Regulation enables national courts within the Member States to define applicable law on the base of single set of rules.

On the application of Rome II very important task is proper qualification of major categories that determine its material scope. The substantive scope of Regulation should be consistent with Brussels I Regulation and the instruments dealing with the law applicable to contractual obligations (Rome I regulation). Thus the scope and provisions of all unified acts adopted in European level in the field of private international law create a common, compatible system and logical connections between them. Hence, the concepts and categories that determine the scope of regulation must be interpreted autonomously (irrespective of the meaning they have in different legal systems), in compliance with other acts of unification and with practice established by European court of Justice.

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