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ИКОНОМИКА И УПРАВЛЕНИЕ

ECONOMICS & MANAGEMENT

НАУЧНО СПИСАНИЕ НА СТОПАНСКИЯ ФАКУЛТЕТ ПРИ ЮЗУ "НЕОФИТ РИЛСКИ" – БЛАГОЕВГРАД ГОД. XV, № 2, 2018

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СЪДЪРЖАНИЕ

CONTENTS

Всяка една от статиите, публикувани в списание „Икономика и управление”, издание на Стопанския факултет на ЮЗУ „Неофит Рилски”, след предварителна селекция от редакционната колегия, се рецензира от двама хабилитирани рецензенти, специалисти в съответното научно направление.

Each of the articles published in the “Economics & Management” Magazine, edition of the Faculty of Economics at the SWU “Neofit Rilski”, after preliminary selection by the Editorial board, is a subject of preliminary review by two tenured reviewers, specialists in the respective scientific domain.

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Уважаеми читатели,

На Вашето внимание е списание "Икономика и управление". Списанието е печатен орган на Стопанския факултет при Югозападния университет "Неофит Рилски" – Благоевград и издаването му е свързано с по-нататъшното развитие и обновяване на научните изследвания и учебния процес във Факултета в контекста на членството на България към Европейския съюз. Стопанският факултет вече трето десетилетие се изявява като център за образователна, научна и научно-приложна дейност в Югозападна България.

Тази многостранна дейност на Стопанския факултет определя и целта на настоящото списание "Икономика и управление" - да популяризира научните новости и да удовлетворява потребностите на практиката. Редакционната колегия счита, че в списанието определено място трябва да намерят актуалните проблеми на:

- *националната и регионалната икономика;*
- *управленските подходи и механизми;*
- *европейската интеграция и глобализацията;*
- *качеството и конкурентоспособността;*
- *икономиката на знанието;*
- *икономическият растеж и устойчивото развитие.*

Публикациите в списанието обхващат научни сфери, съответстващи на научната и образователната проблематика и профилирането на специалности в Стопанския факултет – мениджмънт, маркетинг, финанси, счетоводство и контрол, социално-културни дейности, туризъм, социална политика, инфраструктура и други.

Списание "Икономика и управление" се явява среда за среща на мненията и оценките на учени, изследователи и специалисти от сферата на науката и на стопанския живот.

Редакционната колегия се стреми да поддържа високо равнище на научните и научно-приложните разработки и същевременно да предоставя възможност не само на утвърдени и авторитетни български и чуждестранни учени, но и на начинаещи преподаватели и докторанти да публикуват своите идеи. На страниците на списанието могат да споделят свои виждания и специалисти от стопанската практика.

Вярваме, че отговорното отношение на авторите ще съдейства списанието да отговаря на съвременните критерии и изисквания. Списание "Икономика и управление" ще разчита на мненията и препоръките на читателите.

От редакционната колегия

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РАЗНООБРАЗИЕ НА КОРПОРАТИВНИТЕ БОРДОВЕ: БАНКИ-МАЙКИ СПРЯМО ДЪЩЕРНИ БАНКИ

Мирослав Неделчев

DIVERSITY ON CORPORATE BOARDS: PARENT BANKS VS. SUBSIDIARY BANKS

Miroslav Nedelchev[1]

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Abstract

The aim of the article is to analyze good practices on the diversity of bank boards in the European Union. A comparative analysis was carried out covering the subsidiary banks in Bulgaria and their parent banks in the euro area on the ground of shareholder and stakeholder theory. Good practices were compared to the requirements of the Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions.

The data from the analysis outline a high level of board diversity for the underrepresented gender and the geographical provenance. The results identify good practices for parent banks as a consequence of the application of Directive 2013/36/EU (2016) and for the subsidiary banks - from the transition period toward market economy (1990's). The recommendations address the need for statutory approaches to determine the economic effects of board diversity.

Keywords: *stakeholder theory, shareholder theory, agency problem, cross-border banks, comparative analysis, good practices, corporate governance, Bulgaria, European Union*

JEL Codes: *F23, G18, G21, G34*

1. Background

The trend towards a board diversity emerged at the end of the 20th century as part of the measures to tackle another corporate crisis. In response to social expectations, government policies are being proposed to reform existing corporate governance practices. Initially, the basis of a board diversity are established social values and norms and, above all, race and gender equality, which were later expanded, taking into account other socio-demographic characteristics of board members (Borisova, 2017). Regardless

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of the results achieved in the fields of board diversity the public trust in the corporate governance is still low due to a lack of quantitative indicators to measure the economic effects of diversity.

Expectations for corporate reforms are related to a protection of stakeholders and a renaissance of trust (Filipova, 2016). An illustrative example of reform is the Sarbanes-Oxley Act (2002) in the United States, adopted in response to several cases of corporate scandals, which introduced mandatory requirements for board diversity, including membership of women, minorities, young and non-experienced directors. The core result of this reform is the increase in the number of directors without professional background.

In connection with the mitigation of the effects of the global financial crisis of 2016 in the member states of the European Union (EU), a reform is introduced to impose policies to diversity the boards regarding age, underrepresented gender, geographical provenance and educational and professional background. The main goal of the reform is to protect stakeholders and to improve the quality of decisions made. In the EU, the board diversity has been introduced through "hard law" - by Directive 2013/36/EU.

Board diversity is different from other good corporate governance practices on the following aspects:

- the diversity is based on a government action plan;
- the action plan enters into force through mandatory norms;
- the control over diversity is carried out by stock exchanges;
- the monitoring on diversity is exercised by auditors;
- the results of diversity are reported by competent supervisory authorities.

Along with the globalization process, the number of state policies for board diversity is increasing while expanding their scope (Madgerova & Kyurova, 2014). The statutes of companies start to resemble the constitutions of the states - they include unilateral declaration of equality and mutual expectations of trust, which are transformed into board diversity policies and practices. This also determines the growing attention to these issues by the scientists - pointing out some irrational results of diversity; the analysts are increasingly seeking economic justification for reforms.

2. Observations

The first benchmark data concerning the board diversity in the EU banks were published by the European Banking Authority for 2016 (European Banking Authority, 2016). In their opinion, most forms of board diversity are reported by cross-border banks, thus creating greater opportunity for comparative analysis of national policies and subsidiaries' practices.

Parent banks show better quantity results in the fields of board diversity, which can be explained by their status - they are listed on a stock exchange and are licensed in a euro area state, all of which call for stricter requirements for board diversity. An

additional advantage for the introduction of good practice in board diversity is the dispersed ownership and a past dependence factor - the leading role of public opinion in disclosing information, including transparency on board composition.

Board diversity policies focus on team results rather than on individual qualities, as individuals are not able to influence the certain attributes such as age, gender, and geographical provenance. High scores are reported for educational and professional background, while in terms of geographical provenance, the diversity is relatively low. The achievements in gender diversity in the northern European countries are related to women only and, above all, to their board membership as non-executive directors. While it is easier to measure, the rationality of applying such practices is more difficult to explain, as public attention is now being reoriented to environmental performance rather than to gender equality and women's membership in the boards has a social echo rather than an economic effect.

A qualitative analysis of the data by parent banks from the EU highlights the following common disadvantages characterizing the board diversity:

- mandatory application of board diversity by laws and stock exchanges requirements;

- incorrect definition of diversity of underrepresented gender with women rights only and implementing the gender diversity through a quota principle;

- limited participation of non-residents in the boards of southern European states.

In summary, the good practices of diversity on parent bank boards have been based by the external environment and their dispersed ownership. These factors determine the opportunity through diversity boards to focus on protection of the interests of stakeholders, rather than on increasing the wealth of shareholders.

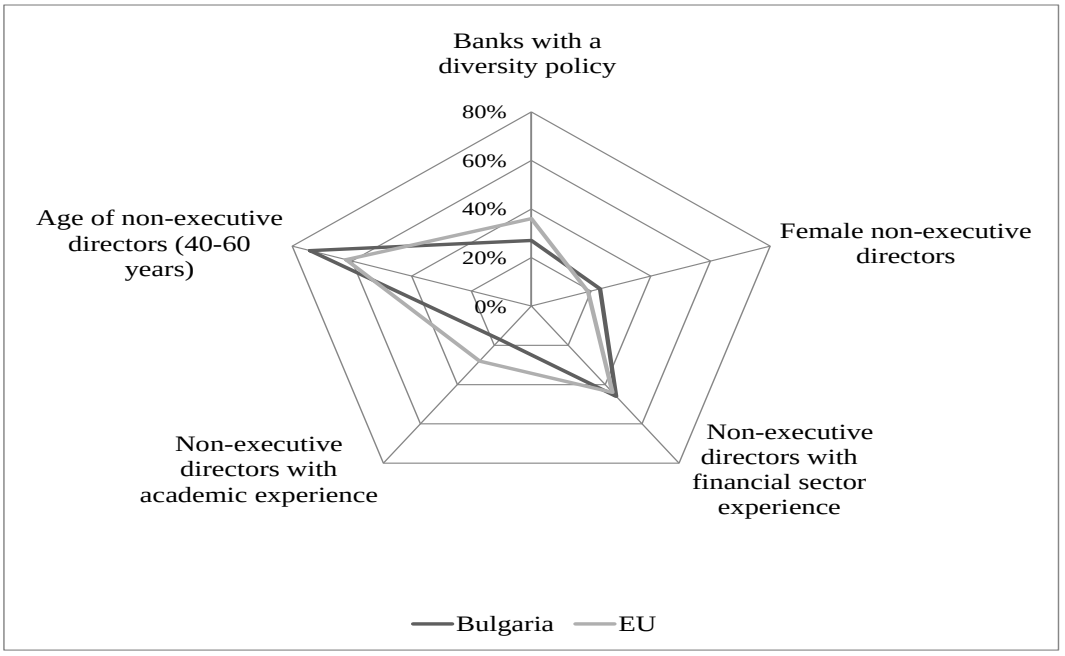
The overseas subsidiary banks are contrast to their parent banks: they are registered in a non-euro area state, without quotation on a stock exchange and have a concentrated ownership. However, they are of significant importance for the risk of the whole financial conglomerate, which largely determines the specificities of the board diversity practices (Tsvetanova, 2014). In most cases, foreign ownership exceeds 50% of subsidiary's equity capital, which reduces the opportunities for diversity by geographical provenance for board members. Diversity is usually limited to the composition of management boards, whiles the members of supervisory boards, including the non-executive directors in case of one-tier system, are appointed by the majority shareholder. In order to protect ownership abroad, the directors are residents from the home state. This common practice is perceived as a diversity of geographical provenance, despite the fact that most board members are residents of one state only - from the home state[1]. On rare occasions, when

[1] European Banking Authority clarifies the "geographical provenance" as the area where a person has gained a cultural, educational or prior professional background. EBA report on the benchmarking of diversity practices (European Banking Authority, 2016, p. 9).

directors have an in-depth knowledge for local laws or have to act as claim addressees, the board members are residents of the host state.

Good practices in Bulgarian banks are a consequence of their level in the hierarchy of EU financial conglomerates[1]. The results of the comparative analysis of the board diversity reflect the formation and composition of the Bulgarian banking system - subordinated banks with predominantly overseas equity capital from a small number of euro zone states and with a concentrated ownership. Data on the diversity of board members before and after EU membership (2007) is relatively constant. Unlike the home state in the EU, in Bulgaria as a host country, the Directive 2013/36/EC and the legislative framework do not change the composition of the boards as there is no dynamics in the ownership of banks.

Figure no. 1 Comparison of the board diversity in parent banks from the EU and their subsidiary banks in Bulgaria



Source: European Banking Authority, 2016 and Bulgarian National Bank, 2017

[1] The leading example of Bulgarian practice is a subsidiary bank, a Dutch ownership that publishes full and detailed information about all kinds of board diversity for every board member. In this case, no account is taken of the fact that the published information is statutory requirement in the home state, in the Netherlands, whereas in the host state, Bulgaria, it is a voluntary act that is referred to as good practice for board diversity.

27% of the subsidiary banks in Bulgaria have implemented practices for board diversity (Figure 1), which is less than in their parent banks (36%). Most likely, the reason for this difference is the mandatory nature of board diversity in most euro area states. Banks in Bulgaria are ahead of their parent banks by the indicator "women-non executive directors", whose performance in the Bulgarian boards is traditionally high - 23%. For the diversity indicators "age of non-executive directors (40-60 years)" and "non-executive directors with academic experience", the results for Bulgarian boards are at a critically low level - respectively 74% and 17%, while for "non-executive directors with financial experience" is very similar for Bulgarian banks and parent banks in the EU - respectively 46 and 44%.

The diversity of geographical provenance in subsidiary banks aims to reduce the agency problem by nominating for board member a resident from the home state, and in parent banks - to reduce the likelihood of a new crisis by improving the quality of the decisions made. Diversity data on this indicator determine the leading position of subsidiary banks in Bulgaria as compared to their parent banks in the EU - 88% of the board members of the subsidiary banks are non-residents, while in the parent banks their share is 27%. However, it should be borne in mind that the idea of Directive 2013/36/EC is implementation of diversity by geographical provenance through a representation of a large number of states, while in Bulgarian banks the foreign members are from one state only - from the home state (foreign members are residents of 9 EU states, while the equity capital originates from 7 EU states). The coincidence between the home state of the directors and the home state of the equity capital in Bulgarian banks is high - over 95%, which do not comply with the good practices for board diversity.

The diversity of Bulgarian banks with regard to the underrepresented gender reveals a high percentage of women's membership in boards (16%), while its average level for EU is 11%. Due to the low dynamics of women participation in the boards prior to the membership of Bulgaria in the EU (2007) and after the entry into force of Directive 2013/36/EU (2016), it can be argued that a high level of gender diversity is a constant feature of the Bulgarian banking system.

The qualitative analysis of diversity for underrepresented gender highlights some features of Bulgarian bank system:

- there is a greater participation of women both in boards of banks with local capital and in case of banks with small market share;

- women are board members as representatives of foreign shareholders in banks with overseas equity capital;

- women are both a majority shareholder and a board chairman in banks with local equity capital[1];

[1] In 2015, there are two cases where a woman was appointed as a chairman of the board due to changes in bank's ownership, and to a large extent, due to the change of a majority shareholder

- boards with a wide variety of geographical provenance have a low level of women participation;

- in most cases, women are members of subsidiary boards and are accounted in the consolidated data of parent bank in the EU.

The subordination of Bulgarian banks in financial conglomerates of the EU determines the characteristics of another component of the board diversity - the educational background. Unlike parent banks, where more than 60% of directors have a degree outside the economics and business administration, in the subsidiary banks in Bulgaria more than 80% of the directors have a financial education and mostly are specialized in the fields of lending. The high percentage is relatively constant over time and is not a consequence of implementation of Directive 2013/36/EC. It is due to the provision of excess capital flows for lending in Bulgaria compared to the home state, which is a member state of the euro area, has lower country risk, lower interest rates and, accordingly, less profit than in Bulgaria. Interestingly, the directors representing the majority shareholders have a richest diversity in terms of education. The most serious diversity of professional background outside the economics is seen for directors of banks with local equity capital - engineers, diplomats, military officers, managers of health care systems, assurance managers, managers of pension funds, and experts of educational affairs.

3. Conclusions

The analysis carried out reveals different quantitative results on board diversity depending on the importance of individual subsidiary bank for the financial conglomerate. The subordinate status of the subsidiary banks in Bulgaria to EU financial conglomerates determines qualitative differences in the application of board diversity policies. For the banks in Bulgaria, the board diversity is not a consequence of EU membership (2007) and adoption of Directive 2013/36/EU (2016), but is rather a result of the introduction of market economy principles, privatisation programmes and good corporate governance practices in the 1990s (Nedeltchev, 2004).

The analysis shows that the results achieved of board diversity are aimed to meet the social expectations rather than to reach economic effects. At the same time, it is concluded that the diversity of team profile of board members is preferred option over the characteristics of individual member. We assume that diversity of geographical provenance in subsidiary banks has heterogeneous aims: protection of ownership abroad, generation and repatriation of profit, prevention of contagion risk and creation of management staff.

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and an increase in the share of majority shareholder rather than a consequence of the implementation of Directive 2013/36/EU.

The highest scores among all diversity indicators are reported in terms of underrepresented gender due to statutory requirements in a number of states. However, such policies undermine the idea of Directive 2013/36/EC for a voluntary application of board diversity. Another disadvantage is the focus on the participation of women in the boards through a legislative quota, while the meaning of Directive 2013/36/EU is to achieve diversity through the participation of the underrepresented gender, which is not necessarily just female. Our expectation is that an increase in the number of women in boards will lead to a greater diversity of educational and professional background outside the economics, as well as a reduction in the average age of bank board members.

The analysis shows that in the subsidiary banks in Bulgaria, the diversity of "geographical provenance" and "underrepresented gender" exceeds the average level in their EU parent banks. The good results are due to the subordinate position of the Bulgarian banks in the hierarchy of EU financial conglomerates rather than to the implementation of Directive 2013/36/EU. The level of the hierarchy defines the purpose of diversity: for parent banks, the diversity reduces the risk and meets the expectations of stakeholders to prevent another crisis while in subsidiary banks the diversity reduces the information asymmetry and responds to the shareholders' desire for wealth maximization.

The analysis of the board diversity of subsidiary banks in Bulgaria and their parent banks in the home state highlights:

- The factors from external environment for board diversity are legal norms and requirements of stock exchanges. The main disadvantage is that the board diversity is perceived as bipolar decision - for example, the underrepresented gender is misinterpreted with equal rights for women and geographical provenance is reduced to the dilemma of resident/non-resident board member. The survey of external factors is limited to a study of the regulatory framework and does not allow carrying out of a comparative analysis between states on the example of a cross-border bank. Differences in national laws lead to information asymmetry and the agency problem in an overseas subsidiary bank can be resolved through the board structure in the host state.

- Internal environment factors are a wider palette. These include activities in other states that lead to diversity in geographical provenance as well as in other sectors (e.g. insurance services and pension funds), which contributes to increasing diversity in educational and professional background.

4. Recommendations

Unlike the illustrative cases of diversity, such as the symbiosis between the survivor Robinson Crusoe and the native man Friday, the modern trend of board diversity puts corporate practices at the forefront. All stakeholders have started to speak on the same language for a sound banking system by using their own "dialect" like in the Babylon tower. Three years after the implementation of Directive 2013/36/EU, measures are taken

that resemble the signal of Robinson Crusoe toward a passing ship. Attempts to impose common diversity views, regardless of established corporate practices, have a final outcome similar to broadcast a 3D movie towards a black-and-white TV sets.

For the sake of completeness in future analyses of board diversity, the following recommendations can be made:

- to be consider separately parent banks and their overseas subsidiary banks due to differences in external environment factors typical of euro area states - national laws and stock exchange requirements;

- to take into account only solo data of each subsidiary bank instead of the data currently used on a consolidated basis for a cross-border bank in order to eliminate the effect of subsidiary bank on the whole results;

- statutory to be introduce quantitative criteria for determining the economic effects of board diversity;

- to be examine the contribution for final results (number of proposals submitted at board meetings, level of risk acceptance and total remuneration) has each type of board diversity (age, underrepresented gender, geographical provenance and educational and professional background);

- to give less weight to the personal qualities over which the directors have no influence (age, gender and geographical provenance);

- to give priority attention to the personal qualities that are leading in the decision-making process (educational and professional background);

- to be perform a qualitative analysis of board minutes to determine whether there is an increase in the quality of the decisions made following a board diversity and whether the number of traditionally 'yes' voting members is decreased;

- to be reduce the number of interlocking directors in carrying out of an analysis for geographical provenance.

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СЪТРУДНИЧЕСТВО МЕЖДУ БАНКОВИТЕ НАДЗОРНИ ОРГАНИ В ЕС: МОДЕЛ НА ИГРИТЕ

Мирослав Неделчев

COOPERATION AMONG EU BANKING SUPERVISORY AUTHORITIES: A GAME MODEL*

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Abstract

The aim of the paper is carrying out of survey for cooperation among banking supervisors based on the model of cooperative games. The initial measures of supervisors are aimed at rescuing the banking assets in their territory and to reduce losses to local taxpayers. The new reality demands these measures also to take into account the effects on other countries, and the need for cooperation among banking supervisors through ex-ante engagements for sharing ex-post costs.

The results of paper show that the original measures to reduce the effects of global crisis have triggered short-term stabilization of the banking system at predominance of national interests. Using game theory for cooperation among banking supervisors leads to optimization of outcome for all countries participating in the ex-ante engagements. From the concrete case for a Bulgarian bank, part of an EU banking group, we have concluded that cooperation among more than two supervisors is recommended depending on the structure of the banking group.

Keywords: *banking supervision, game theory, cooperative games*
JEL Codes: *C71, E58, L51*

1. Introduction

The effects of the global crisis provide a basis for traditional instruments on banking supervision to revise, as the results of the measures under coordination across countries are limited - they are reflected mainly in ensuring the primacy of national interests before the interests of community and to transfer the costs of rescuing distress banks to other EU members.

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The development of banking requires application of scientific methods in practice, including the game theory (Nedelchev, 2013). Before the global crisis (2008) is used game models which are non-cooperative and do not include the need for an external monitor for complying with the agreed engagements. There was a need to take steps to optimize these models when the crisis starts, but they do not give the expected results because of their stated preference for national measures without cooperation with foreign authorities to share responsibility and costs.

Taking into account the results of the banking rescue measures in the EU over the last ten years, we have formulated two research hypotheses:

H1: The game model is applicable for the supervisory authorities of a cross-border banking group.

H2: Restructuring a cross-border bank to a holding group, including a bridge bank, will reduce the cost of rescuing the group.

The content of the paper includes three parts. The first part introduces the game theory into the practice of banking supervision. The second part contains a new look at the game theory. The third part deals with the cooperation between supervisors of a cross-border banking group on the example of the banking system in Bulgaria.

2. Stages of cooperation development among supervisors and game theory

The first attempts to implement the cooperation among banking supervisors are related to expanding of bank activities cross-border. To increase the efficiency of supervision over overseas banks in 1975 Basel Committee has introduced guidelines for cooperation. They require a regularly consultations for division of responsibility between home and host supervisors and the ultimate responsibility for supervision is borne by the host competent authority. In relations among supervisors increasingly takes place the principle of competition, which requires the use of non-cooperative games and in most cases - the prisoner's dilemma.

As a result of bank failures during the 1980s the game theory focuses on the collapse of the banking system in only one country (Diamond & Dybvig, 1983). In the literature began focusing on non-cooperative games (e.g. strategy of two depositors who can either withdraw deposits or wait maturity of the deposit) and for improvement of results is used the Nash equilibrium as a tool. First steps are being taken towards cooperation by providing information and prevention of bank failures. The occurrence of cases for cross-border rescue of banks is reason to recognize the need for international monitor for better implementation of national engagements. Given limited resources to control the implementation and observance of cooperation among supervisors began to use game models in a parallel with a control (Smojver, 2012).

With the beginning of globalization in 1990s the game theory has been reflected in the analysis of systemic risks for large cross-border financial groups (Holthausen &

Rønde, 2004). Due to more complex banking structures and the burdensome procedures of host supervisor is accelerated the role of cross-border cooperation in the fields of insolvency. The home supervisor has the ultimate responsibility for choosing a strategy to reduce systemic risk - through financial support or by closing of overseas subsidiary bank, while the decision to close an overseas branch is at the responsibility of the banking group itself. In this connection between home and host supervisors shall be concluded an agreement for coordinating supervisor - the game model is shifting from winner-loser to winner-winner.

The lack of cooperation among banking supervisors enhances the effects of the global economic crisis. The theoretical models start to analyze the behavior of depositors in more than one country. In the practice was apply the Chicken game in which rational players compete for limited sources of funds and achieve their goals through better knowledge of resources. The number of participants in cooperation increased and includes the national ministries of finance and funds for deposit insurance due to the use of public funds to stabilize banks (Nieto & Schinasi, 2007). The incentives for cooperation shall be determined by the fiscal costs for rescue of a bank and its systemic importance in both the home and host country. The achieved positive results however are limited to cases in which the parent bank and overseas subsidiary bank are systemically important in both the home and the host country, and depend on the role of overseas subsidiary bank for the survival of the entire banking group. A new form of cooperation is introduced - establishment of colleges of supervisors to control international banking groups in different jurisdictions. Responsibilities between home and host supervisors are clearly separated and identified based on bilateral agreements (memorandums of understanding) for organized exchange of information.

The lack of reaction on pan-European level to resolve the crisis causes a number of spillover effects. In this connection, efforts in the last stage of cooperation development of banking supervisors are aimed at the adoption of ex-ante engagements for sharing of ex-post costs. The Nash equilibrium is replaced by Coase equilibrium for benefits of cooperation through zero transaction costs (Gaspar & Schinasi, 2010). In 2008, with the adoption of the Declaration on the joint action plan by the euro area members, the cooperation is reoriented to introduction of a single supervision for troubled banks, incl. the practice of international lender of last resort for state intervention.

Regardless of the stages of development and used games, the cooperation among supervisors in banking industry is defined in decision making (Schoenmaker, 2010) and is socially optimal, i.e. the benefits outweigh costs. The home supervisor has leading opinion, and the host supervisor has lowest costs for bank rescues. In cross-border business the cooperation is different due to the insufficient means of exercising control, which is why supervisors are stimulated by determining their share of potential recapitalization for failed banks.

3. Cooperative games - a fresh look

We shall present the cooperative games in a fresh look - on the basis of the maritime shipping and the assumption that the cooperation among the captains is aimed to ensure safety.

At the beginning of shipping history every captain of a vessel prepares and observes its own safety rules. His limited knowledge allows daytime sailing and close to the coast. Given the small number of vessels and relatively low probability for confrontation among them, the captains have concluded in advance memorandums on safety rules applied within a given territory.

With the increase in number of members in maritime shipping is increasing the need for monitor over the preliminary rules in the common goal - safe navigation for all. To ensure the fulfilment of this objective the state began to provide public goods - construction of lighthouses, control over engagements among captains and to make substantial investments. A good example for public good is one of the great scientific challenges - the measurement of longitude. In 1851 as a zero is defined the Greenwich meridian, causing significant change in the perception of the arrangement of the Earth. The Rhodes Island (resp. the Mediterranean) is no longer perceived as Geocenter and changes occur in the management of vessels - part of it is transferred from the captain to a nautical pilot which uses information generated on the ship.

In modern practice instead of the captains, the countries define rules for safe navigation and require not only from their but also by foreign vessels to move into their territorial waters under the appropriate requirements. The investments in infrastructure are growing as well as the interest in coordinating the rules in different countries. The nautical pilots were replaced by navigators who already use information generated outside the ship by using satellite technology of the Global Positioning System introduced in 1984.

4. Supervisory cooperation and game theory in the case of Bulgaria

We will present cooperative games through cooperation among supervisors of an international banking group - parent bank and overseas subsidiary bank, and for each country is identify the systemic importance and the reasons for such cooperation between home and host country (Figure 1).

Figure no. 1 Payoff matrix of cooperative game in costs sharing between supervisors for a banking group (conceptual model)

		Home country (parent bank)			
		Non-systemic importance		Systemic importance	
Host country (subsidiary)	Non-systemic importance	a	b	c	d
	Systemic importance	e	f	g	h

Quadrant *ab*. Where there is no significance for the home and host country bank systems, there is no cooperation between supervisors. The minimum volume of exchanged information determines the lowest probability of occurrence of conflict of interest. The decision for the future of the bank belongs to the banking group, expressed by the home supervisory authority. The situation is similar in the recapitalization of financial group Fortis, which due to lack of arrangements for cost sharing among supervisory authorities of home countries Belgium, Luxembourg and the Netherlands, was nationalized in 2008.

Quadrant *cd*. In EU the banking groups are key element to economic development and financial stability of the home country and overseas subsidiaries are not systemically important for the banking group. The cooperation among supervisory authorities is weak and unidirectional - from host supervisory authority to home supervisory authority, which receive consolidated information and better knows the financial situation of the banking group. The host supervisory authority participates in cooperation while respecting its public interests - providing information and refusing to bear the costs for refinancing the banking group. Case study for such a case is re-registration of Nordic financial group Nordea as a European company (Societas Europaea - SE) and the reorganization of overseas subsidiaries into branches. As a result, supervision and deposit insurance are delegated to Sweden and decreased interest in cooperation from the supervisory authorities of Denmark, Norway and Finland.

Quadrant *ef*. Foreign subsidiaries in countries with economies in transition are very important for the economic development of the host country and have little relevance to the banking group. The host supervisory authority has no grounds for cooperation - to share the costs of control and to refinance foreign subsidiaries. In most cases, the countries of Central and Eastern Europe are outside the euro area and their subsidiary banks are a source of transmission of financial problems not only to the banking group,

but to the euro area. The need for unification of the various legislations of the states in and outside the euro area in terms of supervisory engagements is reflected in the requirements of EU directives establishing a holding group of subsidiary banks in Central and Eastern Europe.

Quadrant *gh*. The high degree of cooperation is due to the systemic importance of the parent bank for the home country and the overseas subsidiary bank to the host country and for the banking group itself. The motive for cooperation is the possibility of transferring the problem to another country (contagion risk). Given the dual significance for the system in such cases can lead to over-regulation and to duplication of stability measures. Indicative in this respect is the example of the cooperation of the banking group Dexia - the supervisory authorities of Belgium, Luxembourg and France agreed to share losses through guarantees to allow the banking group to gain access to finance and undertake restructuring.

For detailed presentation of cooperative games, we will analyze the likely costs of rescuing the overseas subsidiary bank in Bulgaria, based on the following assumptions:

- In case of bankruptcy each country must repayment the guaranteed deposits that may be adopted as the costs of rescuing the bank. When the bank is part of an international banking group, the country should bear the costs of its territory.

- To measure the cost of rescuing the banking structure we choose the deposit base and calculated it as a percentage of GDP of a country, i.e. the proportion of GDP that will be used for repayment of deposits.

Figure no. 2. Payoff matrix of cooperative game in costs sharing between home and host supervisors (2000)

		IT			
		Non-systemic importance		Systemic importance	
BG	Non-systemic importance	0%	0%	7%	0%
	Systemic importance	0%	8%	7%	8%

To present the game theory in the case of banking supervision co-ordination, let's choose a bank group that has a subsidiary bank in Bulgaria. A good example is the banking group UniCredit, Milan and its subsidiary bank in Bulgaria – UniCredit Bulbank, Sofia. In case of eventual rescue a measure must be undertaken bottom-up - by

supervisory authorities of Bulgaria, Austria and Italy. Given the importance of subsidiary bank for financial sustainability in host country (Quadrant *ef* in Figure 1), the cooperation between supervisory authorities is asymmetrical - the authority in Bulgaria is most interested for rescue. If measures were taken in 2000 to eventually rescue the costs of repayment of deposits bailout would cost 8% of GDP for Bulgaria, for Italy - 7% (Figure 2).

There is a requirement in the EU for conglomerates with subsidiary banks outside euro area to establish a holding group for reducing contagion risk. Since 2007 Bank Austria, Vienna (holding group for UniCredit, Milan) is responsible for activities of all overseas banks of UniCredit in Central and Eastern Europe. In this situation, any eventual costs in 2015 for repayment of guaranteed deposits in UniCredit Bulbank would be 17% of Bulgaria's GDP and for Bank Austria - 33% of Austria's GDP (Figure 3).

Figure no. 3.Payoff matrix of cooperative game in costs sharing between bridge and host supervisors (2015)

		AT			
		Non-systemic importance		Systemic importance	
BG	Non-systemic importance	0%	0%	33%	0%
	Systemic importance	0%	17%	33%	17%

Given the large share of spending to GDP for Austria and transfer of financial contagion in euro area, the cooperation among supervisory authorities is shift to Quadrant *cd* in Figure 1.

Figure no. 4. Payoff matrix of cooperative game in costs sharing among supervisors for whole banking group (2015)

		IT AT BG	IT AT BG
		Non-systemic importance	Systemic importance
IT AT BG	Non-systemic importance	0% 0% 0%	27% 33% 0%
IT AT BG	Systemic importance	0% 0% 17%	27% 33% 17%

For completeness of the case it should be included the ultimate owner of banking group - UniCredit, Milan. For 2015 the eventual costs for repayment of deposits would be respectively: for UniCredit Bulbank - 17% of Bulgaria's GDP, for Bank Austria - 33% of Austria's GDP and for UniCredit - 27% of Italy's GDP (Figure 4).

5. Conclusion and Recommendations

The survey shows that the cooperation among supervisory authorities based on cooperative games can contribute to improved results in all the countries participating in ex-ante engagements for sharing of ex-post costs.

The need to establish preliminary international rules for supervisor cooperation stems from the shifting of attention from protecting the interests of shareholders to stakeholders. Another reason is the global economic crisis and lower level of cooperation, manifested mainly in short-term measures to stabilize the banking system in predominance of national interests. All this leads to the emergence of a new form of cooperation among supervisory authorities in individual countries and banking groups, which includes measures to rescue the assets on their territory and aims to reduce losses to local taxpayers.

The results confirm first hypothesis (*Hypothesis 1*): the game model is applicable in cooperation among banking supervisors. It is recommended for supervisors to use a cooperative game model where the parent bank and its trans-border bank subsidiaries are systematically important to both the home and host countries. In such a situation, the supervisory authorities, both in the home and host countries, are equal and bear the same responsibility.

The data partially support the second hypothesis (*Hypothesis 2*): the game model in supervisory cooperation will reduce the cost of restructuring a banking group. The

holding structure allows the transfer of funds between the subsidiary banks only with the participation of the parent bank, which forms the responsibility of the parent bank for the financial strength of the entire holding. The reduction in rescue costs of a holding group is only achieved in cases where the parent bank and trans-border subsidiary banks are systemically important institutions for the local banking system.

The complex structure of banking groups requires increasing the partners in supervisor cooperation. When the organizational structure of the banking group is a holding group, the results are improved by reducing cumulative costs for deposit repayment due to bridge authority.

In Bulgaria it is recommended cooperation among supervisory authorities to perform by hybrid model of game theory, comprising both cooperative and non-cooperative games (Nedelchev, 2016). The first games reflect the existence of a preliminary agreement in the EU, and the second - the presence of those outside the euro area. The dual status, a member of the EU and non-member of the euro area raises the need for a monitoring authority (e.g. colleges of supervisors) to comply with the ex-ante engagements.

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ФИНТЕК В МОДЕРНАТА БАНКОВА ИНДУСТРИЯ

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FINTECH IN MODERN BANKING INDUSTRY

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Abstract

In this research paper we will explore the current wave of Artificial Intelligence and FinTech in modern banking industry. FinTech is the new gold rush for investors, growing from 10% in 2016, to a staggering $23.2 billion, with China and USA leading the market. This boost is powered by the growing capabilities of machine learning and artificial intelligence. It is an idea whose time has come, as the computational and storing capabilities available today can record and process the impressive quantities of big data necessary to fuel the algorithms.

The future of banking industry will be heavily influenced by emerging FinTech companies and artificial intelligence technology applications setting the stage for increasing competitiveness among the industry's leading giants. In the next decade, artificial intelligence will help financial services companies maximize resources, decrease risk, and generate more revenue, in the trading, investing, banking, lending, and FinTech verticals. In the news, financial technology is described as "disruptive", "revolutionary", and armed with "digital weapons" that will "tear down" barriers and traditional financial institutions (World Economic Forum 2017).

Keywords: *FinTech, Artificial Intelligence, banking industry, financial institutions*
JEL Codes: *F65, G21, O16*

1. Introduction

Since the internet revolution and the mobile internet revolution, however, financial technology has grown explosively, and FinTech, which originally referred to computer

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technology applied to the back office of banks or trading firms, now describes a broad variety of technological interventions into personal and commercial finance. Every FinTech application or new piece of banking software must be accompanied by bold claims about its use of Artificial Intelligence, even though in many cases they are simply upgraded algorithms.

FinTech is the buzzword within the banking industry. It refers to the use of technology across all financial services functions. For instance, the simple task of replacing paper-based processes with software and applications is an example of FinTech at work.

Artificial Intelligence is taking the financial services industry by storm. Almost every company in the financial technology sector has already started using Artificial Intelligence to save time, reduce costs, and add value. In the next decade, Artificial Intelligence will help financial services companies maximize resources, decrease risk, and generate more revenue, in the trading, investing, banking, lending, and FinTech verticals.

FinTech is a portmanteau of financial technology that describes an emerging financial services sector in the 21st century. Originally, the term applied to technology applied to the back-end of established consumer and trade financial institutions. Since the end of the first decade of the 21st century, the term has expanded to include any technological innovation in the financial sector, including innovations in financial literacy and education, retail banking, investment and even crypto-currencies like bitcoin.

Financial technology is broadly defined as any technological innovation in financial services. Those engaged in the industry develop new technologies to disrupt traditional financial markets. Various start-ups have been involved in the process of creating these new technologies, but many of the world's top banks including HSBC and Credit Suisse have been developing their own FinTech ideas as well. Fintech companies utilize technology as widely available as payment apps to more complex software applications such as artificial intelligence and big data. (CNBC)

2. Methodology

In the research and development of this paper a combination of qualitative and quantitative methodology has been implemented. To achieve the object of this paper, the Artificial Intelligence & FinTech data has been collected.

3. Analysis and discussion

Previously, FinTech was mainly used for back-office functions by leveraging software to help bank personnel handle accounts, execute transactions, manage customer databases, etc. Today, however, FinTech has transformed how banks operate. No longer relegated to the gloomy corners of back-offices, FinTech has taken centre stage by

making itself indispensible to customer-facing processes. Every digital transaction, be it online shopping, foreign currency exchange, stock investments, or money transfers, is possible at our fingertips thanks to FinTech.

FinTechs provide indeed the same services as banks, possibly more efficiently because of technologies, but in a different and unbundled way. For example, like banks, crowdfunding platforms transform savings into loans and investments. Yet, differently from banks, the information they use is based on big data not on long term relationships; access to services is only decentralized through internet platforms; risk and maturity transformation is not carried out; lenders and borrowers or investors and investment opportunities are matched directly. There is disintermediation in this case. These are pure FinTech activities. However, these pure FinTech unbundled activities have limited scope. For example, it is difficult for platforms to offer to their clients diversified investment opportunities without keeping part of the risk on their books, or otherwise securitizing loan portfolios (Navaretti, Calzolari, Pozzolo, 2017).

According to EY's Fintech Adoption Index, a third of consumers worldwide are using two or more fintech services, with 84 percent of customers saying they are aware of fintech (up 22 percent from the previous year).

Global investment in FinTech ventures tripled to $12.21 billion in 2014, clearly signifying that the digital revolution has arrived in the financial services sector. It is still unclear whether this presents more of a challenge or an opportunity for the incumbents in the industry. But established financial services players are starting to take bold steps to engage with emerging innovations (Accenture, 2015).

Traditional banks can help FinTechs to scale up their business by providing financial infrastructure, capital, and access to their huge customer base. Also, FinTechs can offer innovation and disruptive technologies to banks, which can help them enhance the banking experience for customers and banks will be able to deliver new value and services with faster time to market, reduced costs, and improved return on investments. Collaboration with FinTechs provides a more conducive environment for innovation for banks free from constraints, which results in increased customer experience and often in a reduction of cost as well.

Fintech startups received $17.4 billion in funding in 2016 and were on pace to surpass that sum as of late 2017, according to CB Insights, which counted 26 FinTech unicorns globally valued at $83.8 billion. North American produces most of the FinTech startups, with Asia following. As the rise of FinTechs has had a significant impact on the industry on both technology and the business front, there is a growing trend of banks focusing on innovation by leveraging new technologies such as blockchain, biometrics, and robotic process automation.

Some of the most active areas of FinTech innovation include or revolve around the following:

- Cryptocurrency and digital cash;

- Blockchain technology;
- Smart contracts;
- Open banking;
- Insurtech;
- Regtech;
- Robo-advisors;
- Unbanked/underbanked;
- Cybersecurity.

Within the broad FinTech category, FinTech banks follow one specific type of business model. The ECB considers a FinTech bank to be one which has "a business model in which the production and delivery of banking products and services are based on technology-enabled innovation", as specified in our guide to the assessment of licence applications from fintech credit institutions.

The central role played by technology is what distinguishes FinTech bank from a traditional one. However, many traditional banks are also adopting FinTech solutions and in some cases are partnering with – or even acquiring – FinTech firms to enhance their innovation capabilities (European Central Bank, 2018).

Today, Artificial Intelligence is moving beyond process improvement, becoming the new user interface (UI), underpinning the way financial organizations transact and interact with systems. Machine learning will adapt to data and interactions to improve areas like fraud detection, and will leverage Artificial Intelligence -enabled tools (like digital assistants and chatbots) to create more contextual interactions with customers. According to the Accenture research, Artificial Intelligence will help usher in a new era in digital banking, both in the front- and back-office (The Financial Brand, 2018).

✓ 82% of U.S. bankers (79% of global bankers) believe that Artificial Intelligence will revolutionize the way banks gather information and interact with customers;

✓ 82% of U.S. bankers (79% of global bankers) expect Artificial Intelligence to accelerate technology adoption throughout the organization, providing their employees with the tools and resources to better serve consumers;

✓ 73% of U.S. bankers (78% of global bankers) believe that Artificial Intelligence will enable simpler user interfaces that will help banks create a more human-like customer experience;

✓ 72% of U.S. bankers (76% of global bankers) believe that within 3 years banks will deploy Artificial Intelligence as their primary method for interacting with customers;

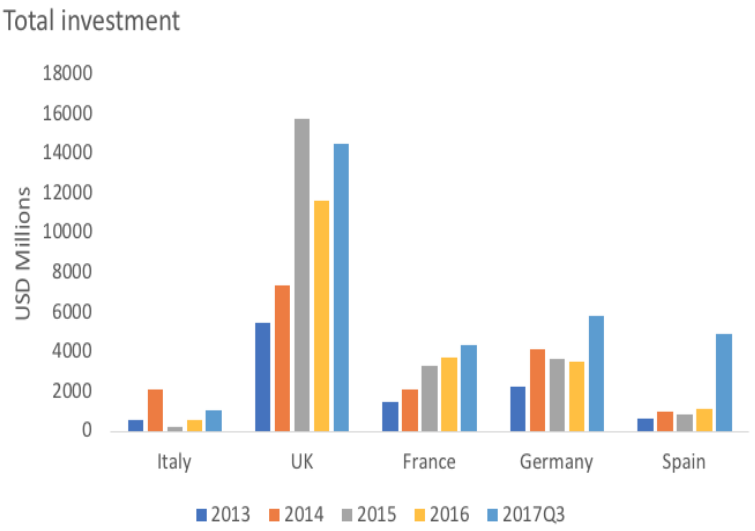
✓ 29% believe it is extremely important to offer their products/services through centralized platforms/assistants or messaging bots.

Although investments in FinTech have been expanding very rapidly in financial markets (see Figure 1), their potential impact on banks and financial institutions is still far from clear.

The rate of investment in FinTech is growing by 45 per cent annually, with £10.3 billion being invested into startups within a year. Procedures within the banking industry are likely to change in the future, with replacements including peer-to-peer (P2P) models and crowdfunding.

With FinTech growing more by the year, startups are now finding a way to bypass the bank's procedures and provide a more efficient service to savers and borrowers. As FinTech disrupters are untied with regulators, legacy IT systems and branch networks, they can provide a financial service that's of a higher quality. P2P models are being used by a range of startups to improve student finance and to make life easier for specialist lenders. FinTech makes the process of borrowing money easier for everyone within the financial industry, as P2P lenders approve loans within a miniscule 24 hour period with the help of a myriad of data sources (Business Matters, 2017).

Figure no.1 Investment in FinTech companies is increasing in all major European countries although there is much cross-country heterogeneity



Source: https://voxeu.org/article/fintech-and-banks

FinTech usually references an organization where financial services are delivered through a better experience using digital technologies to reduce costs, increase revenue and remove friction.

A basic example of a FinTech offering is the mobile banking services that most traditional banks offer. More commonly, FinTech refers to non-traditional financial

offerings such as PayPal, Zelle and Venmo in the U.S. and digital-only Starling Bank, Monzo and Revolut in the U.K. (Marous, J., 2017).

4. Conclusion

Fintech has become a buzzword in financial circles. Fintech players the world over are challenging the status quo of the financial services industry by bringing in a fresh take on problems faced by customers, as seen through the lens of technology. Fintech, shortened from financial technology, is assumed to be a modern movement, yet the use of technology to assist financial services is by no means a recent phenomenon. Financial services are an industry that introduced credit cards in the 1950s, internet banking in the 1990s and since the turn of the millennium, contactless payment technology.

The future of finance will be heavily influenced by emerging FinTech companies and Artificial Intelligence technology applications setting the stage for increasing competitiveness among the industry's leading giants. Traditional banks need to deal with increased competition from FinTechs and rising customer expectations, which is brought about by convenience and availability of advance technologies

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ВЗАИМОДЕЙСТВИЕ НА СЪОТВЕТСТВИЕТО МЕЖДУ БАНКИТЕ И СИСТЕМИТЕ ЗА ОПОЛЗОТВОРЯВАНЕ НА ИНФОРМАЦИЯ В БАЗИ ДАННИ, СЪЗДАДЕНИ ОТ ТЯХ

Елена Ставрова, Недялко Вълканов

CORRESPONDENCE INTERRELATIONS BETWEEN BANKS AND SYSTEMS FOR INFORMATION DISCOVERY IN DATABASES CREATED FOR THEM

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Abstract

This article studies the possibility of using the correspondence relations between banks as mechanisms for legalisation of funds of an obscure or criminal origin, in times of economic instability, local wars and introduced restrictive sanctioning action in respect of certain economic regions as well as the methods for prevention of such attempts. It is impossible to provide an efficient system for monitoring and registering the financial transactions of suspicious customers or these originating from areas with possibilities of tax planning, without developed systems for automation of selection and processing of bank information.

A particular attention is paid to the methods using information technologies for processing the database containing the transactions carried out through iteration procedures, as well as to the heuristic methods for unsystematic transactions containing suspicious features between correspondent banks for cash flow circulating in various segments of the financial system.

Keywords: *international financial and economic sanctions, steady management, correspondent banks, relational base, associative rules, information technologies, heuristic methods.*

JEL Codes*: G02, G18, G38.*

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1. Introduction

The terrorist attacks in September of 11, 2001, the annexation of Crimea from Russia, and the war in the Middle East and Syria have been recent milestone of all effort, attention and instability who provoke not only a huge loss for the local populations, because they were under threat and instability in the financial systems of other countries. Here appears the need to limit to full access to the resources of criminal regimes, military groups of people and criminals. Efforts to actions the financing of terrorism and criminal group are a central pillar of this approach. Restricting access to finance criminal activities is one way to limit their actions, but also by preventing the expansion of their activities and the damage to society as a whole. Community of interest in law enforcement, including the various components of the national legal systems of the countries concerned undertake joint efforts of national institutions and experts to identify, investigate and combat specific threats, enforcing the applicable laws and regulations and prosecuting supporters to actions deter potential funders forces.

The introduction of restrictions on the free movement of capital and financial flows from the international community imposed a step towards limiting the hostilities and the destruction and criminal behavior towards monuments of ancient architecture and international heritage.

The last event of economics and financial sanctions were caused by annexation of territory of Crimea from Russia last March redirect the efforts of the United States and the European Union reacted by with economic weapon - sanctions.

The first measures were implemented in March and April of 2014 directed and Russian officials from the Crimea, and businessmen who are considered to have close ties with Russian President Vladimir Putin with travel bans and freezing of assets. Since then, the West continues to expand its sanctions against Russian entities aimed at large enterprises and parts of Russia by the financial industry, energy and military industries.

The sanctions imposed by the United States came in two stages. The first concerned the Crimea, and they were only personal sanctions for the Crimean and Russian leaders involved in the Crimean drama.

First imposed sanctions important to July 16, 2014, called sectorial sanctions.

This leads to a determination to stop the cash inflows as investments in Russia after the introduction of sanctions. Russia's GDP is expected to shrink by 6.5 per cent in 2015, inflation to rise to over 13% and it is estimated that more than $ 135 billion is possible to leave the country after the marked outflows flows last year. Rating agency S & P reduced the sovereign rating of Russia to BB +, or below investment grade. The point is that by the middle of this year, the financial sanctions have worked as caused far more severe their effect than anyone imagined.

There are three main reasons for the economic problems of Russia. The first reason is corruption and bad economic policies that Putin pursues that alone will lead to stagnation, or at most 1 percent growth.

The second element is market volatility and a decline in oil prices. Oil prices have now fallen so much that the total revenues of Russia's exports this year will be two-thirds of what they were before. This means that Russia will have to reduce their imports by half.

Table no. 1. List of countries to which has introduced sanctioning actions

Country, sanctioned by EU	***Country, sanctioned by USA***	***Country, sanctioned by other countries***
Afghanistan, Belarus, Bosnia and Herzegovina, *Burundi, Central African Republic, Congo (Democratic Republic of), Cote d'Ivoire, Crimea,* *Croatia, Egypt, Eritrea, Guinea (Republic of - Conakry), Guinea-Bissau (Republic of), Haiti, Iran, Iraq, Korea (Democratic People's Republic of), Lebanon, Liberia, Libya , Moldova, Russian Federation, Somalia, South Sudan, Sudan, Syria, Tunisia, Ukraine, Yemen,*	*Belarus, Bosnia and Herzegovina, Central African Republic, Congo (Democratic Republic of), Cote d'Ivoire, Crimea, Cuba, Iran, Korea (Democratic People's Republic of), Somalia, South Sudan, Sudan, Syria, Venezuela, Yemen,*	*Arabic countries prohibit transactions involving Israel, Informal sanctions against The Netherlands, Syria,*

Sources: http://www.bscn.nl/sanctions-consulting/sanctions-list-countries

Economics sanction
freezing of funds and economic resources, restrictions on admission, embargo on arms and related materiel, ban on provision of certain services, ban on exports of equipment for internal repression, prohibition to satisfy certain claims in accordance with UN Security Council Resolution No 917(1994) *- prohibition to satisfy claims with regard to contracts and transactions whose performance is affected by the measures taken in accordance with UN Security Council Resolutions 917(1994), 841 (1993), 873 (1993) and 875 (1993), embargo on telecommunications monitoring and interception equipment, embargo on nearly all dual-use goods and technology, embargo on certain goods and technology which could contribute to enrichment related, reprocessing or heavy water-related activities, or to the development of nuclear weapon delivery systems or to*

the pursuit of activities related to other topics about which the IAEA has expressed concerns, controls on export of certain other sensitive goods and technology, control on provision of certain services, - control on certain investment , ban on certain Iranian investment (nuclear industry), ban on new commitments for grants, financial assistance and concessional loans to the Government of Iran ,

Financials and related sanction
freezing of funds and economic resources, restrictions on admission, embargo on arms and related materiel, ban on provision of certain services, ban on exports of equipment for internal repression, prohibition to satisfy certain claims in accordance with UN Security Council Resolution No 917(1994) *- prohibition to satisfy claims with regard to contracts and transactions whose performance is affected by the measures taken in accordance with UN Security Council Resolutions 917(1994), 841 (1993), 873 (1993) and 875 (1993), embargo on telecommunications monitoring and interception equipment, embargo on nearly all dual-use goods and technology, embargo on certain goods and technology which could contribute to enrichment related, reprocessing or heavy water-related activities, or to the development of nuclear weapon delivery systems or to the pursuit of activities related to other topics about which the IAEA has expressed concerns, controls on export of certain other sensitive goods and technology, control on provision of certain services, - control on certain investment , ban on certain Iranian investment (nuclear industry), ban on new commitments for grants, financial assistance and concessional loans to the Government of Iran .*

A central part in the activity of Basel Bank Supervision Committee, European Committee of Security, FATF, and other international institutions is taken by the role of the financial institutions, by studies on the methods of money laundering (Stavrova, 2007, p. 42) and their use for terrorist organisations financing (Valkanov, 2005, p. 18). A priority place is taken by the alternative payment forms (Stanley, 1998), drug traffic, telegraphic transfers, money laundering in regard to financial support for terrorist organisations (Ganchev, 2004, p. 22-29), (Nikolov, 2004, p. 30-36) and in connection with human rights and conditions of life, illegal immigration, the threat of legalization in the insurance sector (FAT, 2004-05, p. 11).

The role of the financial institutions in the prevention and exposure of money laundry has been a matter of investigation governed by the Basel Committee of Bank Supervision, the European Union and the International Committee of Security. The large-scale international private banks, among which ABN AMRO Bank, Banko Santander, Central Hispano S.A., Chase Manhattan Corporation, Citibank, N.A. Credit Suisse Group, Deutsche Bank AG, HSBC, J.P. Morgan Inc., Societe Generale UBS AG, adopted

common principles as an important global guide for steady management in the international private banking (GAL, 2004, pp. 12-14).

The aim of the bank policy is to prevent the use of banks' global operations for criminal and illegal acts. The banks make efforts to accept only the clients whose sources of property and funds can be proved and legitimised.

2. Conceptual framework

The correspondence accounts opened with foreign banks, with which correspondence relations have been established, can become conductors of "dirty" money. The correspondence bank accounts concern the services offered by a particular bank to other banks for funds transfer, currency exchange or other financial transactions. Foreign banks can open correspondence accounts with any bank having a permit to carry out bank activities in the country. These accounts provide a direct approach to the bank system and freedom for funds transfer anywhere in the world for the owners and customers of badly regulated, managed and sometimes corrupt foreign banks with an insignificant or no control against money laundering.

In the banking industry it is considered as a normal for the banks to have dozens, hundreds and even thousands of correspondence relations, even a certain number of relations with a foreign banks of high risk.

Without the presence of an automated observation and control system to report suspicious features of accounts or acts concerning money transfer and if relying only on manual methods to review the activity in the accounts, the limited supervision on the money transfers cannot ensure a serious review on the relations and result into particular actions for the prevention of money laundering. In many cases foreign banks of high risk are granted access to the national financial system not by opening their own correspondence accounts, but through correspondence accounts in some other banks.

The Bulgarian banks seldom ask their bank-customers of their correspondence practices and in most of the cases they are in total ignorance of the correspondence relations of their partners.

Many cases of money laundry through the use of correspondence accounts have been proved by documents in the world practice. They find manifestation in the following acts, operations and deviations from the general bank practice:

1. Telegraphic transfers of large sums, when the correspondence account is not used.
2. Unusually great number of telegraphic transfers.
3. Telegraphic transfer operations with unreasonable reiterations or of unusual character.
4. Unusually high volume of unrealised or rejected operations.

5. Inquiries from correspondent banks for establishment of relations with financial institutions that do not maintain contacts with an international bank, have not been notified of expressed intentions of such operations or of operations carrying out through this institution.

6. Organising the route of transfer operations via several countries of different jurisdiction and/or financial institutions up to or after their entry into the bank without a clear goal concerning the disguised operation, the funds source or their holder or sender.

7. Frequent or numerous bank transfers without the physical presence or correspondent bank of high risk.

8. Obtaining benefits from operations in accounts with a foreign bank that has participated in such suspicious acts related to bank transfers of considerable sums or other operations with considerable sums.

9. Repeat appearance of beneficiary banks in offshore areas with correspondent accounts one of which in the event has been closed down for a suspicious activity.

10. A considerable number of foreign currency transactions or transactions with documents of the beneficiary of the correspondence accounts or correspondence account of a correspondent bank.

11. Presentment of a correspondence account or removal from an account of a correspondent bank of considerable sums with financial documents (traveller's checks, payment orders, bank-bills), especially if the amount is just below the amount, subject to report in one day, or if they are collateralized with documents with consecutive numbers.

12. Receiving mail transfers of funds that have passed through a correspondent bank.

13. Bank transfers in accounts of persons, suspected by the law-enforcing authorities in the commitment of similar acts.

14. Correspondent bank's inquiries about exceptions in the requirements of reporting, stipulated in the Bank Secrecy Act or in other Rules, requiring information of suspicious transactions.

Measures have to be undertaken to limit the risk of using the correspondence relations between banks for laundering money of criminal origin, as follows:

1. Accounts in trust must be managed only after finding out if the customer acts on behalf of somebody else in the capacity of an agent (trustee). This is a necessary prerequisite for gathering of sufficient information to identify any persons or agents, for releasing information about them, as well as for gathering information about the character of the fiduciary relations.

2. Corporate mechanisms – vigilance for use of physical persons by legal entities to manage anonymous accounts. For the banks it is necessary to be aware of the company structure, origin of funds, to find out the beneficiary owners and the persons holding the right to control the funds, as well as to verify the documents for transactions management in the Internet. (Basel BCBS, 2003).

3. A special caution in regard to companies with nominal shareholders or bearer shares. It is impossible to carry out a thorough investigation on the ownership. The bank is responsible to develop procedures for the establishment of identification information of the large-scale beneficiary shareholders.

4. If services were provided to new companies the identification procedures would go against the endeavour to diminish the inconvenience they would suffer as new customers.

5. The persons, subject to political risk – occupying significant public positions, as well as persons and companies in direct link with them that can bring the bank reputation under threat and juridical risk. These are persons occupying significant public positions as a head of state, head of government, leaders of political parties, representatives of military and court institutions. There is always, especially in the countries with high risk of corruptive pressure, a hazard of abuse of public authority of such persons with the purpose of an illegal enrichment. Usually, such cases are largely reported by the mass media and bring to vigorous political reactions, even if the illegal character of the act can hardly be proved. The bank can suffer considerable expenses to gather information and order by law-enforcing or judicial body. The bank employees can be accused of legalisation of funds received illegally during election campaigns, funds raising raids, etc.

6. The due diligence process of the accounts and transactions can result into a clear vision of the normal and reasonable activity in the bank clients' accounts. Without such information they probably would not meet their obligations to report suspicious information to the authorised organs when required. The volume is determined with taking the risk into account and the grade of recognition of unusual and suspicious schemes is found out. This is implemented through the establishment of limits for particular classes of accounts. Some types of transactions have to give rise to bank employees' keen attention and suspicion (for example, those irrational from the position of the economic potential of the client).

Adequate analysis systems for managing board information and efficient monitoring are necessary for the accounts of clients of high risk. Reporting the lack of documents for opening of accounts for the transactions via the clients' accounts and the general information of their operation could be used.

One of the most important tasks, connected with the implementation of the legal acts, is the automation of the processes of selection of information from the available databases concerning the clients and geographical regions of high risk. In implementation of the Law all funds-lending organisations are obliged to establish databases containing information of transactions that could be an evidence of legalisation of criminal incomes. The considerable data arrays, and particularly the companies' foreign economic turnovers can hardly be controlled, but in accordance with the requirements of the control organs the bank of account must receive and keep the data contained in the database. The essential elements of the foreign counterparties comprise their complete address, the

name of the country of registration, address activity, number of the supply contract, and term of validity, amount and the price in the settlement currency, manner of payment. According European law foreign currency transactions to the amount exceeding BGN up to 30 000 without cash and up to BGN 10 000 in cash of residents. Concerning foreign currency loans granted to non-resident, as well as the right of granting foreign currency loans to non-residents, are the major part of the database kept with the bank of account. The commercial banks have no right to debit/credit a bank account unless they submit to the BNB data of the transaction character and the foreign counterparty, fixed in the database.

In compliance with the BNB's requirements the commercial banks are obliged to establish detailed data files for each foreign currency transaction of their corporate clients. This way it can be ascertained that nowadays the commercial banks and the BNB keep regularly updated databases with actual information of the foreign currency transactions. Of course, it has to be mentioned that only a part of the information concerning the clients' infringement of the currency control acts that is kept with the banks is submitted to the BNB. A disadvantage of the established base is the restriction in stating only the transactions, settlement instruments, in which there is a partial appearance of free traded currencies. Therefore the barter transactions, the settlements in BGN, and in exotic, seldom used currencies, does not come into the range of vision.

The major aims set before the specialised database processing, established on the basis of the regulative documents for the implementation of the strategy of counteraction to the legalisation of the criminal incomes and fight with the tax offences can be formulated, as follows:

1. Searching for the counterparties of the companies in suspicious business, assessment of their foreign business contacts and the character of the transactions following the submission of information by the commercial bank.

2. Defining the schemes of assets transfer from one company to another by investigating their foreign counterparties that are regularly losing in their foreign economic activities on the basis of schemes of VAT recovery, fictitious export, etc.

3. Investigating schemes of transactions between connected persons with the purpose of additional assessment of taxes, if the deal price differs substantially from the market price.

The solution of similar problems supposes the use of efficient information technologies for knowledge discovery capable of retrieving non-trivial information from the established database, known as KDD-technologies (Knowledge Discovery in Database). These technologies, integrating the capacities of standard technologies as Systems of Databases Management and of the outselling Data Mining, give an opportunity to use a systemised database for models building, for formulation of classification database relating rules, for definition of clusters based on classification rules.

The standard operational diagram of KDD comprises:

1. Selection of elements according to a defined attribute
2. Preliminary processing
3. New database conversion
4. Self-construction of the demanded model of interrelation between the analysed elements.

The major part consists of a relational basis with a structure formed by linked tables, with each column corresponding to stored data of the counterparties in the correspondent banks' network. The analysis of actually existing data associations is the most efficient way to discover information in the database. Data association is known as data set, united integrated information content. Association analysis asks for a reply of a typical question for search of uniformity among the assigned objects' data. All the information stored in the database of particular physical persons, organisations, documents, payment transactions can be related to such data. To the end of analysis completion the user of the database cannot suppose which data exactly contain the information he is interested in. In future comparisons with other types of relations connected in some other functional interdependence the data form a subset containing new non-trivial information, i.e. knowledge.

Practically, the only means of access are the SQL-inquiries as a universal means for manipulation of data contained in the relational database, maintained by all systems of manageable databases.

Q (C, Y) = (SELECT<Y>WHERE<C>),

Where: <C> is the set of restrictions of SQL

<Y> - the relation forming attributes

The system for knowledge discovery in database has a module structure, as follows:

3 –inquiries; 4 – results; 5 – objects; 6 – association rules;

7 – Objects; 8 – relations; 9 – database structure; 10 – association rules;

11 – Semantic information; 12- database structure;

13- Knowledge; 14 - objects

The module implements the basic iteration procedure for search definition and assessment of the results from the work with the database. The results from each SQL-inquiries are assessed on the basis of the eligibility functions analysis.

$F = \Sigma f(a)$; $f a = (m. n)/q$

Where:

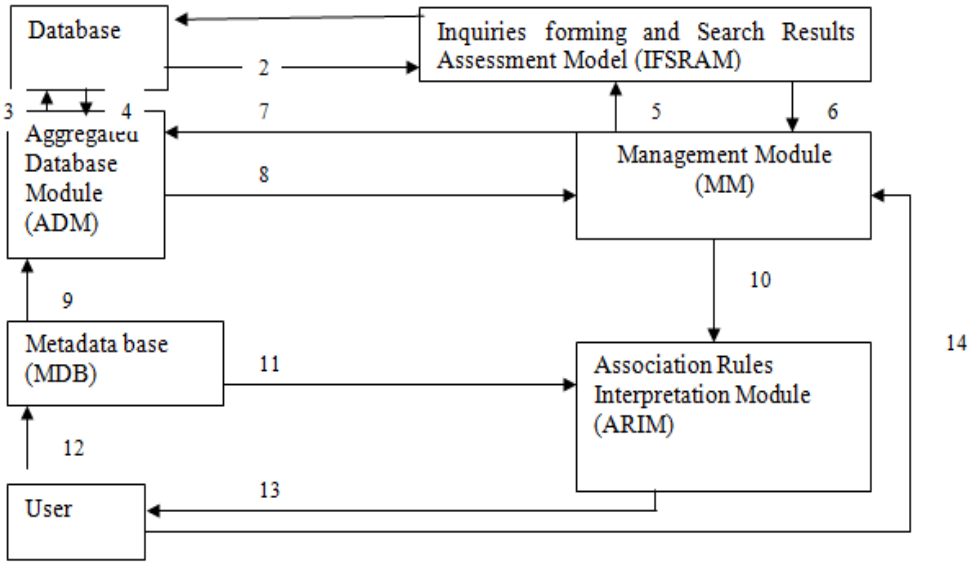
F - Complex function of quality, taking into account the influence of the data in each column of the database table

F (a) intermediate function of eligibility of the results for analysis of the influence of "j" column of the table.

A - Set of restrictions in a particular inquiry

M - the number of objects assigned for search
N - Factor of reading/accounting the records in the database table
Q - The number of appearances of the object throughout the process of search

Figure no.1. Inquiries Forming and Search Results Assessment Module (IFSRAM)



The F function provides and opportunity to take into account the quality of the search results in each column by taking the restrictions (a) into account. The value of f (a) is maximal when m = q, e.g. when all the assigned objects participate in the search, including the new data and taking into account the results of previous inquiries. In such procedure the number of the restricting conditions increases in reply to alterations in the data values (for example close dates or large sums as transaction volumes) or equation in the data value (for example coincidence in the name or registered address of the beneficiary).

Although essentially represent the cash transactions, transfers via systems for fast money transfers deserve further attention. Offered on the used market systems (such as Western Union and Money Gram) than useful for many customers products are cause for further concentration of risk of money laundering[1]. The related obstacles resulting from the fact that underlying these systems principles for funds transfers do not require a complete set of reliable credentials. For example required for each unique transfer control number and any transaction entered names and addresses of the parties to it are insufficient for KYC identification. The only unique and absolutely reliable details are

identification numbers (MTCN - Money Transfer Control Number at Western Union and Reference Number in Money Gram). Also, this type of money transfers are carried out without the need for a bank account, which is an additional facility for their illegal. (See the Law on Payment Services and Payment Systems ", Art. 3, para 1 and Art. 4 pt. 6)

By 2009, the system for fast money transfers are allowed to offer their services only through a bank or exchange office, but after the adoption of the Payment Services and Payment Systems providing this type of services is liberalized, as the same may be offered by other entities such. The Electronic money, persons licensed to provide postal services and payment institutions under this act. For companies that provide such services, the law creates an opportunity to expand their points of sales. This would lead to a reduction in banks carried by fast transfers at the expense of other licensed providers of payment services.

Unlike the business side of this decision (which will inevitably be positive due to increased competition in the market), in the fight against money laundering raises fears that new suppliers of fast transfers are not prepared to effectively counter ML. This can be explained in two ways. First, due to their recent entry into this new market intermediaries in the supply of these remittances have no basis and practice relevant countermeasures. Here, given the special rules and procedures, staff training, specialized software, etc. Secondly, even in the implementation of the above requirements firms that are not banks, not enough information resource to compare with other databases with negative information.

The performed within the banking non-cash (non-cash) transfers include remittances made by debiting the bank account of the payer and crediting the bank account of the recipient. They can be classified as three separate types:

1) Within the same bank;

2) Within another bank in the country and

3) Transfers aimed at abroad.

A major highlight in most reported cases of money laundering are a series of transactions from countries in the regime of international sanctions aimed both at domestic and at foreign banks. Most often they are used during the phase "disguise" (layering). Such transfers shall be effected by cashless bank transfers, which in modern conditions, are carried by automated banking accounting and computer software. So looking suspicious transfers can be allowed to perform smoothly. That is why monitoring this type of banking operations is an essential tool for combating within the banking AML policies and practices in the monitoring of incoming and outgoing cash flows from countries in the regime of economic sanctions.

The interbank transfers aimed at overseas implemented through correspondent banks, under the rules of the organization SWIFT[1], which includes all registered banks in our country. The technology for making transfers through the system allows the availability of data on the payer beneficiary banks in the chain and their locations, but also allows the receipt of orders by ordering that the beneficiary's bank cannot identify. Also, the system does not allow the broadcasting of translation empty requisites, but cannot counteract the introduction of meaningless or incorrect data[2].

A preventive innovation in this respect is the introduction by SWIFT's new format of payment messages MT 202 COV (in using from 21.11.2009), used in correspondent bank transfers such "cover payments". Previously used standard (MT 202) does not correspondent banks the same level of information about the parties to a transfer, as has the sender's bank. Thus practically from correspondent banks downstream to the institution of effective monitoring of translated through these means (a more detailed schematic illustration of technology transfers through the new format is presented in Appendix 14).

The preventive action in relation to non-cash transfers are carried out both by the respective internal procedures, and with the help of specialized software for monitoring and analysis of transactions. Internal procedures, part of the overall AML Policy Bank are subjective in this type of prevention. For example, an internal procedure, after the establishment of dubious translation, a high counterparty or correspondent bank, the relevant employee (usually the back office level) should be alerted about their supervisor or responsible for AML operations officer. They in turn verify the validity of the claim, and when affirmative submit suspicious transaction reports to the security services. According to the internal rules prohibiting entry into and correspondent relations with banks of high-risk countries, countries in the regime of economic sanctions and territories as listed in the instructions themselves.

The automated nature of cashless transfers requires the use of specialized software for monitoring and analysis of operations. Thus, within its policy against money

[1] Society for Worldwide Interbank Financial Telecommunication. Founded in 1973 in Brussels today at the Society for Worldwide Interbank Financial Telecommunication has more than 9000 banks, investment firms and corporate clients from 209 countries. The Company has established standards for international bank transfers on the principle of exchange of electronic messages between financial institutions. Today, SWIFT is global intermediary in making international bank transfers by 2010 per day through the system were implemented in nearly 16 million transactions. In 2006, after a series of publications in the US print management organization recognizes that after the September 11 attacks was provided access to the SWIFT data for various US law enforcement bodies within the program for tracking the financing of terrorism (Terrorist Finance Tracking Program) contrary to current EU legislation and Belgium.

[2] European Regulation 1781/2006 on information on the payer accompanying transfers of funds to the payment service provider requires payment service providers to bring complete information about the payer to funds transfers made electronically.

laundering banks install additional modules for tracking operations. They can operate: 1) real-time parallel with the core banking and accounting software or 2) with a time lag. Operating in real time alarm modules allow for suspected money laundering before finalizing the transaction. This allows making timely and flexible solutions. The second type of information modules from the core banking system is extracted during a given period, usually this happens after processing the data at the end of the working day - "end of day data processing". Then extracted information is filtered and analyzes and displays information about suspicious transactions. The main flaw in the analysis of data with a time lag is reduced reaction time. Extracted from software suspicious transactions provide for subjective analysis only on the next working day and very often it is after the finalization of the transaction.

In this case the software for analysis of the various bank transfer software product Siron® Financial Solutions, is developed by the companies Siemens and Tonbeller[1]. The system was implemented in several European banking groups, including operating in the country Société Générale and Raiffeisenbank, as of 2007 the system is applied in the Bulgarian practice. The product integrates module for filtering the information system for checking identity and analytical modules for comparison and interpretation of the information gathered. To the system can connect to databases negative information. In summary, analysis of operations goes through the following sequence: data entry identification of counterparty's translation categorize the information gathered evaluation arrive at the conclusion. The system allows the creation and introduction of the "rules" of each bank, according to the specifics of its activities, national legislation, etc[2].

After the events of 2001, most banking groups begin to install filtering systems in order to prevent automated execution of suspicious transfers. With these systems pre-compiled data set with negative information, which collated all incoming and outgoing transfers. Upon detection of a match (full or partial) system temporarily "detained" for the transfer and return it for further consideration by the operator. Belonging to the main part of our banking system to a major European bank holding companies contributes to the implementation of such filtering systems at national level. Although each of our banks has its own SWIFT address the possibility of own choice of correspondents in international transactions, most banks use the infrastructure for translations of their mothers' owners. So dubious translation broadcast by our banks, "halt" and returned for further identification of the filtering systems in their respective plants.

[1] More product information is available at http://www.tonbeller.com/, in Section SIRON® Financial Solutions. List of leading AML software see. In Annex 15.

[2] Another example embedded in Bulgarian banking practice software is applied by DSK software "Norkom", created by the company Detica (www.baesystemsdetica.com)

Another positive point is the introduction of the single standard for numbering bank account - IBAN[1] in 2006, a bank account number allows for easy identification when checking and analysis of suspicious transfers. In recent years, the share of ordered through alternative banking channels (Internet, telephone, text massage) operations. Their comfort with a view to saving time and cost of translation is indisputable, both the customer and the bank. On the other hand, the technology determines their greater degree of anonymity. Anonymity, which can be used in operations in money laundering and terrorist financing and transfers of cash flows from countries in the sanctions regime ordered by distance. Along remotely transfer is performed directly without the involvement of front office staff, its accounting in the back office, in most cases follow, once the operation was completed. This requires the introduction of additional controls in the monitoring of remote operations ordered. Such a measure example is the requirement for additional identification and subjective operations above a certain threshold

The management of the process of alteration of the values of columns in case of inquiries is carried out with a procedure implementing the algorithm of random search with an adaptation.

Heuristic methods (Methorn, 1983, p. 12-79) are the methods based on the intellectual activity of a person who has found a creative solution of a particular problem and is able to make this process accessible and include these methods in solving a particular problem. The knowledge acquired at school and professional environment, the transfer of received information, and the personal qualities developed by experts give an opportunity of a statement and taking a decision on any specific practical case.

Trial-and-error method is one of the most applied methods for a system search and coming to specific intellectual results. It is carried out through "trials" on a randomly chosen object of full test. Its major disadvantage is the practically unlimited number of possible tries, but there is a possibility of elimination of particular objects from the database and this way of limitation of the array of possible operations to be tested. The advantage of the method when applied for studying the correspondence relations between banks with partial or full tests and the results from the studies is the fact that it is actually utilisable.

Aphthonius's Method was developed in the 3rd century and is a modern algorithms structured with the help of "questions and definitions".

For example: Algorithm of studying transactions between banks

1. Who? – Who initiates the transaction?
2. What? – What type of contract is it – episodic or systematic?
3. Why? – What is the grounding for the implementation of the transaction?

[1] IBAN-number is 22 characters in the format: BGkk BBBB 1111 2233 3333 33 where: kk - control numbers; BBBB - BIC code, 1111 - Number of branches (BAE), 22 - type of account, and 33 3333 33 - account number.

4. Against? – Are there any doubts (+) or (-)?

5. Analogy – Have there ever been any similar, equivalent or comparable cases of transactions?

6. Examples – Are there any examples in historic, chronological or regional plan?

7. Proofs? – Are there any proofs in support or denial of the doubt?

An algorithm of this type for studying the relations between correspondent banks establishes a prerequisite of systematic investigation and at the same time of purposeful expansion of the sphere of search in the database for cases that come within the provisions of law.

Thorough knowledge in various field of human cognition are necessary to apply the Method of Aphthonius, they are compared in searching for particular decisions.

Sinitics Method.

Its name is of Greek origin and means "interdependence". The known, i.e. the start position – the aggregate database, the methods of funds transfer, the search for answers of the questions concerning the correspondents banks system, the assigned final aims, i.e. mobilisation of these funds – is put into interdependence with something new or is used in a new manner, is included into a system with outer subjects, indifferent to the system, for the achievement of some other effects.

In case of unsuccessful tries for solving a particular problem, the use of former experience is rejected and new ways and decisions are sought.

The module implementing this method includes:

Step No 1 – introducing and analysing the problem known to a team of experts;

Step No 2 – the problem is changed to unrecognizability through analogies and metaphors;

Step No 3 – searching and finding dependence between the found algorithms, metaphors and the original problem.

Delphi Method.

The ancient Greeks asked for an advice the oracle who lived in Delphi. They achieved their goals with a better success after they had been pronounced by the oracle as they considered such an act a will of gods.

The major aim of Delphi method is the possible determination of future development of a particular problem. In our case we mean techniques of utilisation of the correspondence relations between banks for money laundering.

For this purpose it is necessary to form a team of experts with a long-year experience in this field and well acquainted with the possibilities for use of banks for legalisation of criminal origin funds. The experts must have a long-year experience in this business and possess skills in influencing and convincing the others in the rectitude of their opinion with the best argumentation.

Experts of all major banking sectors – investment lending, payment agency, securities trading, portfolio investment consultants, security service, and internal control –

took part in the first stage. For example – discussion is carried out on the following problem – if the formation of new tax oasis is expected with possibilities of legalisation of funds of criminal origin. The inquiry at this stage shows the quite distant positions of the immediate participants, and the head organises the statements and motivation of each member of the team. The opinions with greatest deviation from the general opinion are assessed and sent to all the members so they are able to make more precise their own statements and to acquaint themselves with the statements of the other experts in the group. During the second stage the answers are brought to criticising and assessment and the third stage is prepared. During this stage all the results are again announced to the experts so they can compare their answers and further specify them. Thesis argumentation is again required for the opinions with great deviation.

The value of this method is determined by the competency of the invited experts, by their commitment and intensive occupation with the problems of money laundry prevention.

Delphi methods provides good results if the contents of the inquiry is structured in a way that encourages the experts to re-consider their own positions and if it is specified and made clear for the experts.

3. Conclusions

The application of methods based on information technologies and heuristic methods provides new possibilities of due diligence to bank customers. In regard to the sudden increase of the banking operations of trans border transfers of cash flows, a special attention is to be paid to the automation of monitoring of in-going and out-coming flows, as well as to the bank staff's capability of identifying suspicious clients and their operations nature and to prepare operating file records.

The leaders in the banking business, mentioned at the beginning of this presentation, have directed their efforts to develop their own programmes for training their employees investing in their preparation and mobility.

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УПРАВЛЕНИЕ НА ФИНАНСОВИТЕ ПРОБЛЕМИ НА ОТВОРЕНАТА ИКОНОМИКА НА ГРУЗИЯ, СЪОБРАЗНО УСЛОВИЯТА ЗА ПРИСЪЕДИНЯВАНЕ КЪМ ЕВРОПЕЙСКИЯ СЪЮЗ

Джордж Абуселидзе, Давит Катамадзе

MANAGEMENT OF FINANCIAL PROBLEMS OF GEORGIA'S OPEN ECONOMY IN TERMS OF ASSOCIATION AGREEMENT WITH THE EUROPEAN UNION

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Abstract

The study of the article is the financial environment of the open economy of Georgia, which aims to identify the problems in the financial and economic sphere of Georgia, and the goal of researching the article is to set the appropriate ways of solving these problems.

The methodological basis for the study of the article is a complex approach that has made it possible to determine the characteristics of the financial environment, to stimulate attracting foreign investments and determining factors that may be hindering. In the course of the research, methods of abstraction, induction and deduction, statistical data generalization, gathering, grouping, analysis and synthesis were used.

Keywords: *Open economy, financial environment, financial problems management, foreign investments, economic processes*

JEL Codes: *F15, F36, F64, H12, E22*

1. Introduction

Under the globalization and internationalization of the modern world economy, no state can provide sustainable economic development and high level of social well-being without establishing active trade-economic relations with other countries. Moreover, it cannot be achieved without close cooperation with regional economic integration. Due to the rapid technological backwardness and dependence on the industrialized countries of

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the developing and transition economies (including Georgia), it is becoming increasingly important to deepen their relations with the countries of the bilateral bilateral and multilateral co-operation. At the same time, the lack of local capital and the necessity of importing it from foreign countries will depend on the growing trend of their economy on highly developed countries and regional economic integration.

Under globalization of the world economy, countries develop an open economy that is difficult to manage with its partner countries' economies with foreign trade-economic, financial, scientific, technical, political and social channels. Similar to other countries, Georgia also develops an open economy, with the management of which is associated with many financial problems. To deal with these problems, our country cannot independently, without active cooperation with regional economic integration. In order to balance the positive and negative consequences of globalization, it is recommended by international financial - economic institutions and activities of large transnational companies Such a manner transformation of their economic interests According to sovereign state's domestic economic policies. On the other hand, sovereign states, with globalization in the face of economic security, mitigate, we must take the following economic activities: production growth, stimulate the production of export products, the openness of the economy to regulate the volume of production of goods and services increase, which will compete with the global head of states from their importation (Abuselidze, 2012). From this point of view, Georgia's cooperation with the European Union is very important in the Association Agreement. According to this agreement, the quality of goods and services produced in Georgia should be increased at the level of EU standards.

2. Problem formulation

Chronic deficits of foreign trade and financial balance sheet, high growth of external debt, high unemployment, low purchasing power of the population, high level of businessmen, political and economic instability, crime, corruption, Bar Nations abuse, and a devaluation of the currency. Sh. It is important to overcome the problems of our country's cooperation with the European Union, to ensure the recommendations proposed by this regional integration.

It is obvious that deepening of cooperation with developing countries is vital for developing countries and countries with transition economies, due to their backwardness in technological development. At the same time, the scarcity of capital and import from its developed countries is the basis for the development of their economies.

Cooperation between foreign trade, capital international movement and scientific and technical cooperation is developing in the relations between developed countries.

No one in the world can secure sustainable economic development without foreign economic ties. From this point of view it is clear that Georgia is interested in joining the

EU, but why is the EU interested in Georgia? The interest of EU Georgia is determined by: geographical position of our country, importance of postcommunist transformation, etc. While foreign trade of Georgia is suffering from chronic shortage. Exports of commodity products are dynamically rising during the last 25 years, but at a faster rate the import is increasing. As a result, the export of goods registered in 2017 amounted to 2728 million dollars, and the imported goods amounted to 7982.7 million dollars, while the foreign trade deficit amounted to -5254.7 million dollars (www.geostat.ge foreign trade).

In the aftermath of national independence (1990s), Georgia has suffered a chronic deficit of balance sheet of financial accounts, as the population's low income is low in internal savings. Foreign investments are attracted directly from abroad. This indicator reached the maximum significance for the last 25 years in 2017 and amounted to 1 861.9 million dollars, and in 2016 it was 1565.9 million dollars (www.geostat.ge direct foreign investments).

According to the parity of our country's proportion of purchasing capacity in 2013, the earnings earned 8040 dollars while in Armenia it was 8140 dollars, in Azerbaijan - 18180, in Russia - 23200, in Turkey - 18760 dollars (www. geostat.ge GDP, national income). This means that incomes of neighboring countries and their purchasing power is greater than in our country, e. Found. People live better there.

In 2016, the income in Georgia amounted to 7400 dollars, according to Parity Benefit per GDP per capita. According to this indicator, Georgia is ranked 139th in the world ranking and it is greatly exposed to countries such as Armenia, Turkmenistan, Belarus and Azerbaijan. In 2009, Georgia's GDP per capita in terms of parity purchasing capacity per capita amounted to GEL 5440, in 2010 - 5730 dollars, in 2011 - 6140 dollars, in 2012 - 6760 dollars, and in 2013, this figure reached $ 7040. (www. geostat.ge GDP, national income).

The welfare of the population depends not only on the amount of money, but also on how much money this money can buy, how much bread, meat or other products can be purchased by a certain amount of money. In Georgia and the United States, the same amount of goods that were taken and counted, it turned out that 60 USD is enough to buy the product that America needs about 100 dollars. That's why if the US has a monthly income of $ 1000 and Georgians - 600 dollars, they will be at one level (www. geostat.ge prices, inflation). At current prices, Georgia may have higher GDP per capita than the population, for example, Armenia, but what prices are in Armenia and Georgia, according to the rating. Here's one more factor to consider: how well this welfare is distributed, but it does not reflect the rating (www. geostat.ge GDP and National Income).

How equally is this wealth distributed in society? If this goodness is concentrated in the hands of a small part of society, it turns out that oligarchs live well, and most of them are in poor condition. If prosperity is more or less distributed, then we can assume that the society is homogeneous and there is a greater chance for the welfare of the

population there. Inequality in Georgia is twice as high as in many other countries. "For instance, in Georgia, we have to take 10% of the highest income, i.e. 450,000 people, their income ratio is the lowest income of 450,000 people is almost 18 times more. (www. geostat.ge living standard, minimum wage). This difference in Germany is a maximum of 8 times more. The income level and the level of inequality in Georgia per capita indicate that most of the population lives better than the absolute majority of our population in those countries.

In addition, there is a danger that eco-nomics stimulus will help to create an unopordinary structure due to improper calculations. One of such problems is the attitude of one of the particular economies of Georgia. Perhaps the threat may be exaggerated, but we think that resources can be mainly on tourist sites, perhaps a threat. More than half the employed in Georgia works in agriculture. However, the added value added by them is only 8% of the total value added. Clearly, the analysis here shows that Georgian agriculture cannot compete in any market of foreign countries and economics.

There are several reasons for this state of farmers and agricultural products. Among them can be distinguished: 1. Deterioration of land in agriculture; 2. Loss of traditional markets; 3. Low level of technical and technological equipments; 4. Low level of innovation; 5. Absence of quality monitoring systems. In Georgia, after the independence of the country, the land reform started to be the first step. Sadly, the land ownership was handed over to "Land-peasants" with a Bolshevik slogan. Farmers were given land to farmers (each plot of land was about 2500 m2, and in total the farmers received 1-1.5 ha of land, but they found themselves in their hands with the naked hands of the agricultural lands, and the agricultural techniques were robbed. The land was so small that there was no possibility of large scale harvesting Sebobda.

Without cooperatives succeeded in a competitive market. It should also be noted that competitiveness in agriculture is one of the cornerstones of the country's food security. In many small, EU countries agriculture produces not only agrarian products for this country but also the share of agriculture in export. The quality of production of Georgian products to European standards will remain the main condition of the national strategy.

The quality of Georgian production at the modern stage, according to a number of parameters, cannot meet European standards. In order to enhance it, it is necessary to outline the factors of the quality of our country's product. At the modern stage, the quality of Georgian products to the level of European standards are as follows: 1. Low low savings and low level of internal investment; 2. High interest rate and non-tariff barriers on credits; 3. High energy efficiency of manufactured products and higher price after energy independence; 4. Low technological level; 5. The oldest device; 6. Cheap but unqualified workers; 7. Monoculture, agriculture oriented to the former Soviet market; 8. Resource dependence; 9. Weak Infrastructure.

In addition, Georgia has a positive effect on the quality of product quality, the following are the following: 1. Cheap labor; 2. Climatic conditions; 3. Geographical location; 4. Liberal legislation. In order to improve the quality of production produced in Georgia, it is important to carry out such measures as the currency rate, and, therefore, the stabilization of prices, decrease of taxes, decrease in share savings, decrease interest rate, etc. All of these require adequate macroeconomic policies. Based on our goals, we should briefly review the role of financial-budgetary and monetary instruments in upgrading to quality standards.

Table no. 1. Dynamics of export and import of Georgian products in the EU in 2010-2017 (Million USD)

years	2010	2011	2012	2013	2014	2015	2016	2017
export	309,19	424, 45	352, 95	607,204	624,201	645,214	572,133	646,451
import	1466,6	2050,76	2428,75	2266,26	2371,98	2080, 9	2 215,13	2198,18
disbalance	-1154,4	-1626,3	-2075,8	-1659,0	-1747,8	-1435,7	-1642,9	-1551,7

Source: Revenue Service of the Ministry of Finance of Georgia. www.mof.ge

Table 1 shows the export-import dynamics of Georgian products in the EU in 2010-2017. This interval of time is interesting that Georgia has not yet signed the Association Agreement with the EU until 2014, and after 2014 it has been in cooperation with this Agreement. In 2014 customs restrictions were lifted to the EU in the European Union, but the lack of non-tariff barriers remained in control. As shown in the diagram, export growth has been characterized by 2014, and it has doubled in comparison with 2010. After 2014 the amount of exports has not changed significantly, compared to $ 73 million in comparison with the previous year in 2016, but the 2015 figure was restored in 2017. The continuous maintenance of the export of Georgian products to the EU in 2014 was due to the contradictory effect of the following two factors: 1. The European Union's demand for Georgia's product quality, which slowed the export growth and reduced its lending rate by 2.3 lari (which positively affected export growth. The impact of the Association Agreement has slowed the trend of growth of Georgian products exports to the EU in 2014.

In 2010-2014, the volume of imports also increased as compared to 61% in the interval of time, imports not exceeding 2018, but reduced significantly (by 7.25%). As regards EU reducing imports in Georgia, it was largely due to currency factors. As shown above, the signing of the Association Agreement has significantly reduced Georgia's trade balance with the EU.

This was due to the fact that the E-Roach in the framework of the Association Agreement has only eliminated customs duties on the way to import of goods from

Georgia, which reflected the prices of Georgian products imported to the EU. Georgian products had a high level of competitive competitiveness already. Georgian products in the EU market prevents the level of competitiveness according to quality. In this regard, the situation has not improved, the EU implements the same quality standards for imported products from Georgia, which is difficult to satisfy Georgian products. Therefore, in 2010-2017, Georgia's trade deficit with the EU was growing up to 2012, only in 2013, it was $ 14,177 million dollars - $ 14,47,8 million dollars.

What should be done to make Georgian products in the EU market? In this regard, it is interesting to study Estonian experiences where the share of agriculture sector has been reduced by almost 80% in 9 years at the initial stage of postcommunist transformation. The situation is improving after the reforms implemented in 1998. In particular, the new law was adopted after the phytosanitary sector, direct tax scheme and investment subsidies. This was accompanied by negotiations with the European Union and the World Trade Organization, among which are export subsidies. The financial support of the EU was created in 1998 for the agricultural sector, which would provide credit guarantor function for farmers in case of insufficient provision.

In this regard, Switzerland is among the developed countries in the first place according to subsidies directed towards the agricultural sector. It means subsidies in both agricultural and income sectors. For instance, in 2003 farmers' contributions (Producer Support Estimate (PSE) amounted to 74% of the total revenue received from agricultural products. The same rate is 32% in the EU. Orientation from fixed prices at the direct support policy was made. Direct aid includes two types of assistance: first - direct assistance of farmers - all farmers who meet certain conditions (ecological management practice - prestations écologiques requises - PER.). This is a compensation of the constitutionally defined tasks such as providing social structures in rural areas, maintaining the natural environment and ensuring supply of food products. Second, direct ecological assistance can be obtained by the farmers who voluntarily adhere to the ecological requirements rather than their law or ecological management practice. In 2002 the new policy of agriculture was adopted by the Parliament (AP 2002), which envisaged linking the farmers with direct assistance to the environmental products of ecologically pure products. The ecological standards defined by the farmers are required to be provided (for example, the use of pesticides and fertilizers and conditions of animal storage). The number of direct ecological benefits has increased significantly in 1999-2001, but still has little share in agricultural support.

The Association Agreement with the European Union implies economic integration with the integration of European countries and explains the EU market for Georgian entrepreneurs. In particular, the import tax on agricultural products was abolished. Implementation of the DCFTAs between Georgia and the EU on Deep and Comprehensive Free Trade Agreement will enable Georgia to improve its sanitary, phytosanitary and animal legislation. This kind of reform gives us the opportunity to

make Georgian food products more secure, as the EER's food safety standards are high and strict.

This event will increase the export of agricultural products to the EU, not the world market. Within the Association Agreement with the European Union Georgia will create a chance to get additional benefits that will improve the sanitary and phytosanitary standards in Georgia. Specifically, these are: 1. The sum of the car insurance will become higher and higher; 2. It will safeguard the health of consumers, as the product of high quality products makes it possible to spread diseases. 3. Georgian food products will be upgraded to international standards and will facilitate simplified legislative processes in relation to the EU. 4. The quality of the product increases sharply increases the potential potential of wind winds and credibility in international markets.

Georgia has taken a commitment to harmonize its own legislation with European sanitary and phytosanitary legislation, which is defined by the agreement on Deep and Comprehensive Free Trade Area with the European Union. In six months since the entry into force of the Georgian sanitary and phytosanitary rapprochement with the European Union, Georgia has elaborated a list of legislative acts within the framework of which Georgian legislation should be approximated to the European Union. Ministry of Agriculture, National Food Agency and other sectoral ministries are involved in the improvement of legislation.

According to the agreement, Georgia has identified 366 legal acts of the European Union. Including: food safety, micro-biological indicators of food safety; State control of food / animal food; Business Operator Recognition procedure; Food hygiene rules; General principles of food safety system; Identification of beef meat and its products; Maximum limits of residual substances, pollutants and pesticides; General requirements of materials touching food; Adjustment of food supplements.

Deep and Comprehensive Free Trade Area with DCFTA - DCFTA is the most important part of the Association Agreement, which explains the EU market for the production and service sector produced in Georgia. The DCFTA has been launched since September 1, 2014. Thus, the commodities generated in Georgia will be opened by the Eurobazar, which at this stage unites 28 countries and more than 500 million customers. Food production has been established with high standards of safety.

These standards will have to be taken by those companies who want to export food from Georgia to the EU. For this, they need to study the requirements, regulations and specifications related to the specific product and take care of the preparation of appropriate documentation before exporting. In this process the importance of laboratories recognized by the respective institutions of the EU will be very important in Georgia, which will have the power to inspect and certify the product. Exporters should pay attention to the quality of goods.

Quality standard is directly on the trading network or distributor, so exporters should take the information from the Partners in Europe. In recent years there is a

growing demand for products that are presented in ecologically clean environment, using less chemicals. Georgia, in its natural conditions, has the opportunity to take its own niche in the EU market and offer its customers a natural product.

The generalized system of preferences, the essence of which is the reduction of basic import tariff rates on imported goods from the beneficiary countries. Georgia is a beneficiary of generalized system regime of countries such as: EU, USA, Japan, Canada, Switzerland and Norway. The free trade regime implies the release of trade between the Contracting Parties and the Customs-Import Tax, except the exceptions. Georgia has free trade regime with the Commonwealth of Independent States and Turkey.

3. Research results

Depending on the above, we can say that there are a number of financial-economic problems in the Open Economy Management-Ment in the framework of the Association Agreement with the European Union, which include:

1. Georgia has a negative trade balance in trade relations with the EU. Exports will be increased, however, increasing the import is increasing;

2. Products made by Georgian companies do not meet the requirements of the European Union aspirant countries;

3. Unfortunately, the export of Russia is not unchanged in Georgia's export revenues, especially for wine, mineral waters and agricultural products;

4. Unfortunately, the level of unemployment is still high in Georgia;

5. Unfortunately, the level of food security is still low,

6. Regrettably, Georgia is still unwilling to utilize full transit potential for the European Union of Asian cargo in terms of European cargo shipments.

7. There is no political freedom in Georgia; political power brought by the majority mandate in the government does not have a serious account of the demands of the opposition as well as the population;

8. Unfortunately, the rights of voters are violated because the principle of "one person - one vote" is violated because the winner politicians of the elections enjoy no vote but with the right to vote, the voter has also voted for him in the elections.

4. Recommendations to tackle the problem

In order to eliminate the existing problems in the field of open economy management in the framework of the Association Agreement with the European Union, you should take the following measures:

1. In order to bring national legislation and practices to the level of sanitary and phytosanitary measures to meet the European level, our country needs financial and technical support from the EU.

2. Implementation of the Association Agreement with the European Union shall be abolished according to the category of many tariff products, at the same time shall be effective and effective use of non-tariff barriers.

3. Harmonization of the Georgian legislation with the European Union should be made in order to make the transition phase easier for the entrepreneur. A new space should be created for local EU legislation.

4. In the fields of technical barriers, sanitary and phytosanitary control of trade, the reform of the Georgian Reform will be adjusted to the requirements of the "Deep and Comprehensive Agreement on Free Trade".

5. Recognition and protection of personal and political rights of human, freedom, democratic values, and territorial boundaries of the country by the Georgian authorities and executive bodies.

5. Conclusions

Management of an open economy, the financial problems are identified, the appropriate measures can be set up to eliminate: in particular, still have to be developed and implemented in the short-term, quick impact such measures, such as: reduction of administrative and bureaucratic barriers, effective protection of property rights and their economic Acts, equal starting conditions and economic openness. These problems can be resolved with relatively easy and lower costs, since they depend on the political will of adopting the relevant legislative acts. The next step should be to develop and implement long-term effects such as: implementation of principles of economic democracy, radical changes in the economic base, radical conversion of the population awareness, economic growth of the nation, etc. which require more time, material, labor and financial expenses.

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ИЗБОРЪТ НА ДАНЪЧНА СИСТЕМА И ВРЪЗКАТА С ИКОНОМИЧЕСКИЯ РАСТЕЖ (ПАНЕЛНО ИЗСЛЕДВАНЕ НА СТРАНИТЕ ОТ ЕС)

Стоян Танчев, Мартина Якова

THE CHOICE OF TAX SYSTEM AND RELATIONSHIP WITH ECONOMIC GROWTH (PANEL DATA ANALYSIS OF A EU COUNTRIES)

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Abstract

The study analyzes the tax systems of Bulgaria, Greece, Hungary, Spain, Portugal, Germany, France, Belgium, the Netherlands and Austria in terms of consumption and hybrid tax system for the period 2003 - 2014.

The results show that in countries with consumption and hybrid tax system where economic growth is registered, taxes form up the necessary fiscal revenue in the budget. In times of crisis tax revenue are insufficient and a budget deficit is established. There are prerequisites for increasing the national debt due to the decreased revenue. In terms of crisis, in countries with a consumption tax system, the government debt is part of the expenditure policy of the parties. In countries with a hybrid tax system, debt has no such effect. The results establish a positive relationship between economic growth and government expenditure and negative between growth and tax revenues in both types of tax systems. For the analysis we have used econometric methods of multifactorial linear regression, including dummy variable (OLS with dummy variable) and Two-Stage Least Squares method (TSLS).

Keywords: *Direct taxes, Government expenditure, Government debt, Economic growth;*
JEL codes: H24; H25; H63

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1. Introduction

The types of taxes and their derivative tax system, are periodically at the center of the discussion in the shaping tax policy. J. Stiglitz (1994, pp. 540) states that there is a hard task standing before the modern distorting taxes, namely- how to approach the collection of fiscal revenues in terms of the economic cycle. R. Barro, X. Martin (1995, pp. 5) suggest that taxes imposed on consumption are non-deformable (VAT, excise and customs duties), while taxes on income and capital have distortionary effect on budget revenues and economic growth. Thus distorting taxes lead to lower incentives for investment in human capital and lower the process of economic growth. In models of endogenous growth, it is implied that the increase in expenditure, financed by non-distorting taxes, increases growth R. Barro (1990, pp.103).

As a choice between non-distorting taxes being imposed on con39sumption and distorting taxes being imposed on income and capital, many countries apply the income tax system (US, Japan, Denmark), others rely heavily on Hybrid System (France, Germany, Austria), others adhere to consumption tax system (Bulgaria, Hungary, Portugal, Greece).

As a choice between non-distorting taxes being imposed on consumption and distorting taxes being imposed on income and capital, many countries apply the income tax system (US, Japan, Denmark), others rely heavily on hybrid system (France, Germany, Austria), others adhere to tax system of user type (Bulgaria, Hungary, Portugal, Greece).

The aim of this paper is to analyze the budget revenue generated from distorting direct and indirect taxes during growth and crisis. And then to show the relationship between economic growth and government expenditure in terms of consumption and hybrid tax system. Table 1 shows the two types of taxes which form the revenue of surveyed EU countries.

Table no. 1

Distorting (direct) taxes	Non-distorting (indirect) taxes
Tax on Income	**VAT**
Tax on Capital	**Excise**
Tax on Dividends	**Customs Duties**

The study consists of two parts:

The first part analyses the tax systems of Bulgaria, Greece, Hungary, Spain and Portugal in terms of consumption tax system;

The second part analyses the tax systems of Germany, France, Belgium, Netherlands and Austria in terms of hybrid tax system.

2. Literature review

In the economic literature there are many studies that explain the relationship between the different types of taxes, government expenditure and economic growth. In a panel survey of more than a hundred countries for the period 1970-1988, W. Easterly and S. Rabelo (1993, pp. 417-458) found a positive relationship between government expenditure and economic growth. They have confirmed that if government expenditure is designated for the development of transport, communications and education, there is a directly proportional relationship with growth.

P. Cashin (1995, pp. 237-269) proves the relationship between economic growth and government expenditure panel survey of twenty-three countries for the period 1971-1988. They have found a positive relationship between government transfers, public investment and growth. The results confirm the presence of a negative relationship between distorting taxes and growth.

L. Berasovenu and Lillian Berasovenu (2009, pp. 19-26) analyze the tax, non-tax revenue and the link with economic growth in Romania for the period 1990-2007 with correlation and regression analysis and they have found that lowering the amount of direct taxes is inversely related to economic growth.

The link between government expenditure and economic growth for South Africa was investigated by M. Orkan (2009, pp. 22-24) for the period 1990 - 2004 with vector autoregressive model. He has published the results that government expenditure for consumption, gross capital formation are in positive correlation with economic growth.

In a panel survey of N. Benos (2009, pp. 1-32), comprising fourteen EU countries for the period 1990-2006, with a least squares model, it was found that distorting taxes recorded negative correlation with economic growth. There is a positive relationship between productive government expenditure and growth and negative between unproductive government spending (social spending) and growth. Similar results of empirical studies are published by B. O'Connor (2013, pp. 511-540), G. Bacarreza, M., Vazquez and V. Vulovic (2013, pp. 1-48).

V. Gaspar and et al. (2016, pp. 1-40) examined the relationship between economic growth and tax rates. They have found that the threshold of taxation is 12.88% of GDP per capita. It is assumed that if you adopt this tax amount in a period of ten years, GDP per capita will grow by 7.5%.

In a study, Blagoeva (2012, pp. 28-35) proves that there is a relation between economic growth and budget expenditure. She analyzes data for the period 1996-2011 for the EU27 countries and Bulgaria.She shows that in Bulgaria state intervention is limited,

which affects economic growth. In another survey about Bulgaria I. Todorov (2011, pp. 23-27) shows that under the terms of a currency board economic growth depends on the flexibility of domestic markets, from rapid improvement Competitiveness of national economy and from adapting it to the new one international conjuncture.

3. Methodology and empirical results

The type of the used regression method depends on the trend fluctuations in the variables. The presence or absence of non-stationary process (unit root) is the basis of linear and nonlinear regression methods. The summary test for the establishment of a unit root has been applied (see Appendix A1, A3 and B1, B3) in panel data at a level of probability of error of 5%. The results show stationarity and reject the existence of a unit root in the time series data in countries with consumption tax system (see Appendix A1). In countries with a hybrid tax system (see Appendix B2) there was evidence of non-stationary process in the variables of tax revenue, VAT, excise, income tax, tax on capital and dividends. In variables of countries with consumption tax system (see Appendix A3) a unit root was established in variables of budget revenues, government spending and debt. In countries with a hybrid tax system there is also a unit root in variables of budget revenue government spending and debt.

Within the variables where non-stationary process are registered, the first differences have been calculated.

The Correlations (see Appendix A2 and B2) are based on multi co-linear processes. According to Ramanathan (1995, p. 450), however, the presence of multi co-linear processes lowers the reliability of the calculation procedure and has no significant impact on the results of the study. The results form a positive correlation between all studied variables. In countries with a consumption system, the relationship between tax revenues and revenues from non-distorting indirect taxes is much stronger. Relatively, a weaker correlation has been established between dividends and tax revenues. In countries with a hybrid tax system there is a strong correlation between distorting direct taxes and tax revenues.

I. Revenue Analysis of distorting (direct) and non-distorting (indirect) taxes in general government budget for the period 2003 - 2014 for the countries: Bulgaria, Greece, Hungary, Spain and Portugal in terms of consumption tax system.

We have used standard linear regression included dummy variable for calculating the parameters. Dummy variable sets the strength and direction of the connections in times of economic growth and in times of crisis. The regression equation is as it follows.

(1)

$$Y_t = C + X_{it} + EXPT(0,0/1,0) + \varepsilon_t$$

Where:

Y_t - share of tax revenue in the budget of Bulgaria, Greece, Hungary, Spain and Portugal;

X_{it} - Share of revenues from direct and indirect taxes (VAT, excises, duty, income, corporate, dividends) of Bulgaria, Greece, Hungary, Spain and Portugal;

EXPT (0,0/1,0) – with included dummy variable where the value (1,0) is in terms of growth (2003-2008) and the value (0,0) is in terms of crisis (2009-2014) ;

ε_t - Vector of residues;

Table no. 2. DEPENDENT VARIABLE: TAX REVENUE

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	6.474394	6.328895	3.022990	0.0215
VAT	0.340426	0.627346	2.614864	0.0188
Excises	0.228858	3.742556	2.194749	0.0480
Duty	0.001664	0.098783	2.375389	0.0123
Corporate tax	0.164188	0.741349	2.649478	0.0175
Income tax	0.209890	0.464631	8.242869	0.0000
Dividends	-6.422950	5.131124	-1.251763	0.2286
EXPT=1	0.060646	2.057890	2.719022	0.0425

R-squared	0.900911	Mean dependent var	39.11667
Adjusted R-squared	0.857559	S.D. dependent var	4.027694
S.E. of regression	1.520106	Akaike info criterion	3.936639
Sum squared resid	36.97155	Schwarz criterion	4.329323
Log likelihood	-39.23966	Hannan-Quinn criter.	4.040818
F-statistic	20.78149	Durbin-Watson stat	1.701395
Prob(F-statistic)	0.000000		

The results show that the most important tax revenue (see Table 2) of Bulgaria, Greece, Hungary, Spain and Portugal have the VAT revenues. This is confirmed by the coefficients of the variable (0.340426). Comparing it to the coefficients of tax revenues (6.474394) show as that for a unit formed tax revenue, the average amount of 34% are formed by VAT. The coefficients of other taxes show that excises are the second most important revenue source for the budget with registered coefficient (0.228858). Therefore, the taxation of consumption (non-distorting taxes) is essential to tax revenues in the budgets of these countries. Duties provide income lower than one percent. Revenues from taxes on consumption, confirm the existence of consumption tax system.

Taxation on income and capital (distorting taxes) establishes a minor significance on the budget revenues. Revenues from income taxes are about 20% of all tax revenues with registered coefficient (0.209890) and corporate taxation provides revenue budget of approximately 16% with coefficient (0.164188). Revenue growth during the crisis and growth depends on the sign, standing before the coefficient EXPT. Therefore, during growth, it can be assumed that the tax system that primarily relies on income on consumption is able to collect the necessary fiscal resources. This result is established by the positive sign (0.060646) before the coefficient of dummy variable EXPT = 1. Comparing the result of EXPT = 1 to the coefficient of tax revenues (6.474394) a conclusion can be drawn that tax systems of consumption type , the revenues during growth, which are mainly formed by consumption taxes tend to increase.

Table no. 3. DEPENDENT VARIABLE: TAX REVENUE

Variable	***Coefficient***	***Std. Error***	***t-Statistic***	***Probability***
Constant	6.474394	6.328895	3.022990	0.0215
VAT	0.340426	0.627346	2.614864	0.0188
Excises	0.228858	3.742556	2.194749	0.0480
Duty	0.001664	0.098783	2.375389	0.0123
Corporate tax	0.164188	0.741349	2.649478	0.0175
Income tax	0.209890	0.464631	8.242869	0.0000
Dividends	-6.422950	5.131124	-1.251763	0.2286
EXPT=0	-0.060646	2.057890	-2.719022	0.0425

R-squared	0.900911	Mean dependent var	39.11667
Adjusted R-squared	0.857559	S.D. dependent var	4.027694
S.E. of regression	1.520106	Akaike info criterion	3.936639
Sum squared resid	36.97155	Schwarz criterion	4.329323
Log likelihood	-39.23966	Hannan-Quinn criter.	4.040818
F-statistic	20.78149	Durbin-Watson stat	1.701395
Prob(F-statistic)	0.000001		

The results in terms of crisis (see Table 3) show an inversely proportional relationship. Revenues from consumption taxes tend to decrease. This trend is established by the existence of a negative sign (-0.060646) before the coefficient EXPT = 0. It is assumed that during crisis, countries which rely mostly on income on consumption, are not able to provide the necessary fiscal resources in the budget. This conclusion is confirmed by the inversely proportional relationship between EXPT = 0 and the coefficient of tax revenues (6.474394). Under these conditions, it can be assumed that the negative coefficient EXPT = 0 leads to decreasing the tax revenues.

J. Keynes (1936, p. 125) believed that saving money would no stimulate the economy. If people did not spend a good amount of their money, there would be no distribution of money anywhere. Therefore, if in terms of crisis, the society is not ready to spend, and is more likely to save, the income tax being imposed on the consumption, decrease. This conclusion suggests that consumption taxes have a distortionary impact on revenues. In those circumstances, if you seek to achieve a balance in times of crisis, when indirect taxes prevail, between income and expenditure it is necessary either to limit the government spending, or to stimulate demand with higher deficit spending and subsequent increase in government debt. In a period of lower collection at prevailing consumption taxes, we can draw the conclusion that requires a further study of government debt as a determinant of government spending. Enclosed is a multifactor linear regression in the form of least squares method.

The equation has the following expression:

(2)

$$Y_t(GS) = \beta_0 + \beta_1(TR) + \beta_2(GD) + \varepsilon_t$$

Where:

$Y_t -$ government spending as a share of GDP (period 2010-2014) of Bulgaria, Greece, Hungary, Spain and Portugal;

$\beta_1 -$ tax revenue as a share of GDP (period 2010-2014) of Bulgaria, Greece, Hungary, Spain and Portugal;

$\beta_2 -$ government debt as a share of GDP (period 2010-2014) of Bulgaria, Greece, Hungary, Spain and Portugal;

$\varepsilon_t -$ vector of residues;

Table no. 4. DEPENDENT VARIABLE: GOVERNMENT EXPENDITURE

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	21.49267	5.343712	4.022048	0.0004
Tax revenue	0.672282	0.150686	3.134205	0.0041
Government debt	0.075413	0.014747	5.113811	0.0000

R-squared	0.811513	Mean dependent var	47.53333
Adjusted R-squared	0.797551	S.D. dependent var	6.216626
S.E. of regression	2.797128	Akaike info criterion	4.989703
Sum squared resid	211.2460	Schwarz criterion	5.129823
Log likelihood	-71.84555	Hannan-Quinn criter.	5.034529
F-statistic	58.12302	Durbin-Watson stat	1.160615
Prob(F-statistic)	0.000000		

The results (see Table 4) show that between tax revenues and government expenditure there is a directly proportional relationship. Therefore, taxes are a major fiscal factor in securing expenditure policy in the surveyed countries and provide more than 2/3 of all the revenue collected in the government budget. The correlation is confirmed by the coefficient of tax revenues (0.672282) compared to government expenditure coefficient (21.49267). The Government Debt registers a coefficient (0.075413) and is also in a directly proportional relationship with the dynamics of government expenditure. Therefore, in times of crisis, it can be assumed that relying primarily on consumption taxes, total tax revenues provide about 67% of all budget revenues. There is a need for additional financial resources, as regarding the expenditure policy, the government debt provides approximately 7%.

Assuming that the tax system is the ratio between the types of tax revenues and government expenditure, the taxes are nothing more than a redistribution in the budget. This case requires the necessity, in regard to the studied countries to clarify the impact of government expenditure on the dynamics of economic growth. The results (see Table 5) of the correlation "government spending – economic growth" in prevailing consumption tax system. For the calculations we have used a two-step linear regression. The methodology itself is reasonable, as it eliminates all other variations that have an impact on the dependent variable with included instrumental variables. In the regression equation dependent and independent variables are represented in logarithms values. The dependent variable is the dynamics of economic growth represented by the GDP growth. Independent variables are budget revenues and expenditure expressed as shares of the GDP. Instrumental variables are lagged values in period t-1 of budget revenues, expenditures and debt.

The regression equation is represented by the following standard form:

(3)

$$log\ GDP = C + \log Rev + logExp + \varepsilon$$

For instrumental variables:

$$C = logDebt - 1\ logRev - 1\ logExp - 1$$

Where:

$GDP -$ growth rate of the GDP for the period 2003-2014;

$Rev -$ growth rate of government revenues for the period 2003-2014;

$Exp -$ growth rate of government expenditure for the period 2003-2014;

$\varepsilon_t -$ vector of residues.

The results (see Table 5) indicate an inversely proportional relationship between economic growth and government revenues. This relation is established by the negative sign of Revenue (-0.419717) compared to the growth dynamics with registered coefficient (6.738195). Under these conditions, it may indicate that the imposition of taxes on income and consumption leads to contraction of growth. By means of redistribution through the budget, the government expenditure is a mechanism to promote

economic growth. Barro, R. (1990, pp. 103) proves that there is a positive relationship between government spending and economic growth and negative between tax revenue and growth. The theory is empirically tested for OECD countries from Kneller et al. (1999,pp. 171-190) , who has confirmed that the government expenditure have a positive impact on growth, while taxation and economic growth are in an inversely proportional relationship. Similar results are established in this analysis. A positive relationship between government expenditure with coefficient (0.147886) has been registered, compared to the growth dynamics (6.738195). Resulting from the so formed directly proportional relationship, it is established that government expenditure creates conditions for increasing economic growth. Therefore the redistribution through the budget of the studied countries is approximately 42% and approximately 14% of the total economic growth is caused by government expenditure.

Table no. 5. DEPENDET VARIABLE: ECONOMIC GROWTHINSTRUMENTAL LIST: log(debt-1) log(rev-1) log(exp-1)

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	6.738195	0.366772	18.37164	0.0000
Log(REV)	-0.419717	0.145023	-2.894141	0.0054
Log(EXP)	0.147886	0.199209	3.490649	0.0016

R-squared	0.388450	Mean dependent var	4.622858
Adjusted R-squared	0.366992	S.D. dependent var	0.088656
S.E. of regression	0.070536	Sum squared resid	0.283596
F-statistic	18.08382	Durbin-Watson stat	0.337585
Prob(F-statistic)	0.000001	Second-Stage SSR	0.283712
Instrument rank	4		

The Granger causality test of the existence of causal relations has been applied in this part of the analysis. Using Granger's relations suggests that the reason precedes the investigation. The null hypothesis rejects the existence of causation, and the alternative sets the opposite. The calculations (see Appendixes C1 and C2) were considered significant at the level of probability of error of 5%.

The results show that in countries with prevailing consumption tax systems (see Appendix C1), government expenditure have a leading position in the development of the economy. The expenditure determines the dynamics of economic growth, which demonstrates the approach of Keynes. On the other hand government revenues do not affect the dynamics of government expenditure and government expenditures determine the dynamics of government revenue revenues. This result shows why these countries are using debt during crisis as part of their expenditure policy.

II. Analysis of revenues from distorting (direct) and non-distorting (indirect) taxes in the general government budget for the period 2003 - 2014 for the countries Germany, France, Belgium, the Netherlands and Austria in terms of hybrid tax system.

For calculation of coefficients econometric methodology has been used once again, in the form of linear regression, which includes a dummy variable.

The regression equation is as follows:

(4)

$$Y_t = C + X_{it} + EXPT(0,0/1,0) + \varepsilon_t$$

Where:

Y_t - share of tax revenue in the budget of Germany, France, Belgium, the Netherlands and Austria;

X_{it} - share of revenues from direct and indirect taxes (VAT, excise, duties, income, capital, dividends) of Germany, France, Belgium, the Netherlands and Austria;

EXPT (0,0/1,0) – included a dummy variable where the value (1,0) is in times of growth (2003-2008) and value (0,0) is in times of crisis (2009-2014);

ε_t - Vector of residues;

Table no. 6. DEPENDENT VARIABLE: TAX REVENUE

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	48.61007	4.317489	11.25888	0.0000
VAT	-0.256989	0.211650	-5.782673	0.0084
Excises	-0.236044	0.267450	-6.491093	0.0000
Duty	-0.131950	1.465430	-2.341941	0.0242
Corporate tax	0.286602	0.149376	2.316154	0.0456
Income tax	0.212366	0.404688	3.588859	0.0009
Dividends	0.152033	0.874347	3.376270	0.0016
EXPT=1	1.635416	0.280064	5.839431	0.0000

R-squared	0.958212	Mean dependent var	47.97083
Adjusted R-squared	0.950900	S.D. dependent var	3.226351
S.E. of regression	0.714915	Akaike info criterion	2.317704
Sum squared resid	20.44411	Schwarz criterion	2.629571
Log likelihood	-47.62490	Hannan-Quinn criter.	2.435559
F-statistic	131.0318	Durbin-Watson stat	1.463659
Prob(F-statistic)	0.000000		

Table no. 7. DEPENDENT VARIABLE: TAX REVENUE

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	46.97466	4.377583	10.73073	0.0000
VAT	-0.256989	0.211650	5.782673	0.0084
Excises	-0.236044	0.267450	6.491093	0.0000
Duty	-0.131950	1.465430	2.341941	0.0242
Corporate tax	0.286602	0.149376	2.316154	0.0456
Income tax	0.212366	0.404688	3.588859	0.0009
Dividends	0.152033	0.874347	3.376270	0.0016
EXPT=0	-1.635416	0.280064	-5.839431	0.0000

R-squared	0.958212	Mean dependent var	47.97083
Adjusted R-squared	0.950900	S.D. dependent var	3.226351
S.E. of regression	0.714915	Akaike info criterion	2.317704
Sum squared resid	20.44411	Schwarz criterion	2.629571
Log likelihood	-47.62490	Hannan-Quinn criter.	2.435559
F-statistic	131.0318	Durbin-Watson stat	1.463659
Prob(F-statistic)	0.000000		

There are some interesting conclusions regarding the results during growth and crisis (see Tables 6 and 7) in terms of hybrid tax system. During the economic growth, it has been established that revenues from distorting (direct) and non-distorting (indirect) taxes are able to form the planned government revenues. This relationship is established by the existence of a directly proportional relationship between the coefficient of dummy variable EXPT = 1 (1.635416) and the dynamics of tax revenues (48.61007). The proportion of the two coefficients shows that in the period of economic growth (see Table 6) the positive value of EXPT = 1 forms an upward trend in tax revenues. In times of economic crisis, see (Table 7) an inverse correlation is formed. Revenues from direct and indirect taxes have not been able to form the necessary revenues to the budget. This result establishes the presence of the inversely proportional relationship between the constant tax revenues and dummy variable during the crisis. The registered factor EXPT = 0 is (-1.635416) which leads to decreasing the rates of tax revenues with a registered coefficient (46.97466). The coefficient of the dummy variable during growth creates conditions, ceteris paribus, to be assumed that tax revenues increase. In times of crisis the negative sign in front of dummy variable, forms a conclusion that revenues from direct and indirect taxes rather tend to decrease. It was found that during growth, the tax revenue coefficient (48.61007) is higher than the constant coefficient (46.97466) during crisis. In the condition of a hybrid tax system the general revenues from direct distorting and

indirect non-distorting taxes are aligned. As with consumption tax system it is established once again that in times of crisis revenues are insufficient. Therefore, in both types of tax systems, tax revenues are insufficient in view of public expenditure policy. Under these conditions it is necessary to trace the effects of tax revenue and debt on government expenditure.

The equation has the following form:

(5)

$$Y_t(GS) = \beta_0 + \beta_1(TR) + \beta_2(GD) + \varepsilon_t$$

Where:

$Y_t -$ government expenditure as a share of GDP (2010-2014) of Germany, France, Belgium, the Netherlands and Austria;

$\beta_1 -$ tax revenues as a share of GDP (2010-2014) of Germany, France, Belgium, the Netherlands and Austria;

$\beta_2 -$ government debt as a share of GDP (2010-2014) of Germany, France, Belgium, the Netherlands and Austria;

$\varepsilon_t -$ vector of residues;

The results are presented in Table 8.

Table no. 8. DEPENDENT VARIABLE: GOVERNMENT EXPENDITURE

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	-8.140493	0.207445	-2.563241	0.0096
Tax revenue	0.710679	0.161317	8.496817	0.0000
Government debt	-0.073023	0.002523	-2.717270	0.0500

R-squared	0.855314	Mean dependent var	51.23000
Adjusted R-squared	0.844597	S.D. dependent var	4.498134
S.E. of regression	1.773219	Akaike info criterion	4.078110
Sum squared resid	84.89628	Schwarz criterion	4.218230
Log likelihood	-58.17165	Hannan-Quinn criter.	4.122936
F-statistic	79.80562	Durbin-Watson stat	0.571589
Prob(F-statistic)	0.000000		

The results (see Table 8) show that tax revenues generate approximately 71% of the funds invested in the spending policy of the surveyed countries. There is a directly proportional relationship between the dynamics of tax revenues and government expenditure. This result is established by the coefficient of revenues (0.710679) compared to the coefficient of government expenditure (-8.140493). Another important specificity

in the regression equation is the presence of a negative sign registered by the national debt by a coefficient of (-0.073023). The basic rule is that if there is a deficit during crisis, the government debt has a compensating effect and is aimed at stimulating the consumption demand. The result shows that the attraction of new debt does not lead to the preservation of expenditure policy, but rather to refinancing old debts in the country.

As mentioned above, the specifics of the tax system is a combination of various types of tax revenues and subsequent costs to the presence of redistributive effect on the economy. The relationship (see equation 6) between economic growth, government revenues and government expenditure in terms of hybrid tax system has been analyzed. The regression equation is represented by the following standard form:

(6)

$$log\ GDP = C + \log Rev + logExp + \varepsilon$$

For instrumental variables:

$$C = logDebt - 1\ logRev - 1\ logExp - 1$$

Where:

$GDP -$ growth rate of GDP for the period 2003-2014;

$Rev -$ growth rate of budget revenues for the period 2003-2014;

$Exp -$ growth rate of government expenditure for the period 2003-2014;

$\varepsilon_t -$ vector of residues;

Table no. 9. DEPENDET VARIABLE: ECONOMIC GROWTHINSTRUMENTAL LIST: log(debt-1) log(rev-1) log(exp-1)

Variable	Coefficient	Std. Error	t-Statistic	Probability
Constant	80.48703	12.21670	6.588282	0.0000
Log(REV)	-0.471110	0.137773	2.715334	0.0422
Log(EXP)	0.186410	0.125320	-2.064062	0.0492

R-squared	0.109057	Mean dependent var	107.1545
Adjusted R-squared	0.074790	S.D. dependent var	6.233981
S.E. of regression	5.996333	Sum squared resid	1869.713
F-statistic	2.384510	Durbin-Watson stat	0.226451
Prob(F-statistic)	0.102139	Second-Stage SSR	1922.280
Instrument rank	4		

The results (see Table 9) show that government revenues (-0.471110) lead to decreasing the economic growth (80.48703). This result is logical in view of the economic justification as revenues led to the seizure of liquid assets from the economy. Government expenditure, however, has registered a positive coefficient (0.186410) that leads to increasing the economic growth while the redistribution through the budget

forms about 47%. Comparing these results with the results of the consumption tax system, it can be summarized that redistribution through the budget here is higher. Government expenditure, which financial means mainly depend on government revenues, provides about 19% of the total economic growth.

By applying Granger's test (see Appendix C2) there are some results which are contrary to the results observed in the countries with consumption tax system. Government expenditure here is not essential for economic development. In countries with a hybrid tax systems government expenditure mainly depend on government revenues. Economic growth determines the dynamics of government expenditure, which proves a completely different approach (Wagner's Law) in the selection of state policy. I.e. if the economy registers higher growth, it leads to higher income and therefore higher spending.

4. Conclusions

I. Given the empirical and statistically backed attempt to analyze the revenues from non-distorting indirect and distorting direct taxes in the state budgets of Bulgaria, Greece, Hungary, Spain and Portugal, in terms of consumption tax system, and based on the econometric models, we can make some generalizations.

During economic growth, it is establishes that consumption tax system which mainly relies on revenue from consumption taxes (non-distorting taxes) is able to collect the necessary fiscal resources. Tax revenues in the budget provide about 2/3 or 67% of all the collected revenue.

During economic crisis, the opposite dependence is observed. Revenues, depending on consumption taxes, tend to decrease. Countries, which mainly rely on revenue from consumption taxes, may not be able to provide the necessary fiscal resources in the budget.

During economic crisis, public debt is in a directly proportional relation to the dynamics of government expenditure. Therefore, relying primarily on consumption taxes, arises the need for additional financial resources, as for the expenditure policy the government debt provides approximately 7% of the financial resources. Government expenditure, on the other hand, determines the dynamics of economic growth.

government revenues, as the redistribution through the budget is approximately 42 % of GDP. A directly proportional relationship between government expenditure and economic growth has been established. About 14% of the total economic growth is caused by the role of the state and the government expenditure.

II. In tax system of a hybrid type, where the revenues of Germany, France, Belgium, the Netherlands and Austria have been analyzed, we find that the necessary fiscal resources in the budget are formed in terms of economic growth. Tax revenues provide in the budget over 2/3 or 71% of the total collected revenues.

During crisis, we observe the inverse correlation. The budget revenues, depending by the consumption taxes and the income taxes, tend to decreased.

During economic crisis, the government debt is inversely related to government expenditure. Therefore, the debt is not part of government expenditure policy. There is a inversely proportional relationship between economic growth and government revenues, as the redistribution through the budget amounts to 47% of the GDP. A directly proportional relationship has been found between the government expenditure and economic growth. About 18% of the total economic growth is caused by the role of the state and of government expenditure. The role of economic growth has a high importance to the dynamics of government expenditure.

It is important to note that in countries with higher taxes and higher redistributive share, as a percentage of GDP, the government expenditure has higher efficiencies than countries with lower tax rates and a lower percentage of redistribution.

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Appendixes A (Bulgaria, Greece, Hungary, Spain and Portugal)

Appendix A1 Panel Data, Unit Root test (2003 – 2014)

Test critical values: 5% level	*Levin, Lin & Chu t**	*Prob.***	*Cross-sections*	*Obs.*
Tax Revenue	-4.52345	0.0014	3	33
VAT	-7.35267	0.0002	3	33
Excise	-37.6707	0.0000	3	33
Duties	-16.5592	0.0000	3	33
Corporate Tax	-2.81068	0.0025	3	33
Income Tax	-6.32495	0.0001	3	33
Dividends	-2.91790	0.0018	3	33

Appendix A2
Correlations Panel Data (2003 – 2014)

	GR	VAT	EXC	M	CT	IT	DIV
GR	1.000000						
VAT	0.386511	1.000000					
Excise	0.198984	0.592012	1.000000				
Duties	0.072824	0.611154	0.993755	1.000000			
CT	0.147568	0.029295	0.122223	0.081818	1.000000		

IT	0.106472	0.769792	0.486509	0.458143	0.243675	1.000000	
DIV	0.230677	0.691296	0.316989	0.363099	0.425812	0.395736	1.000000

Appendix A3
Panel Data, Unit Root test (2003 – 2014)

Test critical values: 5% level	*Levin, Lin & Chu t**	*Prob.***	*Cross-sections*	*Obs.*
GDP	-3.37041	0.0004	5	50
BR	-1.15055	0.1250	5	50
(D)GR	-3.73680	0.0001	5	45
GEXP	-1.22562	0.1102	5	50
(D)GEXP	-3.24851	0.0006	5	45
GDEBT	-0.68720	0.2460	5	50
(D)GDEBT	-1.58475	0.0465	5	45

Appendix B (Germany, France, Belgium, Netherlands and Austria)

Appendix B1 Panel Data, Unit Root test (2003 – 2014)

Test critical values: 5% level	*Levin, Lin & Chu t**	*Prob.***	*Cross-sections*	*Obs.*
Tax Revenue	1.76802	0.9615	5	55
(D)Tax Revenue	-6.44583	0.0000	5	50
VAT	-1.93552	0.0265	5	55
(D)VAT	-4.85356	0.0000	5	50
Excise	-1.33403	0.0911	2	22
(D)Excise	-4.59441	0.0000	3	30
Duties	-2.09360	0.0181	4	44
Corporate Tax	-1.53962	0.0618	4	44
(D)Corporate Tax	-4.94314	0.0000	4	40
Income Tax	-0.30624	0.3797	5	55
(D)Income Tax	-3.86763	0.0001	5	50
Dividends	-1.13974	0.1272	4	44
(D)Dividends	-7.21535	0.0000	4	40

Appendix B2
Correlations Panel Data (2003 – 2014)

	GR	VAT	EXC	M	CT	IT	DIV
GR	1.000000						
VAT	0.285713	1.000000					
Excise	0.224662	-0.521422	1.000000				
Duties	0.134718	-0.669584	0.633932	1.000000			
IT	0.472745	0.174761	-0.475014	0.263557	1.000000		
CT	0.354815	-0.350561	0.275169	0.521622	0.292688	1.000000	
DIV	0.220870	-0.538043	-0.103500	0.461310	0.519468	0.555290	1.000000

Appendix B3
Panel Data, Unit Root test (2003 – 2014)

Test critical values: 5% level	*Levin, Lin & Chu t**	*Prob.***	*Cross-sections*	*Obs.*
GDP	-3.48681	0.0002	5	50
BR	1.65155	0.9507	5	50
(D)GR	-2.36546	0.0090	5	45
GEXP	-2.22837	0.0529	5	50
(D)GEXP	-4.81227	0.0000	5	45
GDEBT	0.20670	0.5819	5	50
(D)GDEBT	-3.87555	0.0001	5	45

Appendix C1
Pairwise Granger Causality Tests (2003 – 2014)

Null Hypothesis:	Obs	F-Statistic	Prob.
GR does not Granger Cause GDP	50	1.69160	0.1957
GDP does not Granger Cause GR		2.77125	0.0733
EXP does not Granger Cause GDP	50	9.46203	0.0004
GDP does not Granger Cause EXP		1.30833	0.2804
EXP does not Granger Cause GR	50	6.56361	0.0032
GR does not Granger Cause EXP		0.09809	0.9068

Appendix C2
Pairwise Granger Causality Tests (2003 – 2014)

Null Hypothesis:	Obs	F-Statistic	Prob.
GR does not Granger Cause GDP	50	1.22217	0.3042
GDP does not Granger Cause GR		1.40582	0.2557
EXP does not Granger Cause GDP	50	0.48190	0.6208
GDP does not Granger Cause EXP		3.21094	0.0497
EXP does not Granger Cause GR	50	2.05210	0.1403
GR does not Granger Cause EXP		8.45645	0.0008

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МОДЕЛИРАНЕ НА ИНФЛАЦИОННИТЕ ПРОЦЕСИ В УЗБЕКИСТАН НА ОСНОВАТА НА НОВАТА КЕЙНСИАНСКА КРИВА НА ФИЛИПС

Сардор Садиков

MODELLING OF INFLATIONARY PROCESSES IN UZBEKISTAN ON THE BASIS OF THE NEW KEYNESIAN PHILIPS CURVE

Sardor Sadykov [1]

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Abstract

The paper presents the results of an empirical evaluation of various types of new Keynesian Phillips curves for modeling inflation dynamics in Uzbekistan in particular, was rated "standard" form of the new Keynesian Phillips curve, its modification for a small open economy, as well as a hybrid form of this curve, which, along with the rational (being proactive (forward-looking)) inflation expectations also considers adaptive (nasal spray (backward-looking)) inflation expectations.

According to the results of the evaluation of the new Keynesian curves of Phillips, the degree of influence of forward-looking inflation expectations and the deviation of the average marginal cost of production from the equilibrium level on inflation in Uzbekistan were determined, additional macroeconomic factors of inflation were identified, and the degree of relevance of the inflation expectations in relation to inflation and its comparison with the degree of influence on inflation of forward-looking inflation expectations was calculated.

The results of the study can be used to improve the efficiency of the development and implementation of monetary policy in Uzbekistan within the framework of the inflation targeting regime. Also, this study can serve as a basis for further modeling of economic processes in the framework of the approach of the new Keynesian theory in Kazakhstan and in other countries with economies in transition.

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JEL Codes: *C36, D84, E31, E52*

After the change of power in Uzbekistan, reforms began. The new head of the Central Bank of Uzbekistan has been tasked with successfully applying the inflationary trade regime. To date, the stability and the limitation of inflation processes is the main objective of the Central Bank of the Republic of Uzbekistan, however, from September 2017, the Central Bank of the Republic of Uzbekistan Announced plans to switch to the inflation targeting regime until 2020. In this regard, the task of analyzing, modeling and forecasting the dynamics of inflation processes in Uzbekistan to effectively implement the monetary policy of the Central Bank, contributing to the stable development of the economy of Uzbekistan.

It should be noted that in the development of monetary policy within the framework of the inflation targeting regime, special attention is paid to the quantitative assessment and analysis of the relationship of inflation with the current level of inflation. This allows the regulator to create and take appropriate measures to influence the inflation expectations of economic agents to achieve the set medium-term inflation target. At the same time, it is important to assess and analyze additional macroeconomic factors of inflation. Thus, timely localization of various shocks, correctly analyzed inflation factors, in case of their causes can prevent price level jumps in the economy.

The choice of the analyzed period is explained by what happened in the beginning of 1996, and on the eve of the year, which was the starting point for the stabilization and further development of the economy after the collapse of the Soviet Union, clearly sets the task of reducing inflation. In addition, this shelter is associated with the diversification of the economy of Uzbekistan.

One of the features of this work is the use of the core inflation index in the modeling of inflation processes, which excludes the impact of administrative measures on pricing processes and the impact of volatile components such as prices for fruit and vegetable products and fuel. And in modern economic science one of the advanced directions theoretical and applied modeling of inflation dynamics the processes are a new Keynesian Phillips curve (NKPC, the New Keynesian Phillips Curve). Thus, the NKPC assessment allows to determine the degree of the impact on inflation of inflation expectations, marginal cost deviations of producers from the equilibrium level and other additional factor variables, the set of which may vary depending on the country under analysis.

The object of the study are the macroeconomic processes associated with the conduct of modern monetary policy of the Central Bank of Uzbekistan. The subject of the

study is the features of the impact of selected macroeconomic variables on the inflation process in Uzbekistan. In this regard, this paper presents the implementation of the "classical".

NKPC, as well as its various modifications for dynamics modeling inflation processes in Uzbekistan. At the same time, the goal this study was conducted to obtain answers to the following questions:

1. What is the impact of forward-looking (forward-looking) inflation expectations for current inflation in Uzbekistan?

2. As in the short term for current inflation in Uzbekistan the impact of the deviation of marginal production costs from equilibrium level approximated through the gap of the industrial production?

3. What are the additional factors of inflation in Uzbekistan?

4. Does the current inflation in Uzbekistan affect the (backward-looking) inflation expectations, and how they compare to by being proactive (forward-looking) inflation expectations?

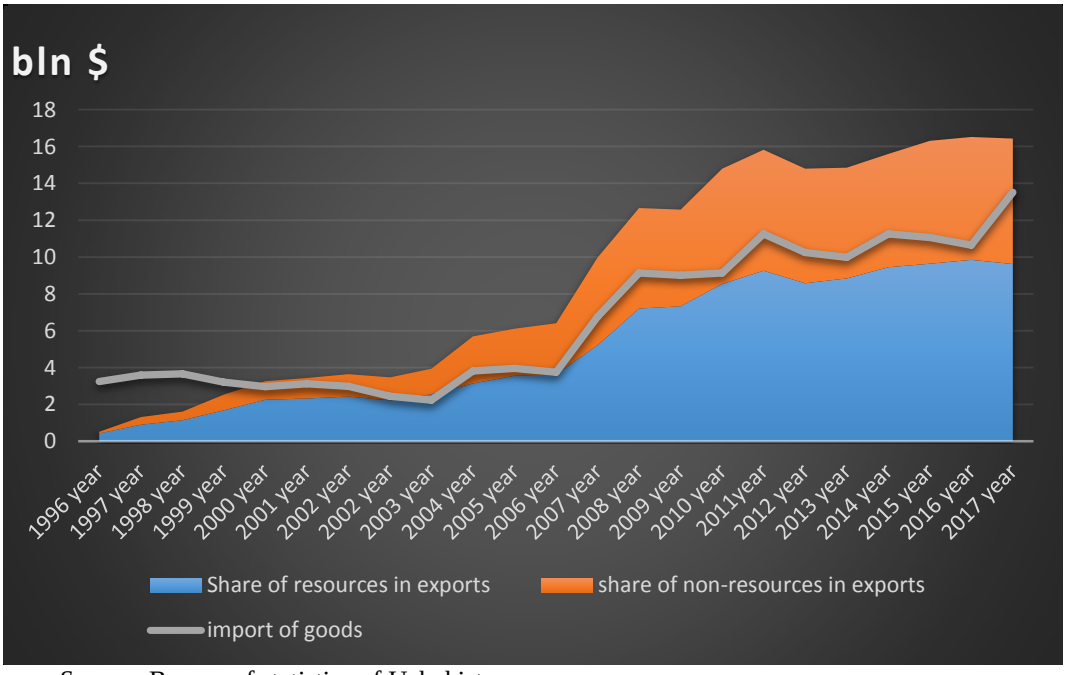
It should be noted that the answers to the previously listed questions received during this work can be applied in the future to improve the efficiency of the development and implementation of monetary policy in Uzbekistan within the framework of the inflation targeting regime. In addition, this study can serve as the basis for the subsequent modeling of economic processes in the framework of the approach of the new Keynesian theory in Uzbekistan.

For model evaluation with respect to inflation in Uzbekistan monthly empirical data from the first quarter of 1996 to the fourth quarter of 2017 were used. The generalized method of moments (GMM, the Generalized Method of Moments) was used as a method of econometric evaluation of the model. The use of GMM for estimation is associated with the emergence of the problem of endogeneity in the model due to the inclusion of forward-looking inflation expectation approximated as actual future inflation. So, in case of application to the model with endogeneity of the classical least square's method (OLS, the Ordinary Least Squares) parameter estimates will be shifted.

This work includes two chapters and six blocks: The First Chapter is the modeling of monetary policy in Uzbekistan. Macro-economic processes in Uzbekistan in 1996-2017. Main methods of applying monetary policy: a literature review. Inflationary processes in Uzbekistan Chapter. Theoretical model of monetary policy. The Theoretical aspects of the methodology of the study. Empirical results on long-term relationship between inflation, output, interest rate, exchange rate and foreign exchange reserves. The empirical model.

Thanks to the implementation of its own development model in 1996, Uzbekistan, in the shortest period compared to other republics of the former Soviet Union, stopped the economic recession, provided macroeconomic stability and began to implement the main economic tasks associated with the structural transformation of the economy. Favorable

price conditions in the world market of hydrocarbons and gold allowed Uzbekistan to receive high revenues from exports of cotton, gold and gas. Their share of export facilities was about 90 percent in the late 90s. Gradually, the share fell to 60 percent in 2010. As a result of the significant inflow of foreign currency to the Uzbek market, the so-called current account balance in the balance of payments remained significantly positive throughout the analyzed period, thereby creating conditions for strengthening the Uzbek sum. However, officially the Uzbek sum strengthened, but on the black market the Uzbek sum lost its position, and this led to a rapid growth of imports and undermined the competitiveness of domestic goods. As shown in Fig. 1.1, the share of resource exports in total merchandise exports has been steadily increasing, reaching 65% in 2012, an increase of 30% from 45% in 2002. Imports of goods were fully covered by exports, in addition, its dynamics followed and corresponded to the dynamics of exports. The growth rate of imports of goods was higher than the corresponding values for the growth of total exports.



Source: Bureau of statistics of Uzbekistan

With the strengthening of prices for resources of Uzbek sums not strengthened, but rather fell. Producers of import-substituting industries have not been able to reduce costs to the same extent as their competitiveness. Because of high global gas and gold prices, the effects are manifested in a disproportionately high recovery in one sector of the economy, which has not had a negative impact on other sectors of production by

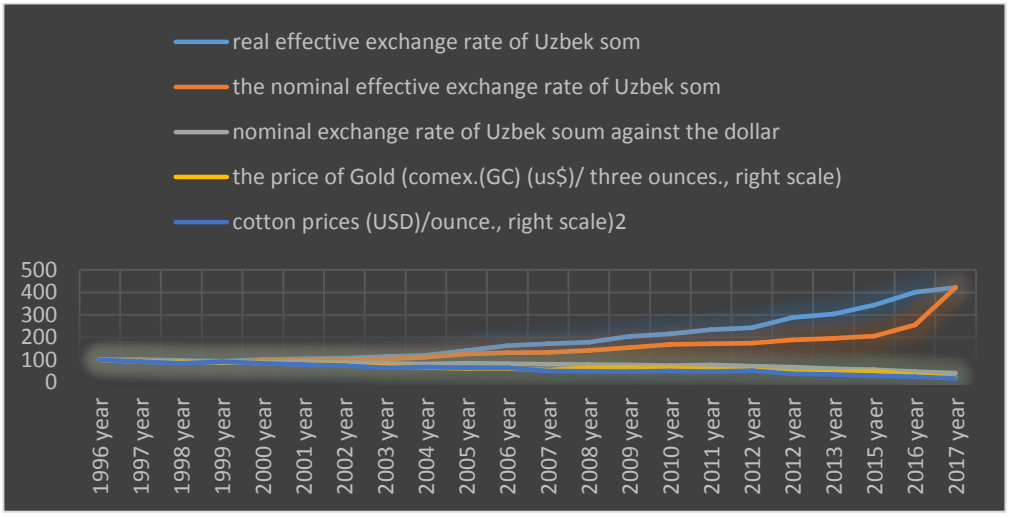
strengthening the real exchange rate. This fact was considered in the monetary policy, and the Central Bank of Uzbekistan did not react to this and did not take measures to maintain the stability of the exchange rate and control its strengthening against the dollar. However, if we define the real effective exchange rate of Uzbek sum (UZSEER) the following image:

$$\text{UZSEER} = \frac{\text{NEER x UZS}}{UZS*} \text{ where:}$$

- UZSEER real effective exchange rate of the UZB sums
- NEER nominal effective ruble exchange rate ($\frac{foreign\ currency}{\#1UZS}$)
- UZS* price index abroad
- UZS price index for Uzbekistan

It can be seen from Figure 1.2 that UZSEER has significantly strengthened during the period under review (approximately by 60 %). In connection with the crisis of 2008-2009 and a significant reduction in the price of resources (except gold) in the fourth quarter of 2008 and in the first quarter of 2009, the real effective rate of the Uzbek sums depreciated by more than 25% compared to the maximum of October 2008, but later as a result of the newly formed favorable external economic situation UZSEER began to grow again, reducing the competitiveness of domestic goods. This shows that the state of the economy depends heavily on the external conditions in the world energy markets.

Figure no. 1.2. Dynamics of the real effective and nominal rate of Uzbek soums (index, January 1996 = 100) + (strengthening)/-(depreciation), as well as the price of cotton and gold.



Sources: Bank for International Settlements on a basket of currencies, considering 48 the country, and the Asian Development Bank

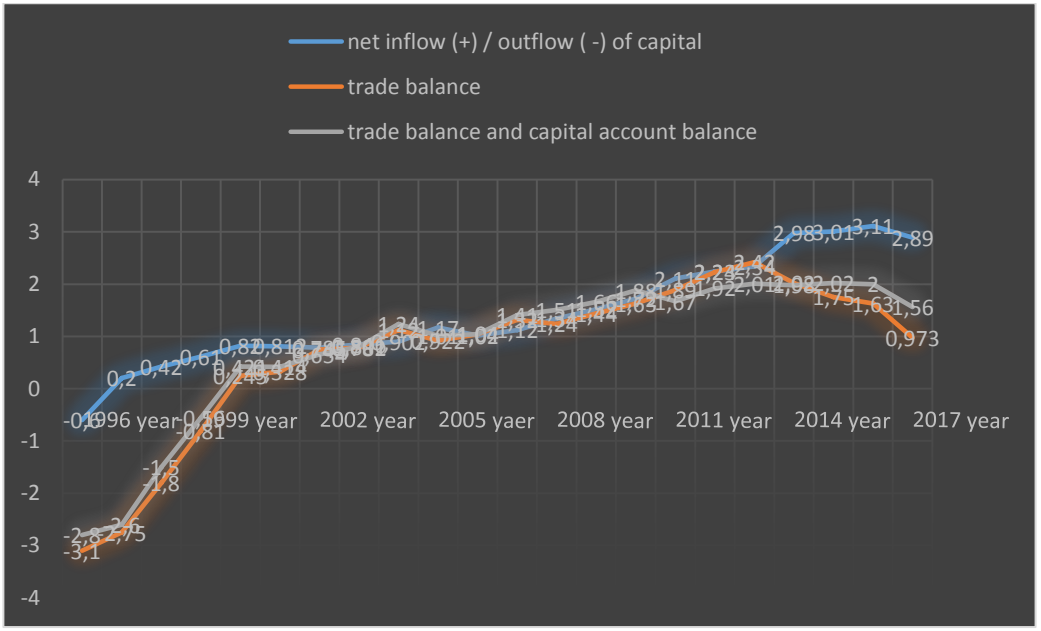
Meanwhile, there was an impairment of the nominal effective rate of the Uzbek sum, so the observed gap between the real and nominal effective rate was primarily due to the outstripping growth of prices in Uzbekistan relative to foreign (the difference in inflation levels). Before the crisis, the Central Bank of Uzbekistan carried out interventions in the domestic foreign exchange market, increasing gold and foreign exchange reserves, as the government ordered gold-mining companies to transfer part of the gold produced to the official reserve. As a result, the Uzbek sum did not strengthen, but rather fell by about 40% to the dollar, and then for 10 years since July 2008, the rate of the sum has significantly decreased 4 times. The economy's dependence on cotton, gold and gas prices raises the risk of a significant depreciation of the exchange rate as a reaction to negative price shocks, increasing its volatility. Note that after the change of power, the conversion was officially allowed to sum filed more than twice.

At the same time, in 2016, the Central Bank of Uzbekistan announced that the main goal of monetary policy is to achieve low inflation rates[1]. Subsequently, due to the influence of the favorable external situation in the world markets on the resources of the Central Bank of Uzbekistan, the principles of monetary policy were clarified, adding to the priority directions of ensuring the internal and external stability of the Uzbek sum[2].Due to the uncertainty of the price dynamics in 2015, the task was to move from the management of the exchange rate to the free floating of the Uzbek sum with the expansion of the borders of the dual-currency basket and the use of the interest rate as a more effective instrument of anti-inflationary policy.

According to the criterion of development of macroeconomic processes in Uzbekistan in 1996-2017, several periods can be distinguished, which differ in the dynamics of output, the state of the balance of payments and inflation. It is possible to consider the stages of development on 3 from 1996, ending with the analysis in 2007. Following the same logic, we will continue the study for later periods. This will require statistics on changes in real GDP, the dynamics of the main components of the balance of payments and inflation. The dependences constructed in Figure 1.3 are used to describe the main characteristics of each stage.

[1] For example, among the main directions of the unified state monetary policy for 2016: "the development Strategy of Uzbekistan by the Central Bank of the Republic of Uzbekistan in cooperation with the Government of Uzbekistan, remains to reduce inflation and maintain it at a low level. Over the next three years, the goal is to reduce inflation to below 8%."

[2] Among the main directions of the unified state monetary policy for 2017: "the monetary policy pursued in Uzbekistan is aimed at ensuring the internal and external stability of the national currency. Stable low inflation is a condition for achieving sustainable economic growth, which will significantly improve the standard of living of the population»



Sources: national bureau of statistics of Uzbekistan

The main stages in the development of macroeconomic processes in Uzbekistan in 1996-2017.

Between 1996 and 2003, Uzbekistan's economy developed at a moderate rate of 4 per cent per year on average.

Since 2004, because of the deepening of economic reforms aimed at creating a favorable business environment, modernization, technical and technological renewal of production, the economy of the Republic shows high and stable economic growth at the level of 7-9% per year.

Analysis of the main factors and sources of economic growth shows that the high rates of economic growth over the past 10 years (2007-2017) were due to the growth of agriculture 1.9 times (with an average annual growth for 2007-2016. - 6.5%), industry-1.7 times (5.6%), construction – 3.9 times (15.0%), services – 2.5 times (9.7%).

The data on the structure of GDP calculated by the end-use method allow for an analysis of the main proportions of GDP use, to determine the share of the cost of goods and services used to meet the needs of end-users and to increase the national wealth of the country.

In the structure of GDP use in current prices, final consumption expenditure accounts for the majority. The main share in the final consumption expenditure is household expenditure, their value ranges from 44% to 63% in 1996-2017.

During the period under review, the share of final consumption expenditure of public institutions in the GDP structure has changed significantly and has tended to decline from 20.7 per cent in 1996. up to 16.1% in 2017.

During 2001-2016, the average annual increase in final consumption expenditure was 9.6 per cent, and during the period under review this figure increased by more than 4.3 times. This is achieved mainly due to the growth of household expenditure by 5.3 times. Also, the real costs of public administration for individual and collective services increased by 2.3 times. During the period under review, the activation and expansion of the activities of public organizations (religious, charitable, etc.) contributed to a real increase in the cost of NPISH 2.3 times.

The main indicators of investment activity in the country show a constant increase in the accumulation of fixed capital through the attraction and development of domestic and foreign investments. The rate of accumulation of fixed capital in recent years (2001-2016) was about 25% of GDP, which corresponds to the level of developed and rapidly developing countries.

During 2001-2016, gross fixed capital formation increased more than 5.4 times with an average annual growth of 11.5%, outpacing the average annual GDP growth rate (7.3%) for the period under review.

Thus, it was shown that foreign economic conditions have a significant impact on the dynamics of macroeconomic variables in Uzbekistan. The monetary authorities ' policy is largely determined by the balance of payments. The Central Bank of Uzbekistan set the task of reducing inflationary pressure on the economy, but it was also important to ensure the stability of the national currency with a significant influx of foreign currency to maintain the competitiveness of domestic goods. For this purpose, the Central Bank of Uzbekistan participated in interventions in the domestic currency market, accumulating gold and foreign exchange reserves. However, during this period, the real effective rate of the Uzbek sum fell by 5 times, primarily due to the difference in the rate of inflation. Throughout the period under review, except for the crisis, inflation and the real GDP index were negatively correlated in each of the selected stages. In post-crisis development, the positive impact of the resource sector on GDP growth has increased markedly, but at the same time inflation has increased.

The emergence of the traditional version of the Phillips curve model is connected named after the English economist of New Zealand origin A. Phillips, which because of the analysis of the relationship between the level unemployment and wage growth in the United Kingdom between 1861 and 1957 revealed a strong negative relationship between these two countries unemployment rates and the indicators, but he did not give a theoretical explanation obtained result (Phillips, 1958). Later, the representative of Keynesian school R. Lipsey continued the research started by A. Phillips (A Further Analysis. Economica. 1960) and supplemented it with the theoretical explanation of the negative relationship between the unemployment rate and the wage growth rate.

Thus, according to R. Lipsey, a low unemployment rate, which means a greater demand for labor, leads to an increase in the price of labor, that is, wages. In the opposite case, when unemployment starts to rise, which is characterized by a decrease in demand for labor, wages are reduced. Subsequently, the rate of wage growth was replaced by the rate of inflation, in connection with which the definitive version was formulated a traditional Phillips curve that reflected a negative connection between inflation and unemployment:

$$\pi = -\lambda * U, \qquad (1)$$

Where π - the rate of inflation, λ - coupling coefficient between inflation and unemployment, U - unemployment.

This model proved its worth during the 1960s, when the market economy in the capitalist countries experienced the peak of its development. But with the advent of the 1970s, the Phillips curve ceased to show compliance with reality. During this period, against the backdrop of the oil embargo by OPEC countries in the United States significantly increased the level of inflation, which was accompanied by high unemployment, which was contrary to the theory within the Phillips curve.

Explanation of the causes of the current inability of the traditional curve Phillips ' describe the situation of stagflation is reflected in the works representatives of the school of new classics and monetarism. Primarily monetarists represented by M. Friedman (Friedman, 1968) and E. Phelps (Phelps, 1968, pp. 678-711) noted the need strict differentiation of economic analysis for an extended period and brief period. Thus, in long-term economic analysis, it should be considered that unemployment, like the aggregate supply, is a rigid indicator and is equal to its natural level, which can also be called a potential or equilibrium level. However, the emergence of macroeconomic shocks can lead to structural changes in the economy and, as a result, the formation of a new potential unemployment rate and total supply. In the case of short-term economic analysis, unemployment and aggregate supply are more flexible and, because of government action or short-term macroeconomic shocks, deviate up or down from their potential levels. At the same time, in a brief period, the excess of the current level of unemployment over its natural level leads to an acceleration of inflation, while the reduction of the current level of unemployment from the natural level will be a disinflation factor. New classics and monetarists called the lack of microeconomic foundations of Keynesian views on the causes of inflation as an additional reason for the inactivity of the traditional Keynesian Phillips curve in the conditions of stagflation. Thus, the new classic R. Lucas in his work (Lucas, 1976, pp. 19-46) argued that all macroeconomic models, mainly the Keynesian school, describes the relationship of aggregated indicators, are erroneous, as they do not consider the microeconomic causes and relationships, which are by their nature primary. Subsequently, this statement in economic theory was called "Lucas's critics".

Thus, the new classics and monetarists revised the traditional Keynesian curve of Phillips, including a deviation of the current unemployment rate from its potential level, as well as in as a microeconomic justification of inflation processes included inflation expectations of economic agents:

$$\pi_t = E\{\pi_t\} + \lambda * (U_t - U^N), \qquad (2)$$

where π_t is the inflation rate at time t, = $E\{\pi_t\}$ is inflation expectations at time t, λ is the ratio between inflation and unemployment gap, U_t is the unemployment rate at time t, U^N - natural (potential or equilibrium) unemployment rate.

Further discussion and debate within the Phillips curve transformed by the new classics and monetarists was to determine the nature and type of inflation expectations.

Thus, the monetarists held to the hypothesis of adaptive or retrospective expectations and argued that the expected inflation is a function of past inflation rates, or " previous experience»:

$$\pi_t = E\{\pi_t\} + \lambda * (U_t - U^N), \qquad (3)$$
$$\pi_t = E\{\pi_{t-1}\} + \nu * (\pi_{t-1} - E\{\pi_{t-1}\}),$$

where π_t - the rate of inflation at time t, $E\{\pi_t\}$ – adaptive (nasal spray) inflation expectations at time t, λ -coupling coefficient between inflation and the unemployment gap, U_t - the unemployment rate in time t, U^N - natural (potential or equilibrium) level of unemployment, $E\{\pi_{t-1}\}$ - adaptive (nasal spray) inflation expectations at time t-1, π_{t-1} is the inflation rate at time t-1, ν - the coefficient adaptation.

According to the new classics, the behavior of economic entities is completely rational, or forward-looking (forward-looking) due to the fact that they make decisions using all available information and knowing all the parameters of relevant economic functions.

As a result, economic entities do not make systematic mistakes in the formation of their expectations, which are rational. Mathematically, the Phillips curve under the new authorities is expressed in the following way:

$$\pi_t = E\{\pi_{t+1}\} + \lambda * (U_t - U^N), \qquad (4)$$

where π_t is the inflation rate at time t, $E\{\pi_{t+1}\}$ are rational (being proactive), inflation expectations at time t, λ – coupling coefficient between inflation and the unemployment gap, U_t –the unemployment rate in time t, U^N – natural (potential or equilibrium) unemployment rate.

Formulated by monetarists and the new classical Phillips curve is theoretically well explained in the current US economy situation of stagflation in the 1970s, but in the future, these views have not found empirical evidence on the basis of econometric estimates.

Since the 1980s, the subsequent development of the theory of inflationary processes based on the Phillips curve has become the main theme in the works of representatives of the new Keynesian school. At the same time, the starting point of their research was the

work of new classics. Thus, the new Keynesians retained in the theory of the Phillips curve rational (forward-looking) inflation expectations as a factor of microeconomic justification, but at the same time claimed the heterogeneity of economic entities, so that it was concluded that different economic entities adjust prices and form expectations at different times. In General, according to the" standard " new Keynesian curve of Phillips, which was first fully formulated by G. Calvo (Calvo, 1983, pp. 383-398) and subsequently developed by J. Roberts (Roberts, 1995, pp. 975-984), N. Mankiw, R. Reis (Mankiw, 2002, pp. 1295-1328), the current inflation is a function of the expected forward-looking inflation and the deviation of the average marginal cost of production from the equilibrium level:

$$\pi_t = E\{\pi_{t+1}\} + \tau * \underline{mc}_t ,$$

where π_t - the rate of inflation at time t, $E\{\pi_{t+1}\}$ - rational (forward) inflation expectations at time t, τ -coupling coefficient between inflation and the deviation of average marginal costs from equilibrium level, $\underline{mc}_t$ - deviation of average marginal cost from the equilibrium level at time t.

Later in the work of A. Razin, C. Yuen (Razin, Yuen, 2002) was shown a modification of the "standard" new Keynesian Phillips curve for the versus open economy.

Now, for open economies, the current inflation under the neo-Keynesian approach was further explained by exchange rate indicators, inflation in trading partners, and other macroeconomic factors that explain the power of inflation:

$$\pi_t = E\{\pi_{t+1}\} + \tau * \underline{mc}_t + \eta' * X_t$$

where π_t is the inflation rate at time t, $E\{\pi_{t+1}\}$ are rational (forward-looking) inflation expectations at time t, τ - the relationship between inflation and the deviation of the average marginal cost from the equilibrium level, $\underline{mc}_t$ - the deviation of the average marginal cost from the equilibrium level at time t, X_t - vector-a column of additional explanatory factors for the small open economy (exchange rate, imported inflation, money supply, etc.), η - vector-a string of coefficients with additional explanatory factors.

Since the formation of the "standard" new Keynesian curve of Phillips, the assumption that economic entities have certain inflation expectations has been questioned. It was concluded that the economic category of "inflation expectations" is a significantly complex process, which is incorrect to explain in terms of only one specification (Rozmainsky, 1995, pp. 114-118), as presented in the "standard" new Keynesian curve of Phillips. In this regard, a hybrid new Keynesian curve of Phillips emerged, which, along with forward-looking inflation expectations, also takes into account inflation expectations:

$$\pi_t = E\{\pi_{t+1}\} + \pi_{t-1} + \tau * \underline{mc}_t$$

where π_t - the rate of inflation at time t, $E\{_{\pi t+1}\}$ - rational (forward) inflation expectations at time t, π_{t-1} -adaptive (nasal spray) inflation expectations at time t, τ - coupling coefficient between inflation and the deviation of average marginal costs from

equilibrium level, $\underline{mc}_t$ - deviation of average marginal cost from the equilibrium level at time t.

According to this Phillips curve formulated and tested in the works of J. Roberts (Roberts, 1997, p. 173-196) (Roberts, 1998), J. Galí, M. Gertler, D. López-Salido (Galí, Gertler, López-Salido, 2005, pp. 1107–1118), some economic entities, in particular firms, form inflationary expectations in an adaptive way, and the other part of them are oriented to rational expectations.

Currently, in addition to the new Keynesian Phillips curve, there is also the post-Keynesian Phillips curve, the analysis and description of which is beyond the scope of this study.

In modern scientific and applied research on the factors and dynamics of inflation, the new Keynesian Phillips curve has become one of the most widely used approaches to modeling inflation in both developed and developing countries. So, the empirical evaluation of the new Keynesian Phillips curve for the United States are represented in the work of J. Rudd, and K. Whelan (Rudd, Whelan, 2005, pp. 1167–1181), the UK – N. Batini, B. Jackson, S. Nickell (Batini et al, 2005, pp. 1061-1071), for the Eurozone countries – in the work of F. Rumler (Rumler, 2007, 18:427), for India – in the work of J. Sahu (Sahu, 2013, pp. 2634-2647), for China – Ch.Zhang, Y. Murasawa (Zhang, Murasawa, 2011, pp. 2462-2468), for Russia – in the work of A. Sokolova (Sokolova, 2014, pp. 61-67). At the same time, there are currently no publications of the results of empirical studies within the approach of the new Keynesian Phillips curve in relation to Uzbekistan.

Since the reduction of inflation is a priority direction of monetary policy, we will focus on the nature of this process in detail, identifying the main monetary and non-monetary factors.

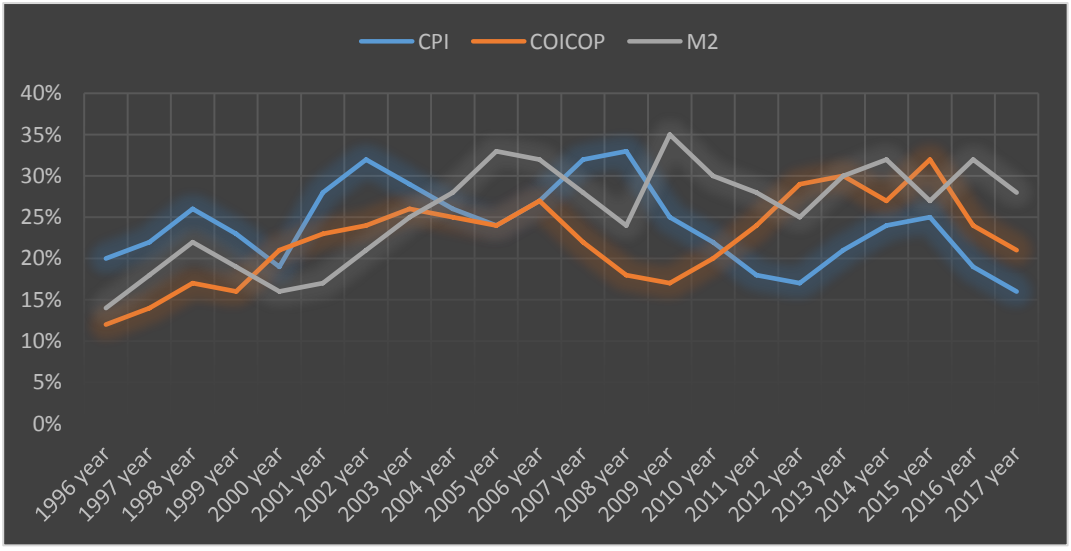
The high and sustained inflation that has been observed for a long period of time has had a negative impact on the development of the country and has been one of the major obstacles to achieving balanced economic growth. In theory, this is because inflation reduces the efficiency of the pricing system, as relative prices change relative to long-term fundamentals. Due to the relative differences in the price rigidity of different goods and services, the intertemporal preferences of economic agents are distorted, so resources are allocated less efficiently. Also, higher inflation is less predictable due to greater volatility and creates conditions for inefficient "rent struggles", as it becomes more profitable for economic agents to delay payments in time (Summers 1991).

Currently, the CPI in the Republic of Uzbekistan uses a consumer set of goods and services out of 350 items divided into three major groups: food products (96 items), non-food products (188 items) and services (66 items). Thus, the consumer set, on the basis of which the CPI is calculated, is a single sample for all regions of the country of the groups of goods and services most often consumed by the population of the country.

It should be noted that in addition to the price factor (i.e. the actual change in the prices of goods and services), the CPI calculation is influenced by the specific weight of specific goods and services. Thus, the consumer price index aggregates (averages) the movement of prices for all variety of goods and services across the country.

The inflation process in Uzbekistan is quite complex. As figure 1.4 shows, the approach in which monetary factors associated with disproportionate growth of the money supply are the main reason for the formation of inflationary processes does not explain the inflationary process. Thus, from 1998 to 2007, there was a steady high rate of inflation with a significant constant increase in the money supply from 25% to 60% year on year. Meanwhile, from the beginning of 2008 to the middle of 2009, there was an opposite trend, when the average inflation of 15% was superimposed on the negative growth of M2, which reached more than 15% in the annual value. In the post-crisis period until 2010, the situation was again the opposite, when M2 gained momentum with increasing rates of inflation. The discrepancy between the monetary theory of inflation can be explained by the effect of the money supply on inflation with some lag, the value of which, depending on the stage under consideration, is about 1 year. However, the stability of the core inflation component is difficult to explain by sharp movements in the money supply.

Figure no. 1.4. COICOP, CPI and M2 monetary aggregate growth rate (in % to the corresponding period of the previous year)



Sources: from the calculations of the author according to ADB

Imbalances in the economy, due to its long development under the influence of the command and administrative system.

- Small export sector with strong import dependence.
- The collapse of economic ties as a result of the collapse of the USSR.
- Decline in gross domestic product (GDP).
- Inflation expectations of the population.

However, non-monetary inflation concepts cannot explain the actual dynamics of inflation in Uzbekistan. The increase in assets of the Halyk Bank (former Sberbank of the USSR) in all cases leads to an increase in the money supply, which means an increase in effective demand. As a result, the level of commodity prices is increasing. (A reduction in the volume of credit issue contributes to a reduction in the rate of inflation.) It increases when the population flees from the national currency, due to low confidence in the ruble and inflationary expectations of the population.

Repayment of inflationary expectations of the population, increasing confidence in the sum.

This measure was necessary, as already in 2013 inflation was caused by:

1. 45 % - inflation expectations;
2. 25 % - increase in fuel prices;
3. 20% increase in the total money supply;
4. 7% rise in prices of agricultural products;
5. 3 % - other factors.

If you look at the work of Russian economists modeling of inflation factors for the Russian economy was carried out in the works of A. Baranov and I. Somova (2009), A. Porshakov and A. Ponomarenko (2007). We present the main conclusions of the research. A. Baranov and I. Somova (2009) consider the specifications of the inflation model with the inclusion of only monetary factors (money supply, the exchange rate of RUB/USD, the rate of MIBOR), and with the addition of non-monetary components (inflation expectations, expenses of the consolidated budget of Russia, tariffs of natural monopolies).

Table no. 1.1. Factors determining the growth of CPI in 1996-2017

independent variable	coefficient value	t-statistics	p-value	Characteristic of the equation
$\Delta GDPR_t$	1.002	2.0112	0.020	$R^2_{adj} = 87.25$
$\sum_{j=1}^{2} \Delta \pi_{t-j}$	-0.0402	-10.004	0.000	F(5.21) =38.24[0.000]
ΔEX_t (with a lag of 4 quarters)	0.257	2.845	0.010	
ΔM_t (with a lag of 4	0.0227	1.642	0.015	AR(1) =0.075[0.0757]

quarters)				
Δi_t (with a lag of 4 quarters)	-0.0221	-1.478	0.005	

Sources: author's calculations

It turned out that the evaluation of the model in Uzbekistan according to the specification of only monetary variables gives an insignificant regression (for example, $R^2_{adj} = 21.25$, all coefficients are insignificant except for the exchange rate). At the same time, the combination of monetary and non - monetary factors into one regression allows to improve the model, in which all the coefficients are significant at the 5% level (except for the money supply factor, which is on the verge of significance with the p-value equal to 5.8%, but this can be explained by the possible multicollinearity problem, since the money supply, exchange rate and interest rate correlate with each other). The evaluation results are presented in Table 1.1.

The factor of inflation expectations has the greatest impact on inflation growth in the short term. It is concluded that in the conditions of Uzbekistan it is impossible not to take into account the monetary component of inflation, but its study should be carried out in conjunction with non-monetary components. The idea of estimating the effect of the money supply on inflation is not absolute A. Parshakov and A. Ponomarenko (2007) realized the values (as an increase in the money supply), and in the deviation from the equilibrium values (a "natural" level) in their study. Also, non-monetary factors associated with changes in the marginal costs of producers can be added to the specification, and vector autoregression of error correction according to quarterly data from January 1996 to December 2017. The calculated monetary gap ratio was 0.02, which means that the excess of the actual M2 volume over the natural level by 1% leads to an increase in inflation by 0.02 PP. This result is different in its stability with differences in the calculation approaches. However, this relationship is statistically significant, and" the acceleration of inflation rates (relative to the growth rates of costs of producers), as a rule, occurred in those periods when the supply of money in the economy was excessive" (Porshakov and Ponomarenko, 2007, p. 74). Therefore, the authors establish that non-monetary factors are more important, but at the same time, together with monetary components, they complement each other well in the formation of inflation processes, so you need to take into account their joint action. It is important to note that due to the process of de-dollarization, the natural amount of money supply increased, and this had a restraining effect on prices.

The negative consequences of inflation processes include a decrease in real incomes of the population, the depreciation of savings of the population, the loss of producers ' interest in the creation of quality goods, the restriction of the sale of agricultural products in the city by rural producers due to the fall in interest. In anticipation of increase in food prices, deterioration of conditions of life mainly at the

representatives of social groups with the firm incomes (pensioners serving, students, which incomes are formed for the account state budget). In advanced market economies, inflation can be seen as an integral part of the economic mechanism. However, it is not a serious threat, because there are worked out and widely used methods of limiting and regulating inflation. In recent years, the United States, Japan, Western Europe is dominated by the trend of slowing inflation even deflation.

Inflation management is one of the main problems of monetary and economic policy in Uzbekistan as a whole. It is necessary to take into account the complex, multifactorial nature of inflation. It is based not only on monetary but also other factors. Despite the importance of reducing government spending, the gradual compression of monetary emissions requires a wide range of anti-inflationary measures.

One of the important tasks in the empirical evaluation of the NKPC is the choice of an indicator that will reflect the dynamics of inflation in the estimated model. In most cases, the increase in the consumer price index is used as such an indicator (Rudd J., Whelan K. New tests of the new-Keynesian Phillips curve. Journal of Monetary Economics. Batini N., Jackson B., Nickell S. An open-economy new Keynesian Phillips curve for the U.K. Journal of Monetary Economics. Rumler F. Estimates of the Open Economy New Keynesian Phillips Curve for Euro Area Countries. Open Econ Rev.). Along with this, the GDP deflator and the industrial producer price index are used (Galí J, Gertler M, López-Salido D. Robustness of estimates of the hybrid New Keynesian Phillips Curve. Journal of Monetary Economics. Sahu J. Inflation dynamics in India: A hybrid New Keynesian Phillips Curve approach. Economics Bulletin. Rudd J., Whelan K. New tests of the new-Keynesian Phillips curve. Journal of Monetary Economics.). Another methodological issue in assessing the NKPC is to determine the empirical indicators for forward-looking inflation expectations and the deviation of the average marginal cost from the equilibrium level. As indicators of forecast inflation expectations, the actual historical inflation at the time of t+n is most often used (Sahu J. Inflation dynamics in India: A hybrid New Keynesian Phillips Curve approach. Economics Bulletin.), where t - is the "Current" time for which the NCC is estimated, n- is the number of future periods of time (months, quarters) ahead of the "Current" time t. In addition, if there is a sufficiently long sample of the results of surveys of economic agents regarding inflation expectations, then as an indicator of forward-looking inflation expectations in the NKPC model, one can apply quantified values of the results of these surveys. In turn, the NKPC equation uses GDP gap estimates for quarterly models to empirically reflect the deviation of the average marginal cost from the equilibrium level (Galí J, Gertler M, López-Salido D. Robustness of estimates of the hybrid New Keynesian Phillips Curve. Journal of Monetary Economics. Rudd J., Whelan K. New tests of the new-Keynesian Phillips curve. Journal of Monetary Economics. Rumler F. Estimates of the Open Economy New Keynesian Phillips Curve for Euro Area Countries. Open Econ Rev. Zhang Ch., Murasawa Y. Output gap measurement and the New

Keynesian Phillips curve for China. Economic Modelling.) or estimates of the output gap of industrial production for monthly models (Rudd J., Whelan K. New tests of the new-Keynesian Phillips curve. Journal of Monetary Economics.).

In the work carried out in the framework of this study, food and non-food inflation in Uzbekistan were used as indicators of inflation. This choice is based on an attempt to model the dynamics of price changes exclusively for traded goods, in order to determine not only the internal economic but also the external economic factors of inflation in Uzbekistan. The indicator of forward-looking inflation expectations by analogy with the works (Sahu J. Inflation dynamics in India: A hybrid New Keynesian Phillips Curve approach. Economics Bulletin. Sokolova A.V. Inflation expectations and the Phillips curve: the rating on the Russian data. Money and credit.) was the actual values of food and non-food inflation in Uzbekistan in the next period of time. As a proxy indicator of the deviation of the average marginal costs from the equilibrium level, the gap in the real volume of industrial production in Uzbekistan was used.

To achieve the objectives of this study, three different types of NKPC models were evaluated.

To begin with, we considered the evaluation of empirical NKPC in the" standard " form for two types of inflation in Uzbekistan:

$$\pi_t^f = C_1 + \beta_1 E\{\pi_{t+1}^f\} + \lambda_1 y_t^{gap} + \varepsilon_{1t}$$
$$\pi_t^{nf} = C_2 + \beta_2 E\{\pi_{t+1}^{nf}\} + \lambda_2 y_t^{gap} + \varepsilon_{2t} \quad (8)$$

where π_t^f is the level of food inflation in Uzbekistan at time t; π_t^{nf} - level of non - food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^f\}$ - forward-looking expectations of food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^{nf}\}$ - forward-looking expectations of non-food inflation in Uzbekistan at time t; y_t^{gap} is the deviation of the average marginal cost from the equilibrium level at time t; C_1, C_2 - constants of equations; ε_{1t} , ε_{2t}– equation errors.

Then, for the conditions of Uzbekistan, an empirical assessment of NKPC for a small open economy was made:

$$\pi_t^f = C_1 + \beta_1 E\{\pi_{t+1}^f\} + \lambda_1 y_t^{gap} + \varepsilon_{1t} + v_1(L)\,\Delta m_t + \rho_t \pi_t^{\text{imp\_}f} + \eta_1(L)\Delta e_t^{nom} + \varepsilon_{1t}.$$
$$\pi_t^{\text{nf}} = C_2 + \beta_2 E\{\pi_{t+1}^{nf}\} + \lambda_2 y_t^{gap} + \varepsilon_{2t} + v_2(L)\,\Delta m_t + \rho_t \pi_t^{\text{imp\_nf}} + \eta_2(L)\Delta e_t^{nom} + \varepsilon_{2t}. \quad (9)$$

where π_t^f is the level of food inflation in Uzbekistan at time t; π_t^{nf} - level of non - food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^f\}$ - forward-looking expectations of food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^{nf}\}$ - forward-looking expectations of non-food inflation in Uzbekistan at time t; y_t^{gap} is the deviation of the average marginal cost from the equilibrium level at time t; $(L)\,\Delta m_t$ -lags of changes in the money supply in

Uzbekistan; $\pi_t^{\text{imp\_}f}$,$\pi_t^{\text{imp\_nf}}$ - import of food and non-food inflation at a time t; $(L)\Delta e_t^{nom}$ - lags of change in the nominal exchange rate of sums; - is the deviation of the average marginal cost from the equilibrium level at time t; C_1, C_2 - constants of equations; ε_{1t} , ε_{2t}– equation errors.

The third specification of the empirical assessment of inflation model in Uzbekistan was the hybrid form of NKPC:

$$\pi_t^f = C_1 + \beta_1 E\{\pi_{t+1}^f\} + \tau_1 \pi_{t-1}^f + \lambda_1 y_t^{gap} + \varepsilon_{1t} + v_1(L)\,\Delta m_t + \rho_t \pi_t^{\text{imp\_}f} + \eta_1(L)\Delta e_t^{nom} + \varepsilon_{1t}.$$

$$\pi_t^{\text{nf}} = C_2 + \beta_2 E\{\pi_{t+1}^{nf}\} + \tau_1 \pi_{t-1}^{nf} + \lambda_2 y_t^{gap} + \varepsilon_{2t} + v_2(L)\,\Delta m_t + \rho_t \pi_t^{\text{imp\_nf}} + \eta_2(L)\Delta e_t^{nom} + \varepsilon_{2t}. \quad (10)$$

where π_t^f is the level of food inflation in Uzbekistan at time t; π_t^{nf} - level of non - food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^f\}$ - forward-looking expectations of food inflation in Uzbekistan at time t; $E\{\pi_{t+1}^{nf}\}$ - forward-looking expectations of non-food inflation in Uzbekistan at time t; π_{t-1}^f- backward looking expectations of food inflation in Uzbekistan at time t; π_{t-1}^{nf} $-$ - back looking expectations of non-food inflation in Uzbekistan at time t; ; y_t^{gap} is the deviation of the average marginal cost from the equilibrium level at time t; $(L)\,\Delta m_t$ -lags of changes in the money supply in Uzbekistan; $\pi_t^{\text{imp\_}f}$,$\pi_t^{\text{imp\_nf}}$ - import of food and non-food inflation at a time t; $(L)\Delta e_t^{nom}$ - lags of change in the nominal exchange rate of sums; - is the deviation of the average marginal cost from the equilibrium level at time t; C_1, C_2 - constants of equations; ε_{1t} , ε_{2t}– equation errors.

Due to the fact that the equations use the actual inflation values as a proxy indicator of forward inflation expectations in the next period, there is a problem of endogeneity, which is expressed in a strong correlation of errors of the equations and the proxy indicator of forward inflation expectations. Therefore, in this paper, to obtain unbiased estimates of the parameters of the equations, the generalized method of moments (GMM) was applied, which allows to cope with the problem of endogeneity. At the same time, the implementation of GMM requires a set of instrumental variables that will have a strong correlation with the proxy indicator of forward-looking inflation expectations and a weak correlation with the errors of the equations. Based on theoretical judgments, lags of changes in the nominal exchange rate of sums were used as instrumental variables for the estimated equations ($(L)\Delta e_t^{nom}$), lags of food and non-food inflation imported in Uzbekistan ($(L)\pi_t^{\text{imp\_}f}$, $(\text{L})\pi_t^{\text{imp\_nf}}$)), lags of changes in the money supply in Uzbekistan ($(L)\,\Delta m_t$), lags of price changes in industry in Uzbekistan ((L)Δppi_t) and lags of changes in world gas prices ((L)$\Delta pgas_t$). These instrumental variables were selected as factors that form the forward-looking inflation expectations of economic entities in Uzbekistan.

To evaluate the equations, the paper used monthly empirical data on macroeconomic variables (table 1 of the Annex) from January 1996 to December 2017 (a total of 84 observations for each variable), they were downloaded from statistical databases of the Bureau of statistics, Central Bank of Uzbekistan and Bank for International Settlements (BIS). Since there is no data on monthly changes in real GDP in Uzbek statistics, we use the proxy variable of the industrial production index (PPI) for our purposes.

As indicators of food (π_t^f) and non-food inflation (π_t^{nf}) in Uzbekistan was used the first difference of the logarithms of the monthly seasonally-adjusted price indices for food and non-food goods in Uzbekistan (to January 1996). The rate gap real industrial output in Uzbekistan was used as a proxy indicator of deviations of average marginal costs from equilibrium level (y_t^{gap}). The gap in real industrial production was calculated as the ratio of seasonally adjusted index of physical volume of industrial production (y_t) in Uzbekistan (in%, month to the previous month) to its potential level, which in turn was estimated using a one-dimensional filter Hodrick-Prescott. First difference of logarithms of the monthly nominal exchange rate of dollar to sums($\Delta e_t^{nom\_USD}$) were used as proxy indicators model variable Δe_t^{nom}. Empirical indicators of the imports of food and nonfood inflation were selected, respectively, the first difference of the logarithms of seasonally-adjusted price indices for food ($\pi_t^{imp\_f}$) and non-food items ($\pi_t^{imp\_nf}$). Also, the first differences in the logarithms of seasonally adjusted values of the price index of enterprises-producers of industrial products in Uzbekistan (to the base of January 2012), the volume of broad money supply in Uzbekistan (in billion sums at the end of the quarter and exchange prices for resources (in dollars). (US$, quarter-on-quarter) were used as empirical indicators, respectively, for explanatory and instrumental variables, Δppi_t, Δm_t , $\Delta pgas_t$. It should be noted that the Census x-12-ARIMA procedure was used as a method to eliminate seasonality of time series.

An extended Dickey-fuller test (ADF) was performed to test these empirical variables for the presence of a single root. According to the results of this test, it was found that all variables are stationary (table 1), which does not contradict the condition of using GMM to evaluate the equations.

Table no. 1. Results of the extended Dickie-fuller test (ADF).

Symbol variable	**t-statistic**
π_t^f	4.228***
π_t^{nf}	-2.040*
Δm_t	-4.466***
y_t	-4.266***
$\Delta e_t^{nom\_USD}$	-4.008***
$\pi_t^{imp\_f}$	-4.148***

$\pi_t^{imp\_nf}$	-3.331***
Δppi	-3.125***
$\Delta pgas_t$	-4.012***

Note: ***, * * and * signs indicate the stationarity of time series, respectively, at 1%, 5% and 10% significance levels

Also, the calculations of descriptive statistics indicators of the named empirical variables were additionally made. The results of these calculations are presented in table 2.

Table 2 of the Annex presents the results of the evaluation of the "standard" NKPC form (equation (8)) using fourteen instrumental variables for food inflation and thirteen instrumental variables for non-food inflation. At the same time, the sets of instrumental variables include lags of food inflation in Uzbekistan, non-food inflation in Uzbekistan and its lags, the nominal exchange rate of the us dollar to the sum and its lags, the nominal exchange rate of the dollar to the sum and its lags, the prices in industry in Uzbekistan and its lags, the world gas prices, as well as the money supply in Uzbekistan and its lags.

Table no. 2. Descriptive statistics of the variables used.

Symbol variable	Average	Median	Maximum	Minimum	Standard deviation
π_t^f	0.60	0.36	4.02	-0.32	0.62
π_t^{nf}	0.76	0.28	8.64	-0.25	1.22
Δm_t	0.80	0.60	10.12	-2.12	2.48
y_t	-0.02	0.00	3.42	-4.12	1.28
$\Delta e_t^{nom\_USD}$	1.42	0.12	42.06	-4.20	3.98
$\pi_t^{imp\_f}$	0.84	0.70	5.48	-0.12	0.42
$\pi_t^{imp\_nf}$	0.52	0.40	3.92	0.04	0.68
Δppi	0.02	0.52	4.86	-9.04	2.45
$\Delta pgas_t$	-1.88	-0.12	21.12	-32.02	8.86

Note: all variables are presented in percentage points

The elasticity of food and non-food inflation to forward-looking expectations was estimated at 0.36 and 0.30, respectively, and they are also statistically significant. It can be concluded from this that forward-looking expectations affect food and non-food inflation in Uzbekistan to varying degrees. At the same time, food inflation is more affected by forward-looking expectations than non-food inflation. Also, the estimation of equations (8) (table 2 of the Annex) showed that the quantitative assessment of the impact of the gap in the average marginal cost of production on food inflation in Uzbekistan is 0.24, while for non-food inflation this value is 0.56. Thus, it turns out that the gap in the average marginal cost of production has a greater impact on non-food inflation than on

food inflation. But the actual data of the stat Bureau of Uzbekistan, according to which at the end of 2017 the share of domestic production in the consumption of food and non-food products in Uzbekistan amounted, respectively, 82% and 28% (table 3), contradict the results of this assessment. Thus, based on the actual patterns of consumption of food and non-food items, the impact of the gap in the average marginal cost of production on food inflation should be higher than the impact on non-food inflation. It is likely that the reasons for the evaluation results are the poor quality of the estimated equations (8) (table 2 of the Appendix). Thus, the determination coefficients (R-squared) for the equations of food and non-food inflation were only 0.17 and 0.12, respectively, and the values of J-statistical indicators for both equations were statistically insignificant. In this regard, it was decided that in order to further assess the inflation model of Uzbekistan within the NKPC, additional explaining macroeconomic factors should be taken into account. For this purpose, the NKPC specification was chosen as an equation for a small open economy (equation (9)), the empirical evaluation of which is shown in table 3 of the Annex.

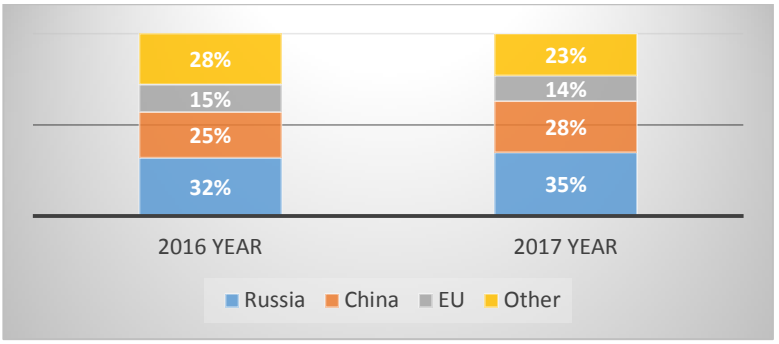
Table no. 3. Structure of consumption of goods in Uzbekistan.

Type of goods	Articles of food		nonfood goods	
Year	2016	2017	2016	2017
Share of domestic production, %	80 %	82 %	25 %	28 %
share of imports	20 %	18 %	75 %	72 %

Source: Ministry Of Foreign Trade

In assessing the NKPC for the small open economy (table 3 of the Annex) according to the theoretical equation (9), indicators of the dynamics of the money supply in Uzbekistan (monetary inflation factor), food and non-food inflation (inflation import factor), the nominal exchange rate of the dollar to the sum (exchange rate policy factor) were added to the previous explanatory factors. The number of instrumental variables for both the food inflation equation and the non-food inflation equation has been reduced to 9 (table 3 of the Annex). The set of instrumental variables remained the same as in the estimation of equations (8), except for the change of the order and number of lags corresponding to the maximization of the values of R - squared and J - statistic indicators. Along with this, the influence of the gap of average marginal costs for both types of inflation in Uzbekistan in the new specifications proved to be statistically insignificant, resulting in the conclusion about the absence of significant relationships between the indicators of business activity and inflation. In turn, the evaluation of the new specification of the NKPC revealed a statistically significant strong dependence of inflation in Uzbekistan on factors such as imported inflation, lagged change in the domestic money supply and lagged values of the exchange rate of the sums. Thus, the elasticity of food inflation in Uzbekistan to imported inflation, approximated through

food inflation in Russia, is 0.51, and the elasticity of non-food inflation to imported inflation, also approximated through non-food inflation in Russia, is 0.52. The elasticity of the price level change in Uzbekistan to the change in the money supply with the lag of the 2nd quarter is 0.14 for food products and 0.25 for non-food products. The degree of influence of the dynamics of the nominal exchange rate of the dollar to the sum with the lag of the 1st quarter on food and non-food inflation in Uzbekistan is estimated, respectively, as 0.07 and 0.05. From a theoretical point of view, the high sensitivity of inflation in Uzbekistan to inflation in Russia (imported inflation), as well as the statistical significance of the impact of the nominal exchange rate of the ruble to the sum on Uzbekistan's consumer prices, are explained by two factors. First, the domestic consumer market of Uzbekistan is largely dependent on transfers from Russia, and second, the largest share of consumer imports by countries (from 30% to 40% in Russia) is in the structure of Uzbekistan's consumer imports (figure 2.1). Regarding the quality of the estimated equations, it is worth noting that compared to the previous specification, the R-squared index has significantly increased (for the food inflation equation – from 0.17 to 0.77, for the non – food inflation equation-from 0.12 to 0.73). At the same time, the values of Prob(J-statistic) also decreased, but still remain high, so that the null hypothesis of simultaneous equality of all coefficients estimated in the equations is accepted at the 10% level of significance. In other words, the estimated equations have weak statistical quality. Also, according to the analyzed assessment (table 3 of the Annex), the dependence of inflation in Uzbekistan on the indicator of imported inflation is higher than on the indicator of forward-looking expectations. But it is theoretically assumed that the elasticity of domestic inflation in Uzbekistan to forward inflation expectations and imported inflation should be approximately equal. This assumption is because the rate of imported inflation is included in the list of instrumental variables, which in turn affect the formation of forward-looking expectations. In other words, the value of inflation expectations cannot be less than the size of the factors that affect their formation. In this regard, it was suggested that inflation in Uzbekistan, in addition to forward-looking expectations, has an impact on expectations, and the total impact on inflation should be approximately equal to or greater than the impact of imported inflation.



Source: Ministry of Foreign Trade

Thus, due to the reasons described above, it was decided to make an additional empirical assessment of the NKPC in accordance with the theoretical equations (10), which are presented in the form of a hybrid NKPC for a small open economy, where along with rational expectations, adaptive expectations are taken into account.

Table 3 of the Appendix shows the results of evaluation of hybrid NKPC for small open economy (equation (10)). In this estimate, the average marginal cost gap was excluded from the equations due to statistical insignificance in the previous estimate (table 3 of the Annex). But to account for the adaptive (nasal spray) inflation expectations equation was included the actual value of food and nonfood inflation with a lag of 1 quarter. The number of instrumental variables remained unchanged for the food inflation equation and fell to 7 for the non-food inflation equation. At the same time, the list of instrumental variables has not changed and includes lags of food and non-food inflation in Uzbekistan of nominal exchange rates of the us dollar to the sum of prices in industry in Uzbekistan, world gas prices and money supply in Uzbekistan.

The final results of the assessment of a hybrid NKPC for a small open economy in relation to inflation in Uzbekistan show that the impact of inflation expectations is statistically significant, but slightly weaker than the impact of forward-looking expectations (table 4 of the Annex), while their total value is comparable to the impact of imported inflation. The presence of both forward-looking and forward-looking inflation expectations in Uzbekistan is explained by the asymmetry and imperfection of information possessed by economic entities. At the same time, it was statistically confirmed that an important inflation factor in Uzbekistan is also a two-month lag in the change of the broad money supply, the impact of which on inflation is commensurate with the influence of inflation expectations. In conclusion, it should be noted that the assessment of a hybrid NKPC for a small open economy in relation to the conditions of Uzbekistan was the most qualitative in comparison with the previous two estimates, both in terms of the R-squared indicator and the values of the Prob (J - statistic). In this regard, it was concluded that the modeling of inflation dynamics in Uzbekistan according to the assessment presented in table 4 of the Annex is as close as possible to reality.

Let's start the analysis with the construction of VAR models, not imposing on it no restriction (VAR (p)), which include 5 endogenous variables: π_t , Δy_t, e_t ,r_t, ΔFX_t, following. Choose the vector of exogenous variables and the optimal value of the autoregressive order p in UVAR using information criteria.

We considered different sets of exogenous variables and chose the following: π_t^{gas}, π_t^* and fictitious variables ID, CRISIS and IT, responsible for the stages of development of macroeconomic processes. As shown in Chapter 1, the raw material structure makes the Russian economy susceptible to changes in resource prices so the inclusion of oil π_t^{gas} allows to control these shocks. Since the model uses the nominal exchange rate, but the competitiveness of domestic products is determined by the real exchange rate, therefore the inclusion of π_t^* makes it possible to consider the reaction of the economy (primarily output) to external price shocks. Moreover, the obtained equation directly contains π_t^*. The time trend turned out to be generally insignificant, so we do not consider it.

Annex 3 presents the results of choosing the autoregressive order p. According to the Schwartz criterion (effective for large samples, since it is asymptotically correct), the optimal value for p is 2, and according to the Akaike criterion – 4, which is better used for small samples. Wald's test for the exclusion of lags denies the joint hypothesis of the exclusion of the 4th lag, so choose p = 4. Diagnostic tests for the normality of residues and the presence of ARCH effects give acceptable results on the correctness of the specification. The results of the Granger test at a 5% significance level suggest that inflation is influenced by output and exchange rate. The exchange rate and the output act on each other in both directions, with international reserves also being the Granger cause for the exchange rate, which is quite intuitive, since the accumulation of reserves allows sterilizing excess export earnings, thereby affecting the exchange rate. Also, on international currency reserves affect the issue and the real interest rate. Signs, interpretation of effects and reaction to shocks will be considered in the built model of the VECM model. To do this, we first conduct a Johansen test for the presence of cointegration ratio between the analyzed endogenous variables.

Analysis of cointegration relations. The Johansen test is based on various assumptions about the deterministic trend. We assume that the variables follow a stochastic trend. The results of two types of test (LR test and maximum eigenvalue count test) are available in Appendix 4.

The results show that even at 80% of the significance level we can't deny the presence of no more than 3 co-integration ratios, but at 1% level deny the presence of 2 or less. Therefore, we can confidently conclude that there are 3 long-term dependencies. In addition, under alternative assumptions, the stability of the output is maintained.

Next, we choose which relations we will analyze as co-integration. To do this, we use the results of the causal test, economic principles and the model of Chapter 2. To

identify cointegration vectors, it is necessary to introduce at least 2 zero restrictions on the endogenous parameters in each of the cointegration equations.

As the results of the Granger test show, the issue and exchange rate affect inflation. For the exchange rate, this is due to changes in the prices of imported goods, which are included in the consumer basket, and for output – known result of the Phillips curve. We are going to consider the impact of these variables, so we will introduce the following restrictions: $\theta_r = 0, \theta_{FX} = 0$. The causal relationship between the real interest rate and international currency reserves in the direction of inflation is less obvious, so the restrictions are justified in terms of economic principles. Therefore,

$$\pi_t = \theta_t, \Delta y_t + \theta_e, \Delta e_\pi + \varepsilon_\pi \quad (3.1)$$

where it is expected that: $\theta_y > 0, \theta_t > 0$

Let's assume that the real interest rate follows the Taylor rule, which is represented as:

$$r_t = \alpha(\Delta y_t - y^*) + b(\Delta e_t - e^*) + c(\pi_t - \pi^*) + \varepsilon_{rt} \quad (3.2)$$

where a, b, C are the parameters showing how the real rate changes when the output, exchange rate and inflation deviates from the targeted values, respectively. In the most General case, the exchange rate is not included in the equation, and it is expected that a, c > 0. Intuitively, when inflation is higher than the target value, the Central Bank increases the nominal interest rate by a greater amount than inflation in order to "cool" the economy, so the real rate rises from the Fisher equation. Similarly, for the release. At the same time, since we considered the theoretical model of the Central Bank's target function, which depends on the exchange rate and inflation, instead of output, we analyze the impact of the exchange rate. Therefore, we introduce a restriction a > 0 and investigate as a second cointegration relation:

$$r_t = \alpha + b\Delta e_t + c\pi_t + \varepsilon_{rt} \quad (3.5)$$

where a_0 a is some constant. The expected signs b < 0, c > 0.

In the third co-integration ratio, reserves will be modeled because, as it was found, both inflation, and output, and the real interest rate are the reasons for the Granger for reserves. We propose the following intuition to explain this fact: inflation may lead to the fact that the attractiveness of the accumulation of reserves falls due to their impairment in real terms, the growth of output in Uzbekistan conditions associated with a favorable price external environment, so the chosen policy of excessive foreign exchange earnings sterilized in reserves.

$$\Delta FX = d_0 * g * \pi_t + h * \Delta y_t + \varepsilon_{\Delta FX} \quad (3.5)$$

where it is expected that g<0, h>0

Since we followed the same methodology as Homes and Ohnsorge (2005) in modeling inflation, and for the transfer effect, our results generally coincided with the results of the theoretical model, we will use the authors ' estimates for the earlier period 1996:4-2004:1. It follows that, at sufficiently high levels, the reduction of the transfer

effect was an additional obstacle to the reduction of inflation as an optimal response to this change in the transfer effect. Therefore, the Central Bank of Uzbekistan could not cope with a sufficiently high and stable inflation, even with the optimal chosen monetary policy.

This work is devoted to the modeling of macroeconomic processes in Uzbekistan's economy, the results of which determine the causes of the continuing high and stable inflation, while since 1998 the main goal of the proclaimed unified state monetary policy is to reduce the rate of price growth.

The external economic conditions determined by the state of the world hydrocarbon markets have a significant impact on the development and dynamics of macroeconomic processes, affecting the balance of payments of Uzbekistan. According to the results of the study, a model of inflation in Uzbekistan was obtained on the basis of the new Keynesian Phillips curve (NKPC). This was appreciated various modifications of this curve, including the standard NKPC, the NKPC for a small open economy and a hybrid form of the NKPC for a small open economy, which, along with rational expectations are considered, and adaptive expectations. The empirical assessment was carried out on stationary time series with January 1996 to December 2017 by applying the generalized method of moments (GMM).

Results of the NKPC assessments in relation to the dynamics of inflation processes in Uzbekistan have demonstrated the impact of forward-looking and forward-looking expectations of economic entities on inflation in Uzbekistan. So, being proactive and nasal spray expectations have a significant impact on the current inflation, the degree of influence of lookahead expectations slightly above the influence of nasal spray expectations. Presence of both forward-looking and forward-looking inflation expectations in Uzbekistan is explained by the asymmetry and imperfection of information possessed by economic entities. But at the same time, the fact that forward-looking expectations still prevail over the forward-looking expectations suggests that in Uzbekistan, most of the economic entities can make more rational decisions, having and analyzing information about resource prices, inflation in Russia, the exchange rate of sums to the us dollar, statements and measures implemented by the Central Bank of Uzbekistan, etc. Also, the results of empirical estimates showed that at the present time the impact on inflation in Uzbekistan of such a "classical" component of the new Keynesian Phillips curve as the deviation of average marginal costs from the equilibrium level is absent. This may be explained by the fact that most of the goods from the consumer basket in Uzbekistan are imported, so that their prices are not affected by domestic production costs. At the same time, the predominance of import component in the structure of Uzbekistan's consumption, mainly from Russia, explains the empirical result of the NKPC assessment, according to which inflation in Russia and the change in the nominal exchange rate of the dollar to the sum are identified as significant factors of

inflation in Uzbekistan. At the same time, as an" internal " macroeconomic factor of inflation in Uzbekistan, the doped dynamics of the broad money supply is determined.

Thus, according to the results of the study, it can be concluded that the measures of the regulator aimed at the formation of appropriate forecast inflation expectations can play an important role in achieving the inflation target within the framework of the inflation targeting regime conducted by the Central Bank of the Republic of Uzbekistan. At the same time, for effective inflation targeting in Uzbekistan, it is also necessary to take measures to localize the shocks of the nominal exchange rate of the dollar to the sum and Russian inflation, if they occur, as well as to increase control and the degree of impact on the volume of the broad money supply.

Further directions of development of the theoretical model presented in this paper can be the addition of inflation expectations and additional analysis of how the failure of the Central Bank to follow the pre-announced inflation values affects the parameters of the model. As a result, there may be a problem of dynamic inconsistency (time inconsistency problem), when the public understands that the declared targets for inflation will not be achieved, so expectations will change, and the decline in inflation will be relatively "expensive" policy. In the empirical part, we can consider how the choice of different proxies for the release and the introduction of alternative restrictions affect the stability of the estimates.

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МОДИФИЦИРАНЕ НА ПРАВИЛОТО НА ТЕЙЛЪР ЗА БАНКИТЕ НА УЗБЕКИСТАН НА ОСНОВАТА НА ПРЕКРАТЯВАНЕ НА РЕЖИМА

Сардор Садиков

THE MODIFIED TAYLOR RULE FOR BANK OF UZBEKISTAN ON THE BASIS OF MODE SWITCHING

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Abstract

Uzbekistan and foreign studies prove that the policy of central banks can be described by one or another version of the Taylor Rule. The Taylor Rule is a rule of a monetary policy, which defines how the interest rate changes in case of a change in GDP and inflation indicators. In particular, it states that for each percent of inflation growth a central bank has to increase the nominal interest rate by more than one percentage point. This aspect is often called the Taylor principle. We made an empirical assessment of the efficiency of the Central Bank of Uzbekistan policy and built an econometric model based on the nonlinear least square method. We used the data on inflation rate and GDP size from the official site of the Department of statistics of Uzbekistan, and the inflation data from annual reports of the Central Bank of Uzbekistan on principal direction of the unified State monetary policy. We calculated the GDP gap as a difference between the quarterly GDP value and its trend generated with the help of the Hodrick–Prescott filter. The results of the developed model enabled to conclude that all indicators turned out to be significant. According to the original Taylor's work, the coefficient of inflation gap is 1.5, and the coefficient of GDP gap is 0.5. In our case, the coefficient of inflation gap was lower and made 1.13, and the coefficient of GDP gap – 0.4. On the basis of our calculations (the Chow test and evaluation of two econometric models for two sub-samplings: during pre-crisis and post-crisis periods), we found out that it is economy during crisis periods. We believe it is necessary to develop the Taylor Rule, which the Bank of Central Bank of Uzbekistan can use in inflation targeting based on crisis situations.

Keywords: *Taylor's model, monetary policy, inflation targeting*
JEL Codes: *(C36, D84, E31, E52.)*

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The article notes that foreign studies prove that the policy of Central banks can be described by one or another version of Taylor's rule.

Taylor's rule is a monetary policy rule that determines how much interest rate changes if GDP and inflation change. In particular, it States that for each percent of inflation growth, the Central Bank must raise the nominal interest rate by more than one percentage point. This aspect is often referred to as the Taylor principle.

The empirical evaluation of the efficiency of the policy of the Central Bank of Uzbekistan was carried out and the econometric model was built. The nonlinear least squares method was used as a methodology. Data on the level of inflation, as well as the value of GDP were taken from the official Website of the Bureau of statistics of Uzbekistan, inflation data – from the annual reports of the Central Bank of Uzbekistan on the main directions of the unified state monetary policy. The GDP gap was calculated as the difference between the quarterly GDP value and its trend generated by the Hodrick-Prescott filter.

According to the results of the constructed model, it is concluded that all the indicators were significant. According to Taylor's original work, the inflation gap ratio is 1.5, and the GDP gap is 0.5. In the case under consideration, the inflation gap ratio was lower at 1.13, and the GDP gap was 0.4.

As a result of calculations (based on the Chow test and the evaluation of two econometric models for two subsamples: in the pre-crisis and post-crisis periods), it was found that the standard Taylor's rule for the economy of Uzbekistan is certainly applied to crisis periods.

The idea of developing such Taylor's rule, which the Central Bank of Uzbekistan will be able to use when targeting inflation considering crisis situations, is put forward.

Over the past two decades, there have been significant changes in the monetary policies of developing countries. Special attention of the Central banks of the majority of States is focused on achieving stability of the main macroeconomic indicators-inflation, production volumes, real and nominal exchange rate of the national currency, which ultimately leads to positive results:

- improving the living standards of the population;
- increasing monetization of the economy;
- maintaining long-term economic growth.

In accordance with the main directions of the unified state monetary policy, the main objectives of the Central Bank of Uzbekistan are to reduce inflation or maintain inflation at a level that ensures sustainable economic growth, as well as increasing the investment attractiveness of the country. To do this, the Central Bank of Uzbekistan needs to solve a number of problems:

- to ensure the stability of the Uzbek Summ

- gradually narrow the interest rate corridor to reduce the volatility of the monetary market rates, etc.
- The following set of tools is used:
- interest rates on operations of the Central Bank of Uzbekistan
- mandatory reserve ratios (reserve requirements) of the Central Bank of Uzbekistan;
- secured loans of the Central Bank of Uzbekistan;
- direct REPO operations of the Central Bank of Uzbekistan;
- currency swap transactions of the Central Bank of Uzbekistan;
- Deposit operations of the Central Bank of Uzbekistan;
- operations with securities of the Central Bank of Uzbekistan;
- Central Bank of Uzbekistan operations on buying / selling securities on the open market;
- loans of the Central Bank of Uzbekistan without collateral.

There is currently no consensus on how to achieve these goals. The following questions remain debatable:

✓ whether active intervention of the state power in the market is required or the best way of regulation-the neutral attitude to the events in economy;

✓ whether monetary policy becomes more effective in forecasting and determining the normative values of macroeconomic indicators.

Despite numerous studies in the field of monetary policy, some aspects of Uzbekistan's economy have not been sufficiently studied. This encourages modern analysts to develop mathematical models that can be used to study the behavior of time series and predict the financial stability of the country. It is also important to choose an adequate method of analysis and the accuracy of the estimates of the functional dependence parameters. Thus, monetary policy can be described through the function of several variables.

Many foreign studies show that Central Bank policies can be described by some version of Taylor's rule. Note that Taylor's rule is a rule of monetary policy that determines how much the interest rate changes in the case of changes in GDP and inflation. In particular, the rule States that for each percent of inflation growth, the Central Bank must raise the nominal interest rate by more than one percentage point. This aspect is often referred to as the Taylor principle.

The main types of Taylor's rule are based either on matching data or on a set of forecasts or on accurate information available to Central banks at the time of the decision (so-called real-time data). Various modifications of the classical Taylor rule are studied in detail in a number of papers (7, 8, 10, 11, 14). In addition to the Taylor rule, there are other methods of describing and modeling the monetary policy of a country. For example, the McCallum rule (McCallum,2000), which is based on the analysis of the monetary base, is quite popular. The main difference between the rules of McCallum and Taylor is

the choice of the Central Bank's response to changes in macroeconomic conditions. The Taylor rule, which uses the nominal interest rate as a tool, is widely used in the evaluation of monetary policy because of its simplicity. However, the McCallum rule, which uses the growth rate of the monetary base as an instrument, played a significant role in the formulation of monetary policy until the 1990s [1].

The original McCallum rule can be expressed as follows:

$\Delta b_t = \Delta x^* - \Delta \gamma_t + 0.5(\Delta x^* + \Delta x_{t-1}) + \mu_t$ (1)

where Δb_t - is the rate of change of the monetary base in percent per year;

Δx^* - planned level of change in nominal GDP in percent per year;

$\Delta \gamma_t$ - rate of change in base speed as a percentage per year, average for the previous 4 years;

Δx^* - the level of change in nominal GDP as a percentage per year.

For this rule, the planned value of nominal GDP growth is calculated as the sum of the planned level of inflation and the long-term average growth rate of real GDP.

Some researchers attempt to explain inflation in Russia using monetary aggregates. For example, Pesonen, Korhonen (Pesonen & Korhonen, 1998, pp.59-72) etc. Dabrowski (Dobrowski et al., 2002) Usanov et al. (13) using the test of causality according to Granger is shown on the example of Russia, at least in the short term (up to 7 months.) Granger causality is directed only from prices to monetary aggregates, and not Vice versa. Score (9) argues that the Taylor rule-based interest rate ineffective. He emphasizes that monetary policy affects the economy through the exchange rate, as well as through interest rate channels. Ball builds a simple model based on the is curve of the open economy, the Phillips curve, and the relationship between interest rate and exchange rate. In addition, ball suggests that in a small open economy, the Central Bank should use a weighted average interest rate and exchange rate as an instrument. However, this type of hybrid rule did not become popular among researchers due to inaccuracies in determining weights[2].

We will analyze the monetary policy of the Central Bank of Uzbekistan in 1998-2018 using the Taylor standard rule. Following the instructions on the empirical evaluation of the rules of monetary policy, we use the following equation of the interest rate dynamics:

$$i_t = p_t i_{t-1} + (1 - p_t) i^*$$

where i_t – is the nominal interest rate;

i^* - the target interest rate.

[1] For example, for the Central Bank of Germany.

[2] Ball rules are hybrid rules where the monetary conditions index (MCI) applies. The MCI is an indicator of the monetary policy environment, looking at the impact of the exchange rate on inflation.

Suppose that the target interest rate depends on the expected inflation and the gap between GDP and lag in one period. This type of structure may be optimal in a model where the real interest rate affects aggregate demand with a lag in one period (with a delay in one period) and where aggregate demand affects inflation with the same lag (17).

Thus, this equation has the following form:

$$i* = i^{\wedge} + \rho_{\pi}(\pi_t + \pi^T) + \rho_y(y_t + y^T)$$

where $i^{\wedge} -$ is the equilibrium nominal interest rate, which is a constant;

p - ratio for variables';

$(\pi_t + \pi^T)$ - inflation gap, the difference between the current inflation rate and the inflation benchmark;

$(y_t + y^T)$ - the GDP gap, the difference between actual GDP and potential GDP.

The combination of formulas (1) and (2) gives the empirical model the following form:

$$i_t = p_t i_{t-1} + (1 - p_t)\left[i^{\wedge} + \rho_{\pi}(\pi_t + \pi^T) + \rho_y(y_t + y^T)\right] + \varepsilon_t$$

$\varepsilon_t -$ the random error of the model.

Data on the nominal interest rate (refinancing rate) were taken from the website of the Central Bank of Uzbekistan , data on the level of inflation, as well as the level of GDP – from the Uzstat website, data on the inflation target – from the annual reports "Main directions of the unified state monetary policy" of the Central Bank of Uzbekistan, the GDP Gap was calculated as the difference between the quarterly value of GDP and its trend generated by the Hodrik-Prescott filter. Graphs of indicators included in the Taylor rule are shown in Fig. 1-3.

Thus, the econometric model is constructed using the nonlinear least squares method, as well as using quarterly data for 1996-2016 (Table 1).

According to the results of the estimated model, it can be concluded that all the indicators were significant. According to Taylor's original work, the inflation gap ratio is 1.5, and the GDP gap is 0.5. In this case, the rate of inflation gap is lower and is 1.15, with a gap in GDP-0.3.

Figure. 1. Dynamics of the refinancing rate in Uzbekistan in 1996-2016, %

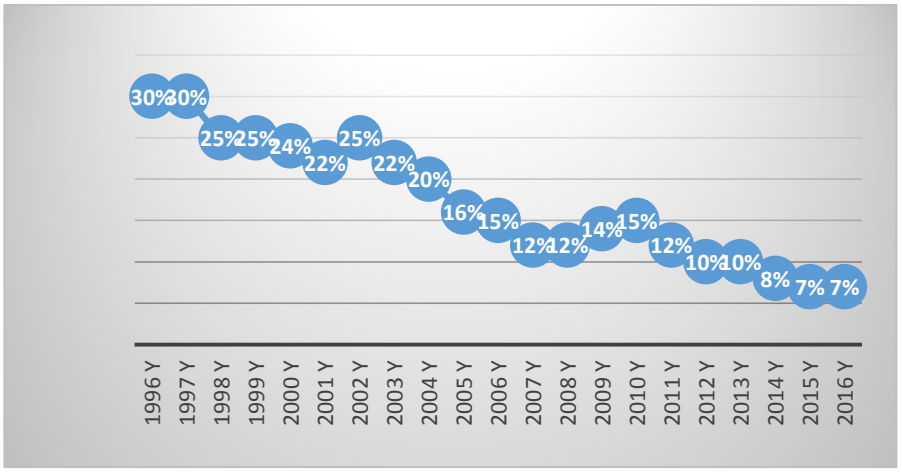


Figure. 2. Dynamics of inflation gap in Uzbekistan in 1996-2016, %

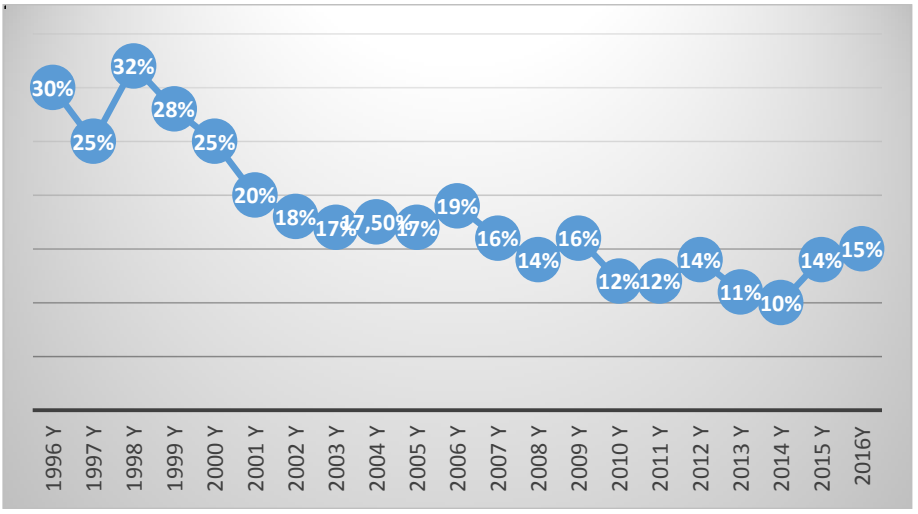
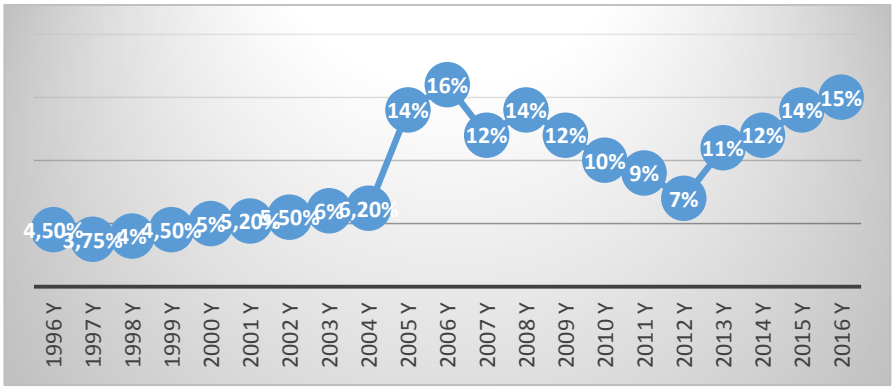


Figure 3. The dynamics of the gap of GDP in Uzbekistan in 1996-2016



In addition, it was found that the coefficient of smoothing the dynamics of the interest rate p_i is significant and plays an important role in the formation of monetary policy. For example, in the resulting model it is equal to 0.75. This means that the current interest rates are highly dependent on their previous value, the interest rates are very slowly adjusted against the target interest rates. The adequacy of the model is confirmed by a small standard error. ($\sqrt{S^2} = 0.75$), this indicates a good approximation of the results obtained in the simulation to the actual, and a high coefficient of determination, (R^2 =0.75), this suggests a close connection between the target interest rate and the selected instruments that affect its change.

However, it was decided to check whether the Central Bank's policies differ from one time to another, whether the Central Bank is focusing on inflation targeting, GDP targeting, or its policies remain unchanged during the period under review. To test this hypothesis, the Chow structural change test was applied. This test tests the hypothesis that the model parameters remain the same in different time periods and it is necessary to build a General model for the whole sample (according to the alternative hypothesis, the samples are considered to be heterogeneous and it is necessary to build two different models for samples).

*Table no.1. Evaluation of the Taylor standard rule**

Indicator	Coefficient	Std. Error	t-Statistic	Prob.
p_i	0,828710	0,050114	12,56339	0,0000
p_π	1,105444	0,128350	5,207376	0,0000
p_y	0,358530	0,154948	1,544564	0,0392
i*	0,683775	1,334911	0,408808	0,5549
R-squared	0,958681	Mean dependent var		10,50000
Adjusted R-	0,955045	S.D. dependent var		4,208738

squared				
S.E. of regression	0,759255	Akaike info criterion		2,452928
Sum squared resid	20,29332	Schwarz criterion		2,616760
Log likelihood	–45,73795	Hannan-Quinn criter		2,513344
Durbin-Watson stat	1,544605	-	-	-

$$i_t = p_t i_{t-1} + (1 - p_t)\left[\hat{i} + \rho_\pi(\pi_t + \pi^T) + \rho_y(y_t + y^T)\right]$$

Therefore, after the Chow test, two econometric models were also evaluated for two subsamples: for 1996-2008 (pre-crisis period), for 1996-2007 (post-crisis period). According to the results of the evaluation of the Taylor rule in the years 1996-2007 (table. 2) there was a significant difference in the value of the coefficient at the gap of GDP: it was equal to 1.15, not 0.4, as it was with the full sample.

However, the presence of a higher ratio in the GDP gap does not necessarily imply the Central Bank of Uzbekistan's desire to stabilize the GDP gap (GDP targeting), since the parameters of the Taylor rule reflect from a conceptual point of view not only the preferences of the Central Bank in a particular policy, but also the structural determinants of the transmission mechanism of monetary policy.

The increased attention to inflation targeting until mid-2016 is evidenced by the fact that the level of inflation in this period has significantly decreased compared to the previous two years. Growth in consumer prices amounted to 18.6% in 2001 and 15.1% in 2007 compared to 6.5% in 2017 reduce the level of inflation in the 2001-2017 years was achieved due to the following factors:

- carrying out a balanced budget and monetary policy corresponding to the adaptive possibilities of economic development (state budgets in the 2001-2007 years, was executed with a surplus);
- improvement of financial discipline;
- reduction of non-payment and barter.

The reduction of inflation was also facilitated by the implementation of a balanced tariff policy in the sphere of natural monopolies, the improvement of the price regulation process in 2001-2005.it Should be noted that the slowdown in inflation occurred in the conditions of growing solvent demand of the population.

*Table no. 2. Evaluation of the Taylor rule in 2001-2007**

Indicator	Coefficient	Std. Error	t-Statistic	Prob.
p_i	0,831710	0,030114	12,56339	0,0000
p_π	1,205444	0,044350	5,207376	0,0000

p_y	0,218530	0,054950	1,544564	0,0392
i*	0,583766	1,434922	-0,208814	0,5549
R-squared	0,958675	Mean dependent var		10,50000
Adjusted R-squared	1,155045	S.D. dependent var		4,208738
S.E. of regression	-0,859255	Akaike info criterion		2,452928
Sum squared resid	15,29332	Schwarz criterion		2,616760
Log likelihood	–45,73795	Hannan-Quinn criter		2,513344
Durbin-Watson stat	1,544605	-	-	-

$$i_t = \left[\hat{i} + \rho_\pi(\pi_t + \pi^T) + \rho_y(y_t + y^T)\right]$$

From mid-2002 to mid 2003 there was growth in GDP, industrial production and fixed capital investment. Capital expenditures in 2003 increased almost 4 times compared to 2002, the Revival of the investment activity also contributed to the growth of the industry. In 2003, GDP growth of 7.3% was accompanied by growth of capital investments and industrial production (12.5 and 7%, respectively). Most Uzbekistan economists and politicians believe that investment, rather than a favorable foreign economic environment, was the main reason for growth in 2003. The authorities ' attention to reducing the GDP gap (GDP targeting) in 2002-2007 is confirmed by consistently high GDP growth rates. According Uzstate, the average annual growth rate of GDP in Uzbekistan during this period was 7.5%.

*Table no. 2. Evaluation of the Taylor rule in 2008-2017**

Indicator	Coefficient	Std. Error	t-Statistic	Prob.
p_i	0,31710	0,030114	14,56339	0,0000
p_π	1,205444	0,044350	5,207376	0,0000
p_y	0,218530	0,054950	1,544564	0,0392
i*	0,583766	1,434922	-0,208814	0,5549
R-squared	0,958675	Mean dependent var		10,50000
Adjusted R-squared	1,155045	S.D. dependent var		4,408738
S.E. of regression	-0,859255	Akaike info criterion		2,252928
Sum squared resid	15,29332	Schwarz criterion		2,216760
Log likelihood	–45,73795	Hannan-Quinn criter		2,413344
Durbin-Watson stat	1,544605	-	-	-

$$i_t = p_t i_{t-1} + (1 - p_t)\left[i^{\wedge} + \rho_\pi(\pi_t + \pi^T) + \rho_y(y_t + y^T)\right]$$

This period is characterized by the global economic crisis of 2008-2009. the Peculiarity of the situation that has developed in the country is that the main negative trends that have determined the depth and severity of the crisis, were the result of developments in the world economy. However, despite the officially announced priority of the Central Bank of Uzbekistan on anti-inflation policy, the main efforts were aimed at smoothing the fluctuations in GDP, which is confirmed by the results of the evaluation of the Taylor rule in this period (the insignificance of the coefficient in the inflation gap). These results are also confirmed in the article. In addition, the insignificance of the coefficient of monetary policy smoothing indicates a lack of inertia in setting interest rates, i.e. the Central Bank of Uzbekistan when deciding on interest rates to a small extent, the management was the value of the rate in the previous period. Therefore, based on the results obtained, it can be concluded that the use of the standard Taylor rule for different periods of economic development of Uzbekistan is incorrect. The reform, the task is to develop a Taylor rule that the Central Bank of Uzbekistan will be able to apply when targeting inflation in view of crisis situations.

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СТРУКТУРА И ЗНАЧЕНИЕ НА ПРЕКИТЕ ГЕРМАНСКИ ИНВЕСТИЦИИ ЗА ИКОНОМИЧЕСКОТО РАЗВИТИЕ НА БЪЛГАРИЯ

Димитър Станишев

STRUCTURE AND MEANING OF THE DIRECT GERMAN INVESTMENTS FOR THE ECONOMIC DEVELOPMENT OF BULGARIA

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Abstract

The topic for the meaning of the foreign investments in Bulgaria is broadly discussed and it is provoking varied assessments. (Kolev, Investor.bg) Beside the opinions for the negative effect on the local business and the destroying of working positions, there are such that distinguish their meaning. An identical answer of this question is difficult because no consent exists regarding, which factors to be applied on the analysis of their meaning for the Bulgarian economy. Some negative tone has also the structure of the direct investments in Bulgaria, which is only partly in the manufacturing sector that is connected with the creation of new working positions. Despite the negative examples, the structure of the direct investments is changing in the time: „One third of the direct foreign investments are already directed to manufacturing, another one third to the energy sector, and the remaining part is divided among the trade, the transport, the construction and the agricultural sector.''(Vesti.bg, 2014) That has a number of positive aspects as well for the Bulgarian economics as transfer of knowledge, creation of new working positions, direct investments in the economics and increasing of the attractiveness of Bulgaria for other foreign investors.

Keywords: *German Investments, Foreign investments, economic development of Bulgaria*
JEL Codes: *F21*

1. Introduction

A lot of analyses have been published for the meaning of the foreign investments on the occasion of the 10th anniversary from the acceptance of Bulgaria in EU: „Without

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the membership of Bulgaria in the EU, significantly less foreign businesses would have entered in the country than in the moment. Their positioning in the country is among the basic microeconomic developments during the recent years. The reason is that they offer new business practices, ethics, models, established as successful in other countries end enriching the internal economic opportunities. An aspect of considerable importance of that development is the fact these types of businesses are significantly more successful in opposing vicious and economically ineffective business practices that were adopted during the years of the Transition by a lot of Bulgarian entrepreneurs.

Here it is important to note the double role of the import of specific business practices and models in Bulgaria. On the one hand, it is obvious that "modernization" represents competition for the Bulgarian manufacturers and traders as some of them experience difficulties to adapt and improve their own organization models. But on the other hand, separate Bulgarian manufacturers and traders perceive it as a stimulus for improvement of their own manufacture, organization and market behavior. In numerous occasions the new business models offer considerably more facilitated and regulated access to the Bulgarian manufacturers meeting the requirements not only to the entire Bulgarian market but also to markets beyond Bulgaria where these models operate… " (Center for Liberal Strategies, 2017).

For the meaning of the foreign investments, speaks also the chief executive officer of UniCredit Bulbank, who pays attention to the change of their structure. However, their meaning to the economics is confirmed: „… in the past, the foreign investments were a source for financing of the countries, in which the internal savings were limited, including Bulgaria. Today, a tendency of change of the role of the direct foreign investments as a source of know-how, new technologies and new managing practices is already seen" (Vesti.bg, 2017).

These tendencies are noticed at the German investments in Bulgaria as well. That is notable both from the volume of the investments and the trade balance between the two countries. Both of them register a considerable growth around and after the admittance of Bulgaria in the EU (German-Bulgarian Industrial Chamber of Commerce and Industry, 2017).

The data on the web page of the German Foreign Ministry as those on the web page of the German Embassy in Bulgaria illustrate more and more intensive economic relationship between the two countries. The data from the web page of the Ministry of Economy indicates narrow economic contacts as well: „For 2016 the export for Germany is amounting to 3.216 billion euro (13.6% from the total export and growth from 11.2%). The import from Germany is amounting to 3,422 billion euro (13.1% from the total import and growth from 0.8%). During 2017, the export for Germany is amounting to 3,591 billion euro (13.4% from the total import and growth from 11.7%). The import from Germany is amounting to 3,703 billion euro (12.2% from the total import and growth from 8.2%)." (Ministry of Economy, 2018) These data show a relative balance of

the export and import to/from Germany, which in other destinations such as China is strongly disrupted.

The membership of Bulgaria in the EU has a key meaning for the positive development of the economic relationships with Germany. During this period the trade exchange between the two countries has increased seven times and during 2016 it reached 7 billion euro which is a record of its own. In the same time, the imbalance in the trade between Bulgaria and Germany decreases as well. The level of the exported from Bulgaria goods and services for Germany is already only with 25% less than that of the countering import from Germany (Tsekov, 2017).

For a positive effect from the membership of Bulgaria in EU, tells as well the Ministry of Economy of Bulgaria that „renders positive influence on the bilateral trade because of the harmonization of the procedures and the facilitation of the import and the export." (Ministry of Economy, 2018).

Of interest is also the overview to the structure of the export of Bulgarian products in Germany. Thus, it can be answered to the question whether the trade balance is equalized. According to the Ministry of the Economy, in the recent years the biggest is the export of textile products and clothing, machines, electronics, base metals and their products and others. According to the Ministry of Economy, the biggest percent participation regarding the export from Bulgaria comes from unrefined copper; copper anodes for electrolytic refining, followed by ores of precious metals and their concentrates. Regarding the import from Germany, leading role has machines and apparatuses, textile products and clothing, electronics, transport and vehicular means and equipment chemical and pharmaceutical products and others (Ministry of Economy, 2018). As total sums the balance is equalized but the differences in the trade is perceivable. Whereas Bulgaria exports mostly products for processing, the import consists of highly technological goods. One of the goals of the Bulgarian institutions can be the attraction of investments exactly in this sector so that Bulgaria exports products with high added value instead of importing them.

The institutions that develop the German-Bulgarian economic relations are different and they focus both on the economic cooperation and on the joint projects in the politics and the culture. Next to German-Bulgarian Chamber of Industry and Commerce and the German Embassy in Sofia such are the Agency for Technical Cooperation – GTZ (in 2011 DEG, In Went and the Agency of International Cooperation – GIZ join together) as well as the German Bank for Development KfW (Embassy of FRG in Sofia, 2017).

For the meaning of the direct German investments in Bulgaria tells the fact among the 107th biggest investors 28 come from Germany (Bulgarian Agency for Investments, 2017). „ By their nature, the direct foreign investments (FDI) represent financial means invested for: buying of fixed tangible assets, patents, trademarks, know-how, securities, creation of new, reconstruction and broadening of existing fixed tangible assets and others." (Grigovora, 2007).

In contrast with the capital investments, the direct investments are connected with considerable uncertainty and risk because of their long-term character. These risks originate from the size of the necessary investments, their long-term engagement and the risk from significant change in the regulations. The frequent and abrupt amplitudes create insecurity in the planning of the separate companies – particularly, if clear motivation and preliminary analysis of their effect lack.

Despite the more intensive trade relations and the presence of global German concerns in Bulgaria such as „Liebherr", „Lufthansa Technik", „Aurubis", the direct investments from Germany, which structure is explained below are dynamic occurrence which can't still establish stable positive trend: „The maxim that the trade with Bulgaria is more profitable and secure enterprise than the investments in the Bulgarian industry is fully applicable. Something more – for the moment it is something as a tacit rule for the business community in the Federal Republic." (Tsekov, 2017).

A more long-term analysis of the amount of the direct investments of German companies in Bulgaria also matters. In this way it can be traced whether a constant trend is observed in one or another direction or certain inconsistency prevails. (Ministry of Economy, 2018) The following graphics generalizes the yearly direct investments of German companies in Bulgaria for the period 1996-2017 in millions euro.

Table 1. Amount of the direct German investments in Bulgaria between 1996 and 2017

1996: 13,4	1997: 44,0	1998: 23,6	1999: 43,3	2000: 42,3	2001: 75,3	2002: 90,8	2003: 96,1
2004: 253,0	2005: 107,1	2006: 268,0	2007: 386,5	2008: 783,3	2009: 271,4	2010: 80,8	2011: -45,7
2012: 78,8	2013: 80,8	2014: -17,6	2015: 157,3	2016: 293,4	2017: 130,17		

Source: own table by data of Ministry of Economy, https://www.mi.government.bg

The total value of the German direct investments in the period 1996-2017 is 3,26 billion euro by data of Ministry of Economy of Bulgaria. Even without deep analysis, a strongly expressed level of alterations is apparent which can be explained difficultly with external macro-economic factors such as the financial crisis during 2009-2011. Therefore, it is necessary to be paid deeper attention to the business environment of Bulgaria and to the German investors who are already present on this market. A main accent will be placed on the changes in the legislative framework as a basic factor in the creation of a predictable environment; of some cases which for a long time cast shadow on the German investments in Bulgaria; as on the regular research of German-Bulgarian Chamber of Industry and Commerce among its members and partners in Bulgaria.

The structure of the direct investments in Bulgaria is also interesting. According to GBCIC share capital prevails, followed by reinvested earnings and on the last place the debt instruments.

According to Ministry of Economy and Bulgarian Agency for investments, German investors are among the biggest in the country with long-term engagement and added value to the GDP: „The German companies are reliable investors as they engage for long term. The investments are allocated evenly by industries and regions in the country, more than half of them are „on green" by creation of subsidiary or affiliate which leads to the conclusion that German investors assess the conditions for business in Bulgaria as attractive. By preliminary data of BNB, for the period 1996 – 2017 the direct foreign investments /FDI/ from Germany amounts to 3,256 billion euro. During 2017 the investments from Germany are amounting to 130.7 million euro (Ministry of Economy, 2018).

By data of BIA, quoted by Ministry of Economy, around 30% from the 100 biggest investors in Bulgaria are German or with German participation. Leading German investors:

- Aurubis -
- Lufthansa Technik Gmbh -
- Schneider Electric -
- Witte Automotive –
- ABB -
- SAP -
- Festo –
- Liebherr Hausgeräte -
- Sparky –
- Grammer -
- Linde Gas -
- Rollmann & Partner -

Leading German investors which in consequence sell the investment to other company are:

- Heidelberger Zement -
- E.ON -
- WAZ -
- Ivan Zografski -
- Lindner International -

On the one hand, this overview shows the presence of big German companies in Bulgaria. However, on the other hand, it becomes also clear that big German investors have withdrawn from the country. It is not a part from one academic work to speculate about the possible and decisive reasons. Rather, it is proper to pay attention to the actual moods among the investors, to their needs, worries and feedback so that eventual external

contribution to their withdrawal from the country can be minimized. The polls that are quoted on other places in the current work give actual reference point on these questions. According to data of Ministry of Economy, a perspective for future investments is the interest shown by German companies to the sphere of: transport infrastructure, energetic, coal mining and communal economy, telecommunications, chemical industry, machine building (including the manufacturing of automobile parts and details), electronics and electrical engineering, food industry and others. These could be as well themes for eventual media work in Germany and among potential investors. The observations of GBCIC are similar as well. According to the Chamber, during the last years Germany invests actively in Bulgaria, particularly in the processing industry, the energetic, and the manufacturing.

The meaning of the German investments for the Bulgarian economy is expressed both in the creation of new work positions and as a part of GDP. From the following graphics of the GBCIC it is apparent that the number of the employed people in the companies with German capital is constantly growing. For 2016, the working in the non-financial sector with German participation from 10% to 100% are 55 373 people. The data of GBCIC show the influence of the direct German investments also as part of the GDP.

Table 2. Part of the German investments from GDP of Bulgaria

	2013	2014	2015	2016	2017
The German direct investments in Bulgaria as percent part from GDP of the country	0,2%	0,0%, Because of withdrawal of investments from Bulgaria	0,3%	0,6%	0,3%

Source: German-Bulgarian Chamber of Industry and Commerce, Yearbook 2018

In the same time, more and more attention is paid to so the so called "dual education" which is a combination of theoretical and practical preparation. In a number of Western European countries, among which Germany and Switzerland, it has a serious contribution in the fight against the youth unemployment. In Germany, during the last two years of the professional education, the school curriculum includes two days theory in the school and three days of practice in a particular company as is apparent from the bulletins of the Bulgarian Economic Chamber.

The dual education is gaining momentum in Bulgaria as well. Here a few German companies already introduce the dual education through their own centers for professional education. For example, such companies are „Balkan Star" which prepares automobile mechanics, „Rollmann & Partner" which trains dress makers as well as

„Liebherr Hausgeräte Maritsa" which train qualified workers for their production of refrigeration systems. The dual education is set in the German-Bulgarian Chamber of Industry and Commerce as well, which has a particular coordinator regarding these questions. It is not excluded for the business to have a contribution to the faster imposing of this type of professional education on law basis which would be of immediate benefit for other companies as for the economics of the country as well.

A State Enterprise also exists – „Bulgarian-German Center for Professional Education" (BGCPE) with registered office at Sofia and with branches in the cities: Pazardzhik, Pleven, Stara Zagora, Tsarevo and Smolian. The main subject of BGCPE is realization of training for obtaining of professional qualification of persons over 16 years old, training for obtaining of key competence and professional orientation. BGCPE is licensed by the National Agency for Professional Education and Training /NAPET/ for organization and conducting of qualified coursed (State Enterprise, 2018).

Next to the training and investments in a number of sectors, including the commercial sector, the presence of German companies in Bulgaria gives an opportunity for a more massive export of Bulgarian goods in Germany. Here can be mentioned different examples of the company for trade „Lidl". From specific benefit for Bulgarian economics are also the new working positions, created, for example, in economic zone of „Thrace", as well as the existence of joint German-Bulgarian companies helping for the transfer of knowledge and technologies. Among the leading non-profit making organizations is the so called Automobile cluster Bulgaria which is characterized with considerable German expertise as well.

During the his participation in economic forum in Germany, the President of Bulgaria Rumen Radev synthesized the following benefits from the German investments in the country: „These investments which are invested so far in Bulgaria, as a net dimension of money, are not the most important. The most important is that together with these investments enters a new model of public relations in Bulgaria, a model of irreconcilability with imperfections which decreases our threshold of tolerance to corruption, which creates in us a vision how should look one modern European community." (https://bit.ly/2Q3OO3Y, 2017).

2. Conclusions

As a whole, the discussions for the role of the FDI in Bulgaria are often politicized and synthesized in a rather simplified way as type of export of the capital outside Bulgaria. What matters if in the overview of the role of FDI for the economics of the country are as the phases of economic development of the separate economies (developed in contrast with developing ones), as the specifications of the separate industries. Different authors measure the influence on different components as well. Some of them

reach to the conclusion that: „… a strong reverse dependency exists between the flow of direct foreign investments and the level of unemployment in Bulgaria. With the growing of the flow of FDI the number of the unemployed decreases, by other equal conditions... By the macroeconomic indicators of Bulgaria now it is particularly important this connection to be used with the objective to achievement of economic stability, recovery after the global financial crisis and decrease of the norm of unemployment. Without a flow of external capitals it is impossible for the country to achieve the high rates of growth preceding the crisis. The Government must continue to impose strict fiscal policy and to perform the planned structural reforms so that Bulgaria can be distinguished with stability in the region of Central and Eastern Europe.“ (Nikolaev, Stancheva, 2017).

It follows the discussion to be lead less on that whether they are useful or not and more on the industries from key meaning for the Bulgarian economics where additional investments to be attracted. The first step is the most difficult – it is a strategy to be marked with clearly defined goals and target groups. The operative measures can include both constant improvement of the investment climate and more intensive communicational policy in Germany. In this way, Bulgaria can define the messages that are published for her and not transform into a passive object of media coverage as were the tendencies in the beginning of the Presidency of EU during 2018.

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ПРЕДПОСТАВКИ ЗА ОБРЪЩАНЕ КЪМ ПРОБЛЕМА НА УПРАВЛЕНИЕТО ЗА ПОДОБРЯВАНЕ КАЧЕСТВОТО НА ЖИВОТА В НАСТОЯЩ ЕТАП В РАЗВИТИЕТО НА РУСИЯ

Надежда Соколова, Лариса Шемятихина

PREREQUISITES OF THE APPEAL TO THE PROBLEM OF MANAGEMENT OF IMPROVEMENT OF QUALITY OF LIFE AT THE PRESENT STAGE OF DEVELOPMENT OF RUSSIA

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Abstract

The authors states internal and external prerequisites of the appeal to a problem of management of improvement the quality of population's life at the present stage of Russia's and its territories social and economic development. The authors gives an overview of integral, objective and subjective indicators of quality and living standards of the population of Russia and its regions as well as other countries. Social and economic management is considered on the basis of the population's life quality as a natural strategy of state, regional and municipal development. The quality of population's life is a vector of a democratic society, according to which all reforms must be checked. From the authors's point of view, the idea of improving the quality of life should be seen as a national idea, the deficit of which is clearly felt. The proclamation of the quality of life with a national idea can significantly change the whole course of Russia's development in the 21st century.

Keywords: *socio-economic management, socio-economic development of the territory, population's quality of life, indicators of the quality of population's life, national idea.*

JEL Codes: *O1, O35, O47*

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1. Introduction and methodology

The concept of improving the quality of population's life of human life is focused on a harmonious combination of allsociety's aspects and the individual. It is, without a doubt, a symbol of progress. The steady improvement of the quality of life was determined as a shared goal for all mankind at the Earth Summit, held back in Rio de Janeiro in 1992. The Russian Federation, which, along with other countries, has signed Agenda 21, is now striving to translate this principle into practice. Quality of life and human development - these concepts constitute a content characteristic of modern approaches to the problems of economic growth and society's development. In recent years the idea of the need to improve the quality of population's life increasingly penetrates the public consciousness of power structures, politicians, the scientific community and the general public.

2. Problem statement and research objectives, key results

We will consider prerequisites of the appeal to this problem (Sokolova, 2013), authors suggest to divide them on: internal and external.

It is offered to carry the following to internal prerequisites:

1. The fact that life as such is a priority for every human being and for society as a whole. People try to improve their lives, especially during the period of reforms and crisis. The quality of life includes both the objective parameters of existence, and the subjective aspects of human life. It is a holistic criterion of the country's socio-economic development. It allows you to compare countries, regions and social groups among themselves, rank them, identify unresolved problems and negative trends, as well as, to stimulate the search for ways and means to solve them.

2. At the same time, the quality of life is a regulator of social and economic transformation in the country. It is a source of sustainable socio-economic development and the restoration of Russia's role in the world community. Whether the changes that might worsen the living conditions of people take place, this immediately would cause social tension, create an intolerant reaction, which forces the authorsities to adjust social and economic policies. Only decisions and actions of power institutions that lead to positive changes in specific characteristics of the quality of life have the right for implementation.

3. Use of indicators of quality of life as criteria for evaluation of effectiveness of activities of power structures for management of certain regions, subjects and territories of the Russian Federation and their heads, overall performance of regional and municipal departments is relevant. Quality of life - recognized integrated criterion for evaluation of effectiveness of practical activities.

To external prerequisites, from the point of view of authors, defining relevance of the appeal to a problem of quality of life, belong:

1. Reality of economic and social conditions of Russian society. At the beginning of the 21st century, almost all the most important life-support indicators of the Russian population are at an extremely low and sometimes critical level (see tables 1-4). For instance, the value of the Gini coefficient in Russia, according to official statistics, reached a value of about 15.6 in 2006 (comparing to 5-10 for industrialized countries). By the size of the human development index - a kind of analogue of the quality of life indicator - Russia, until recently, occupied only 65th (in 2004) and 67th place among the 177 countries evaluated in 2005; 66th in the list of 187 countries in 2011; 50th among 188 countries in 2015. The worst 71st position was registered in 1999 (Sokolova, 2013). There was 31st place in 1993. The problem is not about how to accelerate the growth and development but rather about self-preservation. The importance of improving life's quality in Russia is also growing due to the fact of actively aging processes and depopulation. People become the scarcest resource.

2. Interest is caused by the process of globalization, which dictates for the modernizing states the need to create decent living conditions, not only for those who live today, but also for future generations. World studies and forums for example, on children, the environment, human rights, social development, the status of women, the settled population, food security, migration, poverty and agingwhich conducted under auspices of the United Nations play a major role in understanding global problems related to the main directions for improving the quality of life (Regions of Russia, 2017).

3. Of no less importance is the fact that a new stage of development has begun in the world civilization - the advancement of man to the "quality epoch". Its meaning lies in the fact that quality in all its aspects - economic, social, political, and technological - is regarded as a necessary condition for ensuring sustainable development of civilization, improving the environment, improving the person himself.

Management of economy by criterion of quality becomes the key sphere of attention of modern management. The quantitative increase in individual indicators of the standard of living does not solve the problem today. We need criteria that would take into account the full range of needs, interests and value orientations of citizens. This is the criterion of quality of life. Quality-based management is seen as an element of the strategy of state, regional and municipal development. The quality of a person's life becomes the main vector of a democratic society, according to which all directions of ongoing reforms must be checked.

The idea of managements of improvement the quality of life should be seen as a national idea, the deficit of which is clearly felt. The proclamation of improving and growing the quality of life in the form of a nationwide idea should restore the social meaning of the reforms, justify the costs of the previous period, besides this might restore people's confidence in the authorsities. The quality of life proclamation as a nationwide

idea can significantly change the whole course of Russia's development in the coming twenty-first century. It becomes evident that the quality of life policy is a priority process for regional and local authorsities. The status and conditions for the development of territories have changed qualitatively. It is they who, on the basis of mechanisms of motivating management of socio-economic development, can create the most favorable conditions for human development towards an adequate global strategy of Russian society "ensuring a decent life and free development of a person", as defined in the Constitution of the Russian Federation.

Internal and external prerequisites for addressing the issue managements of improvement of quality of life explain why this problem is increasingly considered as one of the key for the modern development of Russia, its regions and territories. At first glance, its formulation looks premature, since for a large part of the population of Russia the question is, rather not about the quality of life, but about ensuring an elementary survival. There are often opinions that talking about the quality of life is another type of political speculation, attempts by a number of leaders to maintain their image.

Table no 1 – Russia in the ranking of countries by combined quality-of-life indicator

HumanDevelopmentIndex (HDI), 2011, 2015 г. [1]					**Quality-of-Life Index (Economist Intelligence Unit), 2005 / 2013 [2]**					**Happy Planet IndexHPI (New Economics Foundation), 2006, 2009, 2012, Satisfaction with Life 2012 [3]**						
Rank		Country	Value		Rank		Country	Score out of 10		Rank			Country	HPI Value			Satisfaction with life value, 2012
Very high human development					2005	2013		2005	2013	2006	2009	2012		2006	2009	2012	
2011	2015		2011	2015	1	12	Ireland	8.33	7.74	3	1	1	Costa Rica	66,0	76,1	64,0	7,3
1	1	Norway	0,943	0.944	2	1	Switzerland	8.07	8.22	-	-	2	Vietnam	-	-	60,4	5,8
2	2	Australia	0,929	0.935	3	3	Norway	8.05	8.09	2	-	3	Columbia	67,2	-	59,8	6,4
-	3	Switzerland	-	0,930	5	4	Sweden	7,94	8,02	-	3	6	Jamaica	-	70,1	58,5	6,2
3	5	Netherlands	0,910	0,922	6	2	Australia	7.92	8.18	6	7	12	Cuba	61,9	65,7	56,2	5,4
4	8	USA	0,910	0,915	13	17	USA	7,61	7,38	1	-	-	Vanuatu	68,2	-	-	-
5	9	New Zealand	0,908	0,913	17	25	Japan	7,39	7,08	115	88	29	Norway	39,2	40,4	51,4	7,6
-	25	Slovenia	-	0,880	26	16	Germany	7,05	7,38	-	2	33	Dominican Republic	-	71,8	50,7	4,7
-	28	Czech Republic	-	0,870	29	27	Great Britain	6,92	7,01								
-	35	Slovakia	-	0,844						90	35	32	India	42,5	53,0	50,9	5,0
High human development					25	26	France	7,08	7,04	65	52	34	Switzerland	48,3	48,1	50,3	7,5
48	52	Uruguay	0,755	0,793	27	32	Slovenia	6,99	6,77	19	61	38	Kyrgyz Republic	59,1	47,1	49,1	5,0
…					34	28	Czech Republic	6,63	6,96	147	32	40	Moldova	31,1	54,1	48,0	5,6
65	50	Belarus	0,756	0,798	45	35	Slovakia	6,38	6,64	79	66	-	Slovenia	44,0	44,5	-	-
66	50	Russia	0,755	0,798	42	50	Thailand	6,42	5,96	132	73	-	Slovakia	35,8	43,5	-	-
…					60	14	China	6,08	7,67	108	74	41	Great Britain	40,3	43,3	47,9	7,0
Medium Human Development					69	18	UAE	5,90	7,33	95	75	45	Japan	41,7	43,3	47,5	6,1
95	80	Jordan	0,698	0,748	72	38	Saudi Arabia	5,77	6,49	81	51	46	Germany	43,8	48,1	47,2	6,7
-	106	Botswana	-	0,698						61	57	48	Austria	48,8	47,7	47,1	7,3
	…				98	78	Ukraine	5,03	4,98	129	71	50	France	36,4	43,9	46,5	6,8
Low Human Development					105	72	Russia	4,79	5,31	128	92	-	Czech Republic	36,5	38,3	-	-
142	156	Solomon Islands	0,510	0,506	73	66	India	5,76	5,67	172	108	-	Russia	22,8	34,5	-	-
					75	69	Jordan	5,68	5,63	150	114	-	USA	28,8	30,7	-	-
187	136	Congo	0,286	0,591	96	74	Kazakhstan	5,08	5,20	74	122	-	Luxemburg	45,6	28,5	-	-
-	188	Niger	-	0,348	108	80	Nigeria	4,51	4,74	178	143	-	Zimbabwe	16,6	16,6	-	-

Table no 2 - List of federal subjects of Russia by Human Development Index (Volga Federal District), 2008, 2015.[4]

Rank		Federal subject	Value		Rank		Federal subject	Value		Rank		Federal subject	Value	
2008	2015		2008	2015	2008	2015		2008	2015	2008	2015		2008	2015
Very High Human Development					14	41	Bashkortostan	0,815	0,852	Satisfactory Human Development				
1	1	Moscow	0,929	0,949	28	41	Nizhny Novgorod Oblast	0,801	0,851					
3	2	Saint-Petersburg	0,877	0,922	27	45	Saratov Oblast	0,801	0,850	78	83	Jewish Autonomous Oblast	0,748	0,794
2	3	Tyumen Oblast	0,878	0,904	38	45	Mordovia	0,794	0,850	80	85	Tuva	0,717	0,776
-	4	Khanty-Mansi Autonomous Okrug	-	0,902	45	48	Penza Oblast	0,786	0,848	0,900-1,000		Very High Development (USA, Canada, West Europe, Japan, South Korea etc.)		
High Human Development					63	53	Kirov Oblast	0,774	0,842					
-	-	Russia (on average)	0,825	0,875	46	54	Ulyanovsk Oblast	0,786	0,841	0,800-0,899		High Development (East Europe, Russia etc.)		
4	5	Tatarstan	0,848	0,896	36	56	Chuvashia	0,797	0,839					
8	20	Samara Oblast	0,817	0,867	69	59	Mari El	0,769	0,838	0,700-0,799		Satisfactory Development (Brazil, China, Kazakhstan, Ukraine etc.)		
18	24	Orenburg Oblast	0,813	0,865	…	…	…	…	…					
25	26	Udmurtia	0,805	0,864	77	77	Pskov Oblast	0,751	0,813	0,600-0,699		Medium Development (Vietnam, South Africa, Indonesia, Uzbekistan etc.)		
26	30	Perm Krai	0,802	0,860	79	79	Altai Republic	0,748	0,812	0,500-0,599		Unsatisfactory Development (India, Pakistan etc.)		

Table 3 Regions of Russia – key socio-economic indicators in 2010 (ranking of the federal subjects according to the key socio-economic indicators) [5]

	Average per capita income (per month), rub.		**Rank by average per capita income, 2010**		**Average monthly nominal wage, rub.**		**Rank by average monthly nominal wage, 2010 г.**	**Real income of the population (% in the comparison to the previous year)**	
	2010	2016	2010	2016	2010	2016	-	2010	2016
Russian Federation	18881	30744	-	-	20952,2	36709,0	-	105,4	94,4
Bashkortostan	17677	28125	22	28	16377,7	28108	42	101,0	95,7
Mari El	10195	18671	79	77	12650,6	23305	74	103,6	94,2
Mordovia	11055	17695	74	81	11883,1	23229	78	110,0	94,1
Tatarstan	18158	32609	20	16	17350,1	30224	37	109,0	96,5
Udmurtia	12423	23878	70	52	14291,1	26693	60	108,1	93,6
Chuvashia	10885	17872	77	79	13004,4	22908	71	107,5	92,4
Perm Krai	19422	28400	18	26	17438,3	30651	35	102,4	82,3
Kirov Oblast	13385	21301	59	70	13292,6	23404	67	109,3	90,2
Nizhny Novgorod Oblast	16358	30598	27	20	16327,6	28399	44	105,9	93,4
Orenburg Oblast	13398	22028	58	67	15199,6	26209	52	105,6	91,6
Penza Oblast	12700	21825	66	68	14423,6	25337	58	105,1	94,2
Samara Oblast	20279	26795	17	36	16479,4	28295	41	105,8	90,5
Saratov Oblast	11961	19406	72	76	14554,0	23548	54	108,2	91,4
Ulyanovsk Oblast	12905	22481	64	62	13339,0	24334	66	112,8	92,7

Table 4 The distribution of total monetary income among population quintiles and by average per capita money income. The distribution of the population by average per capita money income in 2016. The numbers of persons with money incomes below the subsistence level. [6]

	The proportion of total monetary income among population quintiles, %					**Assets Ratio**	**Gini coefficient**	**Average per capita money income, rublesper month**								**The numbers of persons with money incomes below the subsistence level, %**	
	first	second	third	fourth	fifth			Up to 7000,0	Between7000,1 and 10000,0	Between 10000,1 and 14000,0	Between 14000,1 and 19000,0	Between 19000,1 and 27000,0	Between 27000,1 and 45000,0	Between 45000,1 and 60000,0	Above 60000,0	2010	2016
Russian Federation	5,3	10,0	15,0	22,6	47,1	0,412	15,6	6,0	7,9	12,0	14,3	18,2	22,7	8,5	10,4	12,6	13,4
Bashkortostan	5,3	9,9	14,9	22,6	47,3	0,416	16,0	7,9	9,2	13,2	14,9	17,9	20,9	7,4	8,6	12,0	12,5
Mari El	6,3	11,1	16,0	22,9	43,7	0,371	11,6	13,5	14,7	18,5	17,6	16,8	13,8	3,1	2,0	24,6	22,5
Mordovia	6,5	11,3	16,1	23,0	43,1	0,364	11,0	14,4	15,5	19,3	17,8	16,4	12,5	2,6	1,5	19,0	18,8
Tatarstan	5,3	10,0	15,0	22,6	47,1	0,413	15,7	5,2	7,1	11,2	13,8	18,1	23,5	9,2	11,9	8,0	7,5
Udmurtia	6,2	11,1	15,9	22,9	43,9	0,374	11,8	7,4	10,3	15,5	17,2	19,5	19,8	5,7	4,6	14,6	12,3
Chuvashia	6,9	11,8	16,5	23,1	41,7	0,345	9,7	11,9	15,1	19,9	19,0	17,5	12,9	2,5	1,2	18,7	18,6
Perm Krai	5,3	10,1	15,0	22,6	47,0	0,412	15,5	7,3	8,9	13,1	14,9	18,1	21,4	7,6	8,7	13,8	14,9
Kirov Oblast	6,9	11,8	16,4	23,1	41,8	0,348	9,8	7,4	11,5	17,5	19,0	20,1	17,8	4,2	2,5	14,1	15,9
Nizhny Novgorod Oblast	5,5	10,3	15,2	22,7	46,3	0,403	14,6	5,4	7,6	12,0	14,5	18,6	23,2	8,6	10,1	12,5	9,6
Orenburg Oblast	6,1	10,9	15,8	22,9	44,3	0,379	12,2	9,6	11,9	16,5	17,3	18,5	17,7	4,8	3,7	14,2	14,8
Penza Oblast	6,3	11,1	16,0	22,9	43,7	0,371	11,6	9,2	11,8	16,7	17,7	18,9	17,7	4,6	3,4	15,5	14,5
Samara Oblast	6,0	10,8	15,7	22,9	44,6	0,383	12,6	6,0	8,8	13,7	16,1	19,6	22,0	7,1	6,7	15,1	13,8
Saratov Oblast	6,4	11,3	16,0	23,0	43,3	0,367	11,2	11,8	13,9	18,3	17,9	17,7	14,8	3,4	2,2	16,9	17,6
Ulyanovsk Oblast	6,4	11,2	16,0	23,0	43,4	0,367	11,3	8,1	11,1	16,4	17,8	19,5	18,6	4,9	3,6	17,0	14,9

There is a serious danger that discussion of a problem of quality of life won't go beyond a political and ideological action and won't be transferred to the implementation plane, it is connected with influence of a number of the factors characteristic of modern process of territorial department. This is due to the effect of a number of factors that are characteristic of the current process of territorial management: the task of managing the quality of life is of a long-term nature, while the territorial authorsities and administrations in recent years are most often oriented to the medium and short term; there is an opinion that the solution of this task requires the expenditure of considerable resources, which are not available especially to the municipal authorsities; When implementing plans to improve the quality of life, the degree of risk is extremely high; their failure casts doubt on the prospect of retaining the power of the team that initiated the quality improvement program.

Nevertheless, the formulation of a task of management of improvement of quality of life is necessary and appropriate, at minimization of risks and resources, definiteness of reference points of development and finding of mutual understanding, balance of interests of the subjects participating in process of improvement of quality of life and the population.

3. Conclusion

Management of improvement of quality of life as the directions of strategy of social and economic development of the country is staticized in the context of realization of reform of pension system (increase in a retirement age) when the population of "the third age" for maintenance of own activity and working capacity has to have access to qualitative resources of maintenance of activity and health (health care, education, family policy, legislative rules of protection and social guarantees).

The concept of management of improvement of quality of life demands new and modern tools at the level of the public, regional and municipal administration, selection of economic techniques for justification of the made decisions, transformation in understanding of mechanisms of management of improvement, understanding by modern managers of opportunities of increase in resource potential of the population [9] from the incurred expenses in improvement of quality of life. The stated perspective is relevant therefore we hope will lead to activization in carrying out cross-disciplinary scientific and applied researches on consideration of economic category "management of improvement of quality of life" and its influence on processes of social and economic development.

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НЯКОИ АСПЕКТИ НА СТРАТЕГИЧЕСКИЯ МЕНИДЖМЪНТ

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SOME ASPECTS OF STRATEGIC MANAGEMENT

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Abstract

Strategic Management is a planning process of developing strategy in the direction of achieving strategic-fit between the organization's competence & resources and the global environment under which it tends to operate. It is an ongoing management planning process, aimed at developing strategies to allow an organization to expand abroad and compete internationally.

An organization must be able to determine what products or services, where and how they intend to sell…

Concurrent with this assessment, objectives are set. These objectives should be parallel to a time-line; some are in the short-term and others on the long-term. This involves crafting vision statements (long term view of a possible future), mission statements (the role that the organization gives itself in society), overall corporate objectives (both financial and strategic), strategic business unit objectives (both financial and strategic), and tactical objectives.

Keywords: *strategic management, strategic planning, aspects of strategic management, strategies, companies*

JEL Codes: *M11*

1. Introduction

In the field of management, strategic management involves the formulation and implementation of the major goals and initiatives taken by an organization's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization operates (Nag, Hambrick, Chen, 2007). Strategic management is the management of an organization's resources, evaluating strategies and ensuring that management rolls out the strategies across the organization. It identifying how the organization stacks up compared to its competitors and recognizing opportunities and threats, whether they come from within the organization or from competitors.

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The strategic management process helps institutions identify what they intend to achieve and how they will accomplish outcomes. The term strategic management is used to refer to the entire decision-making process. Strategic management must evolve by predicting the future (more effective planning), thinking strategically (increased responses, evaluation of strategic alternatives and dynamic allocation of resources) and creating the future (strategic planning…

Academics and practicing managers have developed numerous models and frameworks to assist in strategic decision-making in the context of complex environments and competitive dynamics (Ghemawat, 2002). Business culture, the skills and competencies of employees, and organizational structure are important factors that influence how an organization can achieve its stated objectives. Inflexible companies may find it difficult to succeed in a changing business environment. Creating a barrier between the development of strategies and their implementation can make it difficult for managers to determine whether objectives were efficiently met.

While an organization's upper management is ultimately responsible for its strategy, the strategies themselves are often sparked by actions and ideas from lower-level managers and employees. An organization may have several employees devoted to strategy rather than relying on the chief executive officer (CEO) for guidance. Because of this reality, organization leaders focus on learning from past strategies and examining the environment at large. The collective knowledge is then used to develop future strategies and to guide the behavior of employees to ensure that the entire organization is moving forward. For these reasons, effective strategic management requires both an inward and outward perspective.

2. The need for strategic management

Strategic management spans all sectors of a business. Strategic management is the process of evaluating the best policies for a business's managers to carry out in order to achieve the organization's goals and priorities. Strategic management is not static in nature; the models often [quantify] include a feedback loop to monitor execution and to inform the next round of planning (Hill, Jones, 2012). The small-business owners, can create a competitive advantage for the companies by enacting aspects of strategic management.

Strategic Analysis

Strategic analysis is an idea used within the broader field of strategic management to help businesses understand where their companies fit into the broader marketplace. This starts by looking inward evaluating the work environment, the availability of resources and the relationships between various levels of stakeholders. The aim of strategic analysis is the business owner or manager, to think about the key influences on the company's present position and to begin thinking about how those influences can be manipulated to get the company where it wants or needs to go.

Strategic Choice

Once a strategic analysis of the company's environment has been carried out, can move onto listing the strategic choices the company can take to meet its objectives. Listing the strategic choices will help to come up with ways to scale up resources, change company policy and reinvent business processes so as to reach the increased revenue goal. The key to this process is open communication. Discussing the options with stakeholders - employees, customers, board members and concerned community members - will give a 360-degree view of where the company can tweak or modify its policies and processes to better position itself for success.

Strategy Implementation

Implementing the choices outlined in the strategic plan is likely to be a time-consuming and, at times, frustrating endeavor. There are two things to keep in mind - allocation of resources and the organizational structure. If the organization and its management are rigid and not very open to change, it will be much harder to implement the strategic plan. Also have to think about access to resources, such as manpower, money and tools. Implementing change within the business will require a balance between pouring money into a problem and effectively using resources to change business policies and processes.

SWOT Analysis

One of the main tools that can be used in bringing together a strategic management plan is a SWOT analysis. The name is an initialism for the four parameters the technique examines:

- **S**trengths: characteristics of the business or project that give it an advantage over others.
- **W**eaknesses: characteristics of the business that place the business or project at a disadvantage relative to others.
- **O**pportunities: elements in the environment that the business or project could exploit to its advantage.
- **T**hreats: elements in the environment that could cause trouble for the business or project.

SWOT stands for strengths, weaknesses, opportunities and threats. The idea behind this tool is to list each of organization's attributes in each section. If the facilities need to be revamped, that is opportunity to better the company. If a competitor can't do much to control, that is a weakness. Seeing all of the business's pros and cons in one place can help decide a strategic plan for accomplishing financial, operations and resource-based goals.

3. Intended, emergent and realized strategies

For firms, changes in the behavior of competitors, customers, suppliers, regulators, and other external groups can all be sources of a metaphorical punch in the face. Depending on the situation in the company's environment, strategic management can use different strategies. Strategic management is often described as involving two major processes: formulation and implementation of strategy. In practice the two processes are iterative and each provides input for the other (Mintzberg, 1996).

When an organization’s environment is stable and predictable, strategic planning can provide enough of a strategy for the organization to gain and maintain success. The executives leading the organization can simply create a plan and execute it, and they can be confident that their plan will not be undermined by changes over time. Because change affects the strategies of almost all organizations, understanding the concepts of intended, emergent and realized strategies is important.

An intended strategy is the strategy that an organization hopes to execute. Intended strategies are usually described in detail within an organization’s strategic plan. When a strategic plan is created for a new venture, it is called a business plan.

An emergent strategy is an unplanned strategy that arises in response to unexpected opportunities and challenges.

A realized strategy is the strategy that an organization actually follows. Realized strategies are a product of a firm’s intended strategy (i.e., what the firm planned to do), the firm’s deliberate strategy (i.e., the parts of the intended strategy that the firm continues to pursue over time), and its emergent strategy (i.e., what the firm did in reaction to unexpected opportunities and challenges).

4. The five ps of strategy

Defining strategy is not simple. Strategy is a complex concept that involves many different processes and activities within an organization. To capture this complexity, Professor Henry Mintzberg of McGill University in Montreal, Canada, articulated what he labeled as "the 5 Ps of strategy." According to Mintzberg, understanding how strategy can be viewed as a plan, as a ploy, as a position, as a pattern, and as a perspective is important. Each of these five ways of thinking about strategy is necessary for understanding what strategy is, but none of them alone is sufficient to master the concept (Mintzberg, 1987).

Understanding different ways of thinking about strategy is the first step toward mastering the art and science of strategic management. The **five Ps** of strategy developed from the work of Henry Mintzberg help to provide an overview of the most commonly used definitions of strategy:

1) **Plan**
2) **Ploy**
3) **Pattern**
4) **Position**
5) **Perspective**

Strategy as a Plan

Strategic plans are the essence of strategy, according to one classic view of strategy. A strategic plan is a carefully crafted set of steps that a firm intends to follow to be successful. Virtually every organization creates a strategic plan to guide its future.

A business model should be a central element of a firm's strategic plan. Simply stated, a business model describes the process through which a firm hopes to earn profits. Developing a viable business model requires that a firm sell goods or services for more than it costs the firm to create and distribute those goods. A more subtle but equally important aspect of a business model is providing customers with a good or service more cheaply than they can create it themselves.

Strategic plans are important to individuals too. Indeed, a well-known proverb states that "he who fails to plan, plans to fail." In other words, being successful requires a person to lay out a path for the future and then follow that path. Life is full of unexpected twists and turns, so maintaining flexibility is wise for individuals planning their career strategies as well as for firms.

Strategy as a Ploy

A second way to view strategy is in terms of ploys. A strategic ployis a specific move designed to outwit or trick competitors. Ploys often involve using creativity to enhance success.

Ploys can be especially beneficial in the face of much stronger opponents. Military history offers quite many illustrative examples, but ploys continue to be very important until today.

Strategy as a Pattern

Strategy as pattern is a third way to view strategy. This view focuses on the extent to which a firm's actions over time are consistent.

Strategy as a Position

Viewing strategy as a plan, a ploy and a pattern involve only the actions of a single firm. In contrast, the P-strategy as position considers a firm and its competitors, ie a firm's place in the industry relative to its competitors.

Strategy as a Perspective

The fifth and final P shifts the focus to inside the minds of the executives running a firm. Strategy as perspective refers to how executives interpret the competitive landscape around them. Because each person is unique, two different executives could look at the same event such as a new

competitor emerging and attach different meanings to it. One might just see a new threat to his or her firm's sales; the other might view the newcomer as a potential ally. Executives who adopt unique and positive perspectives can lead firms to find and exploit opportunities that others simply miss.

5. Conclusion

Making companies able to compete is the purpose of strategic management. To that end, putting strategic management plans into practice is the most important aspect of the planning itself. For firms, the unexpected twists and turns place limits on the value of strategic planning. From that point forward, strategy is less about a plan and more about adjusting to a shifting situation. As events unfold around a firm, its strategic plan may reflect a competitive reality that no longer exists. Because the landscape of business changes rapidly, other ways of thinking about strategy are needed.

Plans in practice involve identifying benchmarks, realigning resources – financial and human and putting leadership resources in place to oversee the creation, sale, and deployment of products and services. Strategic management extends to internal and external communication practices as well as tracking to ensure that the company meets goals as defined in its strategic management plan.

Strategic management focuses on firms and the different strategies that they use to become and remain successful. Most organizations create intended strategies that they hope to follow to be successful. Over time, however, changes in an organization's situation give rise to new opportunities and challenges. Organizations respond to these changes using emergent strategies as a product of many different strategies.

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БАНКОВ МЕНИДЖМЪНТ И ИКОНОМИЧЕСКИ ПРЕСТЪПЛЕНИЯ СЪС ЗЛОУПОТРЕБА С ДАННИ

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BANKING MANAGEMENT AND ECONOMIC CRIME OF DATA ABUSE

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Abstract

*The development of technology has direct effects to many areas of society. This concept brings so many advantages, such as communication flexibility and availability of information, as well as disadvantages, such as personal data abuse, which is the one of the main hypothesis of the article. Bank management refers to the process of managing the Bank's statutory activity, the financial relations which are connected with banking activities and other relations in banking sector that are part of banking management too. In this article so many examples shows firstly the relation between the two branches of science: the law and the economy, more precisely the abusing personal data of clients and committing economic crime. E**conomic crime covers a wide range of offenses**, from financial crimes committed by banks, tax evasion, illicit capital heavens, money laundering, crimes committed by public officials (like bribery, embezzlement, traffic of influences, etc.) among many others. Today banking system is sophisticated and it gives opportunity to clients to take a control of their own bank account anytime by the electronic banking system, this system brings positive and negative sides. Firstly big advantage is that every client can have transparency, good communication, effectiveness, efficiency, confidentiality from the bank but on the other side there are disadvantages such as abusing the personal data of the costumers by hackers and in many cases by the bank officers.*

Keywords: *bank, management, crime, abuse, technology*
JEL Codes: *G21*

1. Introduction

The dynamics and character of today's global economy destroys all conventional spatial and temporal barriers, especially in the functioning of banking. Rapid technological development has imposed the need to redefine the role and functions of banking institutions in the financial system. Electronic commerce, the use of the Internet and modern telecommunications systems have caused fundamental technological changes in the functioning of banking institutions.

Electronic technology increasingly finds application in modern business, that is, an increasing number of banking institutions in the world operate according to the concept of e-banking. Electronic technology enables banking institutions to use electronic payment cards with their clients, and the developed information network enables them to modernize their operations. Banks have established their own ATM networks, and in the trade there are POS terminals for payment with payment cards.

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This article covers the legal and economic aspects of banking management. We mentioned the legal aspects, more precisely we took into account the abuse of personal data and we can mention the in the legal aspect more emphasis is placed on the economic crime.

2. Banking management and economic crime of data abuse

Global prevalence of payment cards, their use and easy access to modern technology have made them appealing to criminals. In addition, the main target is the new and insufficiently underdeveloped markets, where there is no enough developed system for recognizing and preventing payment cards abuse. As basic forms of counterfeiting and payment cards abuse, we can list (Anucojić, 2009):

- Abuse of stolen or lost payment cards;
- misuse of issued, but still not put into service payment cards;
- unauthorized use of someone else's payment cards; issuing and using fraudulent payment cards;
- obtaining data unlawfully and using them for making fake payment cards;
- abuse and fraud by traders;
- abuse by users.

An important imperative for banks that work with all international payment cards (Visa, Diners, Master Card, and American Express) is to use card processing services. A part of the banks use in-house card solutions – same as the other payment cards, with the difference that, with this card, only in a certain number of stores known in advance payment is possible.

Most of the banks in the Republic of Macedonia use the *CaSys International* - International Card System which provides processing, authorization, development and implementation of strategic projects that would contribute to safe operation of electronic payment cards, Internet payments and e-banking. (CaSys International).

There are several types of fraud with electronic payment cards by providing data for forging them, such as: the use of special equipment for recording data from the magnetic tape and the PIN (Personal Identification Number) code, by using ATM (skimmers, cameras, pinpad, etc).

Recently, skimmers have advanced significantly. They are devices that read the data from the magnetic, or the so-called black tape (name and surname, Transaction Account Number, Personal Identification Number). Then, these data, with the help of a card writer – are ″written″ on an empty white plastic card, which later is used for emptying the account. In order to copy your card, the thief needs to have your PIN, as well as the data on the magnetic or the so-called "black tape" (Snyder, 2018).

Regarding the measures for safe use of payment cards, it should be noted that all banks that issue electronic payment cards provide information to their clients how to protect themselves from possible misuse of their payment cards, as well as what to do if they become victims of abuse.

If there is a suspicion of a possible misuse of the payment card, it is necessary:

- To contact the bank immediately;
- to block the card;
- to check the condition of the card and the transactions of the monthly reports regularly, and every suspicious transaction should be reported;
- In case of loss or theft of the card, a report to the appropriate bank should be made.

Taking this into consideration, there are numerous measures for protection and for safe use of the payment cards pointed out by the banks, such as: how to protect card data; secure realization of the

transactions at the ATM; safe payment with a card at the point of sale; safe payment with a card via Internet; use of payment cards abroad; use of payment cards during holidays, etc.

Economic crime is regarded to generate a **considerable social damage**. This is due to the fact that it does not only affect democratic institutions, but, also, undermines the state treasure by cutting available resources for the implementation of public policies. The more vulnerable are those who need these policies the most and that is why they become one of the main victims of corruption and economic crime. (Center for Research and Prevention of Economic Crime) Economic crime is one of the modern types of crime in the new century and it is a part of the unconventional crimes, apart from the other types of conventional or modern types of crime, such as: corruption, money laundering, computer crime, and white collar crime.

The main characteristics of the economic crime are the following: firstly, it consists of criminal acts of the economic entities; secondly, it encroaches on the right of the economic management; thirdly, it entails significant losses to the state, the society or the individual citizens; furthermore, it has a continuing character; then, it is committed by individuals, since under the criminal law of Ukraine the offender can only be a natural person; it is characterized by high latency; it is characterized by a close connection to the organized crime, corruption and the shadow economic activities; and lastly, it forms a semi-criminal mentality of the citizens of the state (booksforstudy.com).

Economic crime is one of the most complex phenomena and many authors point to the negative consequences of this crime, such as: economic, political, social, legal and ethical. In the unconventional types of crime (the modern types), especially the computer crime and the abuse of transactions, the main problem is the evidence as a main thing for detecting the offender and the crime. Most offenders are educated hackers and, by using special computer programs, the hacker accesses the victim's personal data and, by their abuse, transfers the funds from the victim's transaction to their transaction; in these situations, the only evidence is the network and ICT (Information Communicatin Technology). These evidences are located in the cyberspace.

The word "cyberspace" is credited to William Gibson who used it in his book *Neuromancer* written in 1984. Gibson defines cyberspace as:

“A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphical representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the non-space of the mind, clusters and constellations of data. Like city lights, receding…” (Gibson, 1989).

Information-communication technology appears in a multiple role (Ачковски, 2012):

a) Target of attacks: attacking the services, functions and content that are part of the network;
b) Tool: In traditional/classical (conventional) types of crime, knife, poison, pistol and similar weapons are used as tools for committing crime, but in modern crimes, the most important tool is the computer;
c) Environment: where the attacks run out. Often, this deception serves to conceal crimes;
d) Evidence: Network and Information Communicatin Technology.

3. Conclusion

Electronic banking is associated with the increased use of telecommunication and computer technology, especially in the process of processing and transfer of data and information, ie communication with customers. The new modern technology has radically changed the overall performance of the banking sector.

The reason for the emergence of e-banking and the complete computerization of banking operations lies in the growing number of transactions and huge documentation, which is almost impossible to process quickly and efficiently with traditional banking methods in the foreseeable future. Also, the globalization and expansion of the banking system outside the borders of one country further complicates the operation

Economic crime is a contemporary type of crime which in the most of the cases is committing by hacking the personal data of the clients and then transferring funds to a different transaction. When we talk about economic crime at the same time we can mention the corruption, money laundering and cybercrime (computer crime) as a part of economic crime.

All those types of organized crime are so close with each other. When we made a relation between electronic banking, banking management and economic crime we concluded that the computer as a tool plays a big role for committing economic crime and hence the need for defining cybercrime.

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ПРЕДПРИЕМАЧЕСТВО И ОБРАЗОВАНИЕ: РОЛЯТА НА ОБРАЗОВАНИЕТО В РАЗВИТИЕТО НА ПРЕДПРИЕМАЧЕСТВОТО

Йоана Димитракаки

ENTREPRENEURSHIP AND EDUCATION: THE ROLE OF EDUCATION IN THE DEVELOPMENT OF ENTREPRENEURSHIP

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Abstract:

The education targeting the promotion of the business spirit of the young constitutes a sector of education which has expanded importantly over the last years. The development of entrepreneurship education in Europe and other countries is largely due to the recognition of the positive relation between entrepreneurship and economic development and its contribution to tackling the problem of unemployment. On the one hand, the young looking for work now, and those already working have to face a constantly evolving economic and working environment that requires from them new qualifications and abilities that will help in the establishment of a business and the implementation of new innovative ideas. On the other hand, the problem of unemployment constitutes one of the most important problems of the current times. The specific article refers in the role of education of the young towards the direction of the support of entrepreneurship targeting the economic development and fighting off the problem of unemployment as better trained individuals increase the possibilities to start a new business.

Keywords: *entrepreneurship, education, educational programs*
JEL Codes: *L26*

1. Introduction

The education influences the business choice via various mechanisms, as one higher educational level is related to a higher level of wealth and therefore to lower costs of starting a business activity while the direct effect of education has an importantly higher influence in such activities in comparison to other professions (Card, 2001, p. 1127 – 1160). Apart from the business performance which is reflected in the profits of a business, the education may have positive results in the performance of a business because it can increase the possibility of their survival via the improved skills of entrepreneurs. In general terms, the entrepreneurship requires a higher level of general knowledge, which is acquired mainly via the formal educational system of every state. However, although the factor of general education plays a crucial role in the development in entrepreneurship as described above, the entrepreneurship education which concerns a more limited educational term consists the most important variable for the business growth and robustness (Kuratko, 2005, p. 577-598).

For the achievement of the objectives of tackling unemployment and the cultivation of business activities, there is a need for the development of business mentality of the individuals that study in secondary and tertiary education, so that a philosophy of encouragement of innovation and young entrepreneurship is reinforced.

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2. Forms of entrepreneurship

The entrepreneurship is distinguished on the basis of varied approaches according to the way of its implementation or on the basis of the initial motivations for the expression of business action. On the basis of the choice of the form of occupation, the entrepreneurship is distinguished in **entrepreneurship of need** and **entrepreneurship of chance**. The **entrepreneurship of need** concerns the establishment of businesses due to limited choices and it is accompanied by a rather low level of previous education or professional training (Ηρακλέους, 2002, p. 45).

The **entrepreneurship of chance** refers to the business action that is undertaken through a procedure of pinpointing the underutilized opportunities and the unsatisfied needs in the market after a satisfactory level of education has been previously achieved. The form of that entrepreneurship is closely connected with entrepreneurship education, as it is based on abilities that are strengthened by respective business programs.

Social entrepreneurship constitutes a modern form of entrepreneurship that is defined by a social mission within the framework of business chance producing social value. The social entrepreneurship is differentiated in a great degree from social work and social activism.

Green entrepreneurship is closely connected with the social one and it is defined as a form of entrepreneurship that is framed by the business action within the limits of sustainable development according to the principles of ecology and protection of the environment.

Public entrepreneurship refers to the entrepreneurship of the public field and public administration although especially in Greece it constitutes a relatively limited phenomenon. Public entrepreneurship is identified by an effort of business organization of the available resources, targeting the acquirement of high production. In-house business refers to a business action within the internal of businesses targeting the acquirement of a comparative advantage. That form includes a total of processes that refer to the creation of new units, the creation of new products, the handling of competition and the risk-taking (Rasmussen & Sorheim, 2006, p. 185 – 194).

Entrepreneurship in innovation constitutes a form of entrepreneurship that is directly connected with the economic development and use of innovative technology. The basic characteristics of innovative entrepreneurship are the uncertainty of results and the important investments of the businesses. It is worth noting that entrepreneurship of innovation aims at the achievement of the improvement of business performance via the acquirement of a competitive advantage.

Academic entrepreneurship refers to taking business action within the frame of universities, mainly purposing to the commercialization of scientific knowledge that they produce.

Finally, young entrepreneurship constitutes a more special form of modern entrepreneurship as well as one of the most important targets of the corresponding modern policy. That happens because the creation of working positions via the self-employment of the young is considerably important for the promotion of an innovation and the enhancement of regional development.

3. Education in entrepreneurship

Entrepreneurship education constitutes an important factor of the promotion of entrepreneurship, as the educational system contains the essential conditions for the realization of the available professional choices, equipping people with cognitive tools which are essential for the development of business actions.

The education in entrepreneurship is realized at all levels of the education procedure. Different educational programs with alternative objects correspond to each educational level, in the primary, secondary or higher education. The development and application of educational programs in entrepreneurship are based on various theories of learning and corresponding teaching. The mainstream theories are the theory of productive learning, the theory of learning via acting, the theory of stages of cognitive development and the theory of classification via cognitive learning objects (Πετράκης & Μπουρλετίδης, 2005, p. 113).

The theory of productive learning is based on the assumption that the human brain constructs actively important relations between unknown meanings and known experiences so that, in this way, a

productive procedure of memory, knowledge, and experience construction is created. The theory of cognitive development refers to the development of cognitive abilities of individuals in direct relation to their external environment. That theory demonstrates that the educational system can produce important positive results in the operation of knowledge acquirement as long as the corresponding program of studies conforms with the learning stages. The theory of learning via acting claims that the individuals should get involved personally in the learning experience, in procedures that include decision-making and suitable handling of the results of those decisions.

As entrepreneurship is connected with the acquirement of abilities and skills such as creation, initiative, and independence, entrepreneurship education is preferable to be taught in an active and experiential way, which encourages people to think and do business. Surely, entrepreneurship education is importantly facilitated by the development of a suitable educational environment, as there is a total of needs and requirements so that a learning environment is functional and effective (Καραγιάννης, 2007). The educational environment for the application of entrepreneurship education should be related to the abilities of a person so that they are receptive to improvements and a sense of responsibility is stimulated in response to learning targets. So, an educational environment configured on the basis of the above mentioned facilitates the procedure of entrepreneurship education and it is consistent with the principles of the theory of productive learning and learning via experience. One of the most efficient methods of teaching entrepreneurship is the creation of virtual or semi-real businesses, within the framework of secondary and tertiary education in the states of the European Union named Junior Achievement Young Enterprise Program (JA-YE). Via this program the participants undertake the responsibility of a limited in duration and size business from the start the until end of the academic year, a period which coincides with the lifetime of a business, performing various business activities that include production and sale of products, keeping of records and holding of professional meetings (Rae, 1997, p. 197-227).

4. Content and methods of entrepreneurship education

The kind of knowledge that should be provided in entrepreneurship education is distinguished in four categories: *general business knowledge* which refer both to businesses generally, and the new ones which are established at the time in a practical level, general professional knowledge which is distinguished from the previous category and refer exclusively to entrepreneurship, knowledge related to business opportunities, and specialized business knowledge which refers to the way of production and disposal of a product or service.

Despite the fact that an important number of educational programs in entrepreneurship is developed all over the world, most of them usually offer lessons that enhance the first two categories of knowledge. It is also recognized that a large part of entrepreneurship education focuses on knowledge about entrepreneurship instead of knowledge connected with entrepreneurship itself. During last years, the dominant trend regarding the content of entrepreneurship education is the provision of rather business instead of operational knowledge, which can be attributed to ascertainment that entrepreneurship education as a scientific field has entered a phasis of maturity (Binks, 1994). So the development of business behavior, abilities, and skills are suggested as the basic objects of education. It is claimed that the skills that are traditionally taught within the framework of entrepreneurship education do not suffice to form a successful entrepreneur and that education should focus on the development of communication and creation skills, critical thinking, leader qualifications, and abilities of negotiation, problem-solving, social networking and time management. Moreover, another parameter is imported concerning the evaluation of the suitability of the entrepreneurship education content according to which the only way for entrepreneurship to be taught successfully is that its content is mostly based on theory. So it is claimed that the theory of entrepreneurship constitutes a total of empirical generalizations related to how hopeful entrepreneurs should behave, allowing them to understand and foresee the results and consequences of business actions (Μακρίδου – Μπούσιου, 2002). That theory should be taught in would-be entrepreneurs, as nothing is more practical than the understanding of commitment results of any form of resources for the establishment and operation of a business.

Another perspective, which has affected the academic dialog during last years regarding the content of entrepreneurship education, is the implementation which was developed through the

investigation of the way in which the entrepreneurs justify their decisions in an environment of uncertainty. Therefore, it can be proved that entrepreneurs use a different logic that is based more on experience and less on scientific training, having as a result to overlook the methods that focus on future targets, such as market research, analysis of competition and calculation of future profits and to mainly use control methods of their decisions such as management of corporate relations, economic loss, and unforeseen costs (Μουρδουκούτας, Παπαδημητρίου, & Ιωαννίδης, 2004).

According to that approach, it is claimed that entrepreneurship education should focus on the logic of implementation, i.e. on the level on which we can control the future without the need to foresee it instead of relying on the level on which we can foresee the future and thus control it. In this regard, the "art" of entrepreneurship should be the basic axis of the entrepreneurship education content. Entrepreneurship can be considered as a practical activity that should be based more on operative learning methods and less on traditional learning models which are used in entrepreneurship education mainly due to institutional pressure (Brawer, 1997, p. 433-468).

While advancing in more specific approaches in regard to the topics of entrepreneurship education, the following units are suggested: the promotion of ideas of entrepreneurship, knowledge, and skills that are connected with business plans, planning of products, market research, and business creation, risk management techniques, and development of threats handling strategies.

5. Models of entrepreneurship education

Various models that concern entrepreneurship education have been suggested from time to time. The model of the Entrepreneurial Event Model -EEM is the most widely known of them (Shapero & Sokol, 1982, p. 72-90).

The purpose of that model is the provision of a causal basis for the procedures that lead to the demonstration of business behavior and finally to a business event, i.e to the time of starting a business.

The second more widely used model is the model of *planned behavior* which is based on the Theory of Reasoned Action (TRA). That theory is based on two basic structures: the behavioral intent that depends directly on the subjective prototypes and the attitudes. The more positive are the attitudes towards a behavior the more powerful are the subjective prototypes towards a behavior and the behavioral intention.

It would be useful on the basis of the above mentioned, to be noted that the theory of planned behavior is used for the construction of evaluation models of educational programs concerning entrepreneurship. Such a model connects the Entrepreneurship Education Programs (EEP) with the theory of planned behavior according to which the educational programs which are planned according to each academic framework and the corresponding learning audience influence the planned behavior of people enhancing business intentions (Fayolle, Gaili, & Lassas – Clerc, 2006, p.701-720) .

6. European policy for the education in entrepreneurship

Before the stage of setting objects for the enhancement of business spirit by the European Union, emphasis was given in the necessity of education for personal and social development as well as in the connection of education with the job market. The discussion about the role, the purposes and the ways of the attainment of the education targets was and continues to be the object of a lot of commissions and meetings regarding the education within the framework of the European Union.

In the Exhibition of the International Commission for the Education in the twenty-first century under the presidency of Jacques Delors (Unesco, 1996), with the title "Education: the treasure that hides inside" the creation of new links between educational and developed policy is suggested. Before the meeting of the European top Council of Lisbon (2000) the new strategic target in which there are decisions with which the necessity of creating new connections between educational and developed policy is stressed was engraved. So then, in the European Council in Lisbon, the social dimension of the Union was intensively manifested, while the following weak points of the European Union were mentioned: the unemployment, the small percentage of women's employment and the long-lasting structural unemployment (Ευρωπαϊκό κοινοβούλιο, 2000). A precondition for the attainment of the new target that was set in Lisbon is the adjustment of the education and training policies for life and

work to the society of knowledge. Moreover, one of the main challenges that Europe faces in the field of business is the one that is referred to the education for the development of business spirit and general knowledge related to business and business spirit should be taught in a suitable way both in the primary and secondary and in the tertiary education.

Another commitment of the European chart (Ευρωπαϊκή επιτροπή, 2001, p. 698), of small businesses in the European Union is the introduction of teaching with regards to businesses and entrepreneurship in all educational gradients and the development of training programs for business managers. Regarding the education of businesses policy, a lot of programs were adopted such as:

In 2005 more investments in education and skills acquirement were asked. In 2010 the project program "Education and Training" that was adopted by the Council of Barcelona, which asked the enhancement of the European aspect of education. The program of lifelong learning 2007-2013, the program Erasmus Mundus 2009-2013, and the program "Education and training 2020" provide an important support in the action of the field of education and training.

The enhancement of entrepreneurship continues to constitute one of the basic priority fields for Europe of 2020. So, a special importance in the improvement of education in entrepreneurship is given to the priority that concerns the intelligent development, based on knowledge. Moreover, the critical role of educators in this field is recognized by the European Union. In most cases, education in entrepreneurship is based on enthusiastic and educated professors. Entrepreneurship education constitutes a basic priority for all member states of the Union. A lot of programs and activities are implemented all over Europe.

6. The education of entrepreneurship in Greece

In our country, the teaching of entrepreneurship in primary education takes place via programs through which students learn basic meanings concerning economy and entrepreneurship through various activities. Of course, the implementation of programs which do not belong to the formal program of studies is not possible without the enthusiasm and initiative of educators as the programs place great emphasis on self-studying, creation, and cooperation.

In the secondary education, the acquaintance of students with the meaning of entrepreneurship takes place via economy lessons which belong to the national program of studies and educational visits in businesses, exhibitions, chambers and other bodies. These lessons are the lessons "Principles of economy", "Principles of economic theory", "Principles of organization and management" (Μαγουλά, 2002). Another lesson is the one that refers to the theory of entrepreneurship and it is taught in Professional Senior High Schools is the program "Entrepreneurship and development". It is worth noting that the "Virtual businesses" program gave the opportunity to students of secondary professional education to know through action and managing a virtual business the meaning of economy and entrepreneurship.

In the tertiary education, the meaning of entrepreneurship can be found in different teaching objects both in an undergraduate and in a postgraduate level. It should be noted that universities as autonomous institutions provide subjects and programs having as an object the entrepreneurship on their own initiative. Apart from the subject of entrepreneurship and the other economic subjects through which the students can receive knowledge regarding the entrepreneurship, there are other actions that contribute to this direction such as the Career Offices of universities, the Postgraduate Training Offices and the organization of seminars concerning entrepreneurship.

7. Conclusion

It is widely accepted that human capital constitutes an important variable both for the economic development and the personal progress of every person, whereas the strongest factor of effect in the development of human capital is the education which increases the rate of success in entrepreneurship. We can mention that the more the education is increased the more a person becomes capable to perceive the business opportunities that appear in the external environment. Business education constitutes a continuous procedure of the development of the characteristics of the personality of individuals aiming at the acquirement of training skills and the perception of effectiveness. In conclusion, it is noted that it has become obvious that the educational programs are of major

significance for the enhancement of entrepreneurship. In Greece the enhancement of entrepreneurship constitutes one of the basic priority fields, which refers to the intelligent development, which is based on knowledge and innovation in combination with the target of improvement of the quality of business education. There are attempts for that to be achieved through the utilisation of the European programs that concern the business education such as the programs Erasmus, Erasmus Mundus, Tempus, Marie Curie etc. aiming at the promotion of entrepreneurship. It is an accepted fact that the financial crisis of Greece has significantly influenced the ability of the government to finance investment and innovative plans of entrepreneur education. One of the most important European programs that Greece is trying to exploit is the "Entrepreneurship 2020 Action Plan" which is based on the development of business education, the creation of a suitable entrepreneurship environment and the creation of role-models as regards the field of business education.

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ВЛИЯНИЕТО НА ОРГАНИЗАЦИОННАТА КРЕАТИВНОСТ ВЪРХУ ОРГАНИЗАЦИОННОТО ПРЕДСТАВЯНЕ: МОДЕРИРАЩАТА РОЛЯ НА СПОДЕЛЯНЕТО НА ЗНАНИЯ: ЕМПИРИЧНО ИЗСЛЕДВАНЕ ВЪВ ФАРМАЦЕФТИЧНИ КОМПАНИИ В ЙОРДАНИЯ

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THE IMPACT OF ORGANIZATIONAL CREATIVITY ON ORGANIZATIONAL PERFORMANCE: THE MODERATING ROLE OF KNOWLEDGE SHARING: EMPIRICAL STUDY IN PHARMACEUTICAL JORDANIAN COMPANIES

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Abstract

Business organizations are constantly working to achieve their objectives and maintain their survival and development. This always drives them to achieve the process of development, innovation and creativity in their work. By doing so, this drives production and increases its flow with the use of advanced technology and systems. It also leads to achieve profits and market competition. As a result, this leads to raise the performance level and achieve an outstanding organizational performance.

Recently, there has been frequently talk about knowledge and its management and the importance of this in developing inputs and outputs in all fields and sectors of production and services, including Jordanian pharmaceutical companies, which manifest its concern in the creation and innovation of everything that is new in the world of pharmaceutical industry.

Keywords: *Organizational Creativity, Organizational Performance, Knowledge Sharing*
JEL Codes: *D83, L10*

1. Problem of the study

Many public and private institutions have drawn attention to the importance of development process, due to the rapid and renewed change in highly competitive environments or in those that have important roles in countries and societies' life, in order to achieve survival and stability in their different areas of work. For this reason, the organizations, especially the Jordanian pharmaceutical companies, are striving to achieve creativity in their work and to adopt modern methods through the use of technology and its developments in order to realize an effective and outstanding organizational performance.

The problem of the study has crystalized in the attempt to test the impact of organizational creativity on the organizational performance in the presence of the moderating role for knowledge sharing in the Jordanian pharmaceutical companies.

The problem of the study can be further illustrated by asking the following questions and trying to answer them:

1) What is the level of organizational creativity that characterizes Jordanian pharmaceutical companies?

2) What is the level of organizational performance in Jordanian pharmaceutical companies?

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3) What is the level of knowledge sharing in Jordanian pharmaceutical companies?

4) Does organizational creativity in Jordanian pharmaceutical companies affect high organizational performance?

5) Does knowledge sharing moderate the impact of organizational creativity on the performance of Jordanian pharmaceutical companies?

2. Aim of the study

The main objective of this study is to focus on the impact of organizational creativity on organizational performance, and to identify the role knowledge sharing can play, and the limits of this impact on the level of surveyed Jordanian pharmaceutical companies. This objective has a number of objectives, as follows:

1) Stating various literatures relevant to the organizational creativity, organizational performance and knowledge sharing to serve as a guide for the management of surveyed companies and similar companies in order to create awareness and raise the interest of the workers on the nature of these subjects.

2) Determining the level of organizational creativity in the Jordanian pharmaceutical companies.

3) Describing the level of organizational performance for workers in the Jordanian pharmaceutical companies.

4) Demonstrating the reality of knowledge sharing in Jordanian pharmaceutical companies and shedding light on their contribution to the performance of both the workers and the organization.

5) Exploring the impact of organizational creativity on organizational performance through the role played by knowledge sharing in the surveyed companies.

6) Providing some recommendations that can be utilized in the field of implementing organizational creativity in the organizational performance and knowledge sharing in Jordanian pharmaceutical companies in light of the results obtained.

3. Study model

In this context, the relationship between the present study axes ranges from the substantive-normative dimensions and the self-descriptive dimensions. The methodological treatment of the study problem in the light of its theoretical framework and field implications requires the design of the study model (**Figure 1**), which refers to the logical relationships between the variables of the study to reflect the temporary solutions suggested by the researchers to answer the research questions raised in the problem of the study.

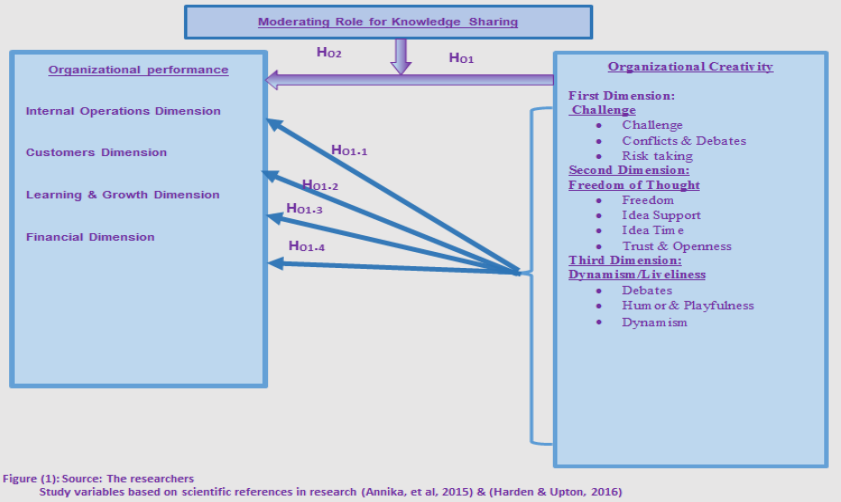

Figure (1): Source: The researchers
Study variables based on scientific references in research (Annika, et al, 2015) & (Harden & Upton, 2016)

4. Hypotheses of the study

In accordance with the study objectives and in order to test its model, the study adopted the following main hypotheses:

First: The first main hypothesis (H_{o1}): There is no statistically significant impact ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, and dynamism/liveliness) on the organizational performance of Jordanian pharmaceutical companies. Four sub-hypotheses emerge from it.

Second: The second main hypothesis (H_{o2}): There is no statistically significant impact ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, and dynamism/liveliness) on the organizational performance in the presence of knowledge sharing as a variable in the Jordanian pharmaceutical companies. Four sub-hypotheses emerge from it.

5. Theoretical framework

Organizational Creativity

"Organizational Creativity" was defined as "the capability to generate new and useful ideas that concern products, services, processes, managerial practices as well as competitive strategies. It is treated as a main vehicle of organizational development and the basis for staying in the market and innovative success" (Olszak & Kisielnicki, 2016, p.104).

Derecskei (2014, p. 4) pointed out that organizational creativity is "a new and valuable (useful) idea. It is the result of a joint effort, which has been achieved with regard to emerging problems at work, taking into account the factors influencing it".

Organizational creativity was defined by (Beheshtifar, Kamani-Fard, 2013, p.102) as "the creation of a new product, service, idea, procedure, or process that is of valuable value to individuals working together in a complex social system".

Based on the aforementioned, the researchers argue that organizational creativity is the process of creating ideas or developing existing ideas to find or obtain a new idea that leads to a specific work or a new work that has never been created either on the product or service. This thinking or development may be at the level of the individual or community within the organization. It is based on knowledge and skill, and experience may sometimes be involved.

Creative Climate

Many scientists and researchers believe that organizational creativity can be measured by studying creative climate. The researchers relied on measuring the impact of organizational creativity on studies that measured organizational creativity through studying the creative climate. Göran Ekvall created the scale of organizational creativity through 9 scales and then these scales were developed to 10 scales.

Annika found that creative climate is "the product of organizational culture, the character of the organization", and that it is "a set of conducts, feelings and behaviors that characterize organizational life", but there is no consensus by authors that creative climate is the product of organizational culture (Annika, et al., 2015, pp. 72, 73). Creative climate can be seen as a more realistic and concrete way of measuring the elements of culture in terms of specific behaviors and characteristics. By reviewing research, we notice an overlap between the dimensions that make up diverse concepts, such as organizational creativity, creative climate, organizational climate and organizational culture. Based on the terms used by Ekvall, creative climate consists of ten dimensions: challenge, freedom of thought, idea support, trust /openness, dynamism / liveliness, playfulness humor, debate, conflict, risk taking and idea time.

Creative climate has been found to be associated with higher organizational performance, such as market share, sales volume, improved ability to implement complicated work designs, research and

development, and manufacturing, as well as different settings. If the job also requires creativity and innovation, for example in the research and development organization, the strength of the relationship between climate measures and creative achievement increases. These ten dimensions have been proved to be important for creative climate, as follows (Annika, et al., 2015, pp. 72, 73):

1) Challenge: The amount of energy and emotional involvement in tasks. When the percentage of this dimension is high, much energy is invested and employees feel that their tasks are exciting and meaningful. On the contrary, when people feel alienated and lack of interest in tasks, the percentage of this dimension is low.

2) Freedom of thought: What is the space needed for independence in the workplace? Realizing this dimension to high scores means the ability of people to make new contacts and that information is transferred and disseminated within the organization. Low scores indicate that people remain within fixed frames and they are negative and confined by rules.

3) Idea Support: This dimension corresponds to how new ideas are treated in a very supportive environment, where new ideas are received in an attentive and supportive way, either from bosses or workmates. The high creative climate allows and encourages testing ideas. If idea support is low, the new ideas will be met with uncertainty, finding errors, reflexive behavior and counter arguments.

4) Trust / Openness: Theemotional safety in relationships. The high scores of this dimension indicate that people can put forward their ideas and opinions and communicate, as it is a clear and open atmosphere. Low scores indicate a suspicious climate against others, fear of failure and its consequences and fear of looting good ideas.

5) Dynamism / Liveliness: The eventfulness of the life of the organization, whether social or work related. When this dimension achieves a high score, workplaces are characterized by full speed and constant and sustained movement, while workplaces are described as slow and routine when the score is low.

6) Playfulness/Humor: The apparent ease and kind of atmosphere like relaxation with jokes and laughter achieves high scores in this dimension, while low scores indicate that there is no joke and there are many qualities of seriousness and severity.

7) Debates: Encounters in ideas and clashes resulting from it, and exchanges of ideas by people. The scores of this dimension are high when many voices are heard and people are keen about putting their ideas forward. If the scores are low, people tend to follow patterns without having a tendency for curiosity.

8) Conflicts: Thepresence of personal and emotional tensions in the workplace. When there is a high level of conflict, groups and individuals dislike or hate each other. On the other hand, the low level of conflicts does not necessarily mean that people like each other. However, people tend to control their feelings in a more professional way.

9) Risk Taking: How organization addresses uncertainty. When the organization makes decisions and takes action quickly, people dare to put their pioneering ideas forward. On the other hand, this kind of risk can be avoided by the organization by slowing down operations. Before new decisions are taken, risks can be reduced or eliminated by other factors.

10) Idea Time: The amount of time employees can use for elaborating and analyzing new ideas. An organization with high scores in this dimension allows its employees to test and talk about their ideas. If scores are low, employees do not have time to provide new ideas when they are exhausted by their normal tasks.

Together, these dimensions constitute a creative climate, as the creative climate is of great benefit to the Organization in many aspects. Based on the literature review related to the study of organizational creativity, the researchers found that most studies examined and measured organizational creativity by studying the creative climate through its ten dimensions. These ten dimensions were confirmed by scientists and researchers in their studies, as these dimensions were all measured without missing anyone of them. Accordingly, the researchers relied on their study to measure the impact of organizational creativity on organizational performance and the moderating role

of knowledge sharing on measuring the aforementioned ten creative climate dimensions. However, a number of dimensions were integrated with each other, as the idea of these ten dimensions is similar. These ten dimensions are as follows:

- First dimension: Challenge: It includes challenge, conflicts, debates and risk taking.
- Second dimension: Freedom of thought: It includes freedom, idea support, idea time, trust and openness.
- Third dimension: Dynamism/Liveliness: It includes dynamism, debates, humor and playfulness.

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Organizational Performance

The performance concept is considered one of the important concepts in economics and management. It has received considerable attention from researchers and thinkers. The performance concept is associated with the organization strength, which strives to improve its performance through knowledge, creativity and development of information technology. By doing so, this helps the organization to achieve self-realization and success in its operations and activities continuously, in order to build an outstanding strategic and competitive position that ensures its survival and performance improvement in the environment in which it operates, as well as to realize its competitive advantage.

Maktabi & Khazaei (2014, p. 570) defined "Organizational Performance" as "the indicator that measures the organization's success in achieving its objectives. The organization can assess organizational performance in accordance with the efficiency and effectiveness of achieving the goal. Organizational performance includes the current production or the results of an organization, such as the studied outputs versus the actual outputs."

AL-Hakim & Hassan (2012, p. 38) defined organizational performance as the comparison made between the expected results with results achieved, investigating deviations of prepared plans and evaluating the individual performance, and examining progress achieved in meeting organizational objectives, in order to help managers evaluate organizational activities and maintain competitive position or superiority over competitors.

From the researchers' viewpoint, organizational performance means the full achievement or performance of the employee to his work. When the employee performs his work, he is satisfied and achieves his goals, as he accomplishes his work and a wage is paid to him accordingly. In this sense, the interest is achieved in a two-way trend, where the first trend is the performance of the organization's work and the second one is for the individual in terms of getting paid.

In their study, the researchers relied on measuring the organizational performance on the balanced scorecard with its four dimensions, namely the financial dimension, the dimension of internal operations, learning and growth dimension, and the customers' dimension. The reason behind this is that the balanced scorecard measures the organizational performance according to modern methods. It does not rely on one perspective or dimension, as in financial indicators or other indicators, but it measures performance in multiple dimensions to improve the organizational performance and its continuity. As well, the balanced scorecard translates the organization's objectives into its strategies, motivates employees to work, and seeks to improve the organization's traditional systems.

Flores & Munoz (2017) defined the "Balanced Scorecard" as "a model for measuring performance in an integrated way, by linking its four dimensions of organizational performance with the organization's strategy."

The four dimensions of the balanced scorecard are as follows: **the financial dimension, the customers' dimension, learning and growth dimension and the dimension of internal operations**

The internal operations mean all internal actions and activities that distinguish the organization from other organizations through which customers' needs and requirements are met and the satisfaction level is achieved from dealing with the organization and the objectives of the shareholders. Hence, the benchmarks associated with internal operations of the balanced scorecard are

supposed to emanate from operations that have an impact on customer satisfaction and its required techniques through creativity in identifying and developing a production plan, the quality and equipment required, the operations of producing and delivering the goods and services needed by customers as well as the after-sales service, in order to continuously improve the organizational performance of organizations (Narayanamma & Lalitha, 2016).

Customers' Dimension

Nowadays, many organizations have a message focused on customers. Most organizations today rely on developing the customers' requirements and needs at the heart of their strategies, because this aspect is of great importance reflecting the organization success in competition, survival and continuity of its activity in the competition market, which is achieved through the organization's capability to deliver products (goods or services) of high quality and reasonable prices. This dimension includes several scales, including customer satisfaction, customers' retention, and acquisition of new customers (Vijayalakshmi & Natarajan, 2016, p. 36).

Learning and Growth Dimension

This dimension identifies the capabilities in which the organization must grow in order to achieve high-level internal operations, which create a value for customers and shareholders. This aspect concentrates on measuring the capabilities of all staff, their level of skills and satisfaction with work. It also measures the capabilities of information system and finally measures the system of rewards and incentives. This can be achieved through staff development, education, training, professional knowledge, providing an opportunity for employees to promotion and development, and qualified staff retention. Training expenses is one of the most important measures used in this dimension. The balanced scorecard can use measures that will help improving the staff performance in the areas required for the success of the organization constantly (Harden & Upton, 2016).

Financial Dimension

This dimension concentrates on the financial aspects of the organizational performance, i.e. how do we look at our stakeholders? In the private sector in general, long-term financial goals seek to maximize net profit, while success in the public sector is measured by the effectiveness and efficiency of these organizations in meeting the needs of their customers at the lowest possible cost and in the shortest possible time. Financial objectives are also different across the life cycle of the organization (growth, survival and continuity). For example, financial objectives in the growth phase focus on growth in new markets and increase the delivery of production and services to new customers. Financial targets in the continuity (production) phase will focus on cash flow (Obeidat, et al., 2017).

Knowledge Sharing Process

The researchers provided diverse definitions for knowledge sharing. One of the most striking differences between researchers was that some considered that the aim of knowledge sharing process is to gain new experiences and knowledge, and thus it is a knowledge transfer process. Others argue that knowledge transfer is only a phase of knowledge sharing, as knowledge sharing also involves acquiring new knowledge through learning process and applying this knowledge by the knowledge recipient.

Knowledge sharing is the process by which individuals' knowledge is transformed into a form that can be understood and used by others, and the use of expertise and information to help others solve problems, elaborate new ideas, or apply new policies and procedures (Gaál et al., 2015, p.187).

Knowledge sharing is one of the most important knowledge management processes, as it covers the differences that cannot be achieved through the remaining knowledge management processes. For this reason, researchers focused more on knowledge sharing as the strategic entry point for success in knowledge management.

The researchers believe that knowledge sharing process is an important process for the following reasons:

❖ Knowledge sharing process supports creativity through disseminating, transferring and exchanging knowledge among individuals working in the organization.

❖ Knowledge sharing improves the performance of the organization by expanding knowledge as a collective organizational knowledge and using available resources effectively.

❖ Knowledge sharing process promotes the competitive advantage of the organization among the competing organizations.

In addition, the researchers found that knowledge sharing has an individual and collective interaction through explicit and implicit knowledge, skills acquired for individuals as a result of doing different work, training of staff and various courses to improve performance at work. They also found that knowledge sharing forms may occur in formal contacts among staff in the organization. For example, it can be realized via sending official letters and memos or via email, or informal contacts between staff, such as telephone calls or oral discussions. The researchers found that sharing knowledge generates organizational creativity and stimulates it through science and knowledge among employees and the exchange of experiences and skills among individuals, which leads to generate new ideas and activities that did not exist before. Besides, Knowledge sharing involves the promotion, acceptance, transfer, exchange and support of ideas through experience as well as the training and sharing of knowledge with others. This knowledge is developed to realize, encourage, support and accept organizational creativity rather than reject it. In addition, the use of technology helps to share, disseminate and exchange knowledge among others, in order to achieve organizational creativity and raise the staff level to achieve the objectives and development of the organization. If organizational creativity represents an effort made by the organization to create products and services that satisfy customers, this organizational creativity is driven by individual and organized creative capabilities. This means there is an explicit and implicit knowledge base among those employees working in the organization as individuals and groups. It also means that the availability of a real and appropriate knowledge base in the organization enables it to effectively integrate this knowledge with the overall processes of organizational creativity.

6. Practical framework of the study

Study Sample

A random sample was chosen, to come out with results or indicators that could be generalized by the directors. It represents the heads of departments and administrative supervisors from the study community. 350 questionnaires were distributed, from which 276 responses were retrieved, with a rate of (78.8%). 6 questionnaires were excluded, as the respondents' responses were not fully completed. (270) questionnaires have been analyzed.

Table no. 1. Description of the Study Sample Characteristics

N	Category	Frequency	Percentage, %
1	Male	191	70.70
2	Female	79	29.30
1	Less than 25 years	16	5.90
2	25-Less than 35 years	125	46.30
3	35- Less than 45 years	83	30.70
4	More than 45 years	46	17.00
1	Intermediate diploma or below	26	9.60
2	Bachelor	194	71.90
3	Master	42	15.60
4	Others	8	3.00

1	Pharmacy	77	28.50
2	Business Administration	53	19.60
3	Chemical industries or chemistry	82	30.40
4	Others	58	21.50
1	Head of department	143	53.00
2	Director	80	29.60
3	Supervisor	46	17.00
4	Others	1	0.40
1	Less than 5 years	36	13.30
2	5 – less than 10 years	113	41.90
3	10- less than 15 years	51	18.90
4	More than 15 years	70	25.90

Testing for Normality

The test of normal distribution curve of the collected data was performed to make sure whether the data were under normal distribution. The values of the Skewness coefficient were extracted, which indicate that if the values of the Skewness coefficient are less than (1), this mean the data are normally distributed.

Table no. 2. The Normal Distribution of Data Depending on the Skewness Coefficient

Variable Type	Variables	**Arithmetic Mean**	**Standard Deviation**	**Skewness Coefficient**
Independent	Challenge	3.852	0.5962	0.118
	Freedom of Thought	3.667	0.6719	0.078
	Dynamism /Liveliness	3.7	0.6352	0.045
	Organizational Creativity	3.732	0.5708	0.187
Dependent	Internal Operations	3.83	0.6258	0.124
	Customers	3.828	0.6352	0.021
	Learning and Growth	3.777	0.6657	0.15
	Financial	3.854	0.6091	0.1
	Organizational Performance	3.823	0.5664	0.149
Moderating	Knowledge Sharing	3.771	0.6087	0.181

Testing Hypotheses:

The First Hypothesis

The first main hypothesis (H_{o1}): There is no statistically significant impact ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, and dynamism/liveliness) on the organizational performance of Jordanian pharmaceutical companies.

Table no.3. Results of Testing the First Main Hypothesis and the Four Sub-Hypotheses

	Challenge			Freedom of thought			Dynamism			R^2	F
	(T-Sig)	T	β	(T-Sig)	T	β	(T-Sig)	T	β		
Results of testing the impact of organizational creativity with its dimensions together on the organizational performance	0.001	3.368	0.229	0.100	1.650	0.126	0.000	6.957	0.430	0.490	85.183
Internal operations	0.014	2.479	0.177	0.059	1.899	0.152	0.000	6.362	0.412	0.439	69.481
Customers	0.002	3.085	0.223	0.421	0.805	0.065	0.000	6.661	0.438	0.424	65.248
Learning & Growth	0.007	2.702	0.190	0.010	2.596	0.205	0.000	5.669	0.362	0.454	73.822
Financial Dimension	0.005	2.861	0.235	0.875	0.158	0.015	0.000	4.295	0.320	0.259	30.98

The multiple linear regression test was used to test this hypothesis. The testing results of the main hypothesis and the four sub-hypotheses were as shown in the Table no. 3 above, which represents the existence of a set of independent variables (challenge, freedom of thought and dynamism/liveliness) and one dependent variable representing the (organizational performance). Table no.3 indicates that there is a statistically significant impact of organizational creativity on organizational performance in Jordanian pharmaceutical companies. The F value amounted to (0.00), as it was indicated by the calculated F value which amounted to (85.183). This means it is greater than its table value amounting to (2.60) at the level of ($\alpha \leq 0.05$), which also represents the significance of this model. The value of (R^2) accounting for (0.490) indicates that organizational creativity accounted for 49.0% of the change in the organizational performance of Jordanian pharmaceutical companies. The relation between the variables is considered strongly positive, since the value of R = 70%.

The results of the partial analysis of this hypothesis show that the dimensions of (dynamism /liveliness, challenge) have realized a linear contribution to the impact within the group on the organizational performance. This is shown by the values of β (0.430), (0.229) and (T) (6.957), (3.368) respectively at ($\alpha \leq 0.05$) level. As for the dimension (freedom of thought), it did not realize a contribution to the influence within the group on the organizational performance, which is shown by the value of (β) and (T) at the level ($\alpha \leq 0.05$) , as shown in Table no. 5. Based on the aforementioned, we reject the null hypothesis (HO.1) and accept the alternative hypothesis (Ha.1), in which a statistically significant impact was found at the significance level ($\alpha \leq 0.05$) for the organizational creativity on the organizational performance in Jordanian pharmaceutical companies.

The Second Hypothesis

The second main hypothesis (Ho2): There is no statistically significant impact ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, and dynamism/liveliness) on the organizational performance in the presence of sharing of knowledge as a variable in the Jordanian pharmaceutical companies.

The multiple linear regression test was used to test this hypothesis. The hypothesis testing results were as shown in the following Table (Table no. 4).

Table no. 4 - Results of Testing the Impact of Organizational Creativity in its Dimensions Together on Organizational Performance with Knowledge Sharing as a Moderating Variable

	Model 1						Model 2					
	(Sig)	F	$\Delta(R^2)$	R^2	β	T	(Sig)	F	$\Delta(R^2)$	R^2	β	T
Organizational Creativity × Knowledge Sharing	0.00	234.525		0.467	0.683	15.314	0.00	200.752	0.134	0.601	0.821	9.461
Internal Operations	0.00	193.061		0.419	0.647	13.895	0.00	125.178	0.066	0.484	0.573	5.807
Customers	0.00	173.933		0.394	0.627	13.188	0.00	123.514	0.087	0.481	0.662	6.687
Learning & Growth	0.00	213.864		0.444	0.666	14.624	0.00	163.650	0.107	0.551	0.734	7.971
Financial	0.00	84.564		0.240	0.490	9.196	0.00	104.024	0.198	0.438	0.999	9.701

Table no. 4 indicates that the effect of organizational creativity on organizational performance was examined in the first model. A significant effect of organizational creativity on organizational performance was found by the F value equaling to (234.525), which is significant at ($\alpha \leq 0.05$). This result is supported by the values of (**β**) (0.683) and (T) value (15.314), which are significant values at the significance level. The model shows that organizational creativity accounts for 46.7% of the change in organizational performance based on the value of R^2.

In the second model, the interaction between organizational creativity and knowledge sharing was introduced and added. The interaction between organizational creativity and knowledge sharing on organizational performance was found to be significant. The F value of the interaction formula accounted for (200,752), (**β**) (0.821) and T (9.461), which is significant at the level of significance ($\alpha \leq 0.05$), and the interpretation coefficient **change in (Δ (R^2))** increased by (13.4%). Hence, it can be said that the variable of knowledge sharing has contributed to the influence between organizational creativity and organizational performance. This result serves to reject the second main hypothesis. It was found that there is a statistically significant effect ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, dynamism/liveliness) on the organizational performance in the presence of knowledge sharing as a variable in Jordanian pharmaceutical companies.

As well, Table no. 4 indicates that the effect of organizational creativity on internal operations, customers, learning and growth and financial dimensions was examined in the first model. It was found that there is a significant impact of organizational creativity on internal operations, customers, learning and growth and financial dimensions through the value of F accounting for {(193.061), (173.933), (213.864),(84.564)} which is a significant value at the level of significance . The model shows that organizational creativity accounts for {(41.9%), (39.4%), (44.4%), (24.0%)} of the change in internal operations, customers, learning and growth and financial dimensions depending on the R^2 value.

In the second model, the interaction between organizational creativity and knowledge sharing was introduced and added, and it was found a significant impact of the interaction between organizational creativity and knowledge sharing on internal operations, customers, learning and growth and financial dimensions. The F value of the interaction formula amounted to {(125.178),(123.514),(163.650),(104.024)}and the value of (**β**) {(.0573),(0.662),(0.734),(0.999)} and (T) {(5.807), (6.687), (7.971), (9.701)} respectively are significant at the significance level ($\alpha \leq 0.05$).

The interpretation coefficient **change in (Δ (R^2))** slightly increased by {(6.6%), (8.7%), (10.7%),(19.8%)}. Hence, it can be said that the knowledge sharing variable has contributed to the influence between organizational creativity and internal operations, customers, learning and growth and financial dimensions. This result serves to reject the first, second, third and four sub-hypotheses. It was found that there is a statistically significant impact ($\alpha \leq 0.05$) of organizational creativity with its dimensions (challenge, freedom of thought, dynamism/liveliness) on the internal operations, customers, learning and growth and financial dimensions in the presence of knowledge sharing as a variable in Jordanian pharmaceutical companies.

7. Conclusions

1) The results showed that all dimensions of organizational creativity achieved high levels of importance, according to the respondents' answers, where the challenge dimension was ranked first, while the freedom of thought was ranked last. This result is consistent with the 2016 study of Olszak, Kisielnicki.

2) It was found that Jordanian pharmaceutical companies are involved in achieving the organization's goals by performing their work effectively. It was also found that the organization is encouraged to solve problems and conflicts rather than individual work.

3) It was found that the organization provides employees with a high degree of confidence in the work, and encourages and motivates employees to put forward new ideas.

4) It was found that the organization provides specific measures for internal operations that enable the management to determine the percentage of achievement, and that the organization relies on information technology among its administrative units to facilitate internal activities.

5) The results showed that the customer dimension is one of the dimensions of organizational performance. It also showed that it has achieved a high degree of importance. The reason behind this is that the organization use measures to show the standards of customers, whom their attraction cost is more than the revenue achieved by providing them products. It is also attributed to the fact that the organization takes into account customer complaints.

6) It was found that the organization has the capability to develop the main competencies of staff to serve the organization's plans, strategies and culture. This also attributed to the fact that the organization recognizes the importance of learning and sharing knowledge in the performance of employees to achieve its goals.

7) It was found that the organization uses financial resources and potentials available to develop its performance.

8) The results showed that employees are characterized by a willingness to share knowledge related to their work, and that employee's knowledge sharing leads to learning new knowledge.

8. Recommendations

In light of the present study's findings, the following recommendations and proposals were presented:

1) Managers of Jordanian pharmaceutical companies shall promote the employee desire to work in a risk-taking team in the Jordanian pharmaceutical companies through the use of brainstorming among the teams and train them to do so.

2) The Jordanian pharmaceutical companies shall take partial initiatives if the results are not known by giving employees the experience and the opportunity to implement these initiatives.

3) Managers in Jordanian pharmaceutical companies shall be encouraged to provide a comfortable and relaxed working atmosphere, and to allow employees to deal with new events flexibly, through discussions and opinions without bias or fear, and friendly meetings between employees and management.

4) Managers in Jordanian pharmaceutical companies are invited to design internal operations that are flexible enough to achieve the desired goals, through the use of information technology, the use of programs that achieve this, and employees training and motivating them to perform.

5) The Jordanian pharmaceutical companies shall evaluate the strengths, weaknesses and rationalize costs by analyzing their internal operations by investing the comprehensive information on salaries, rewards, optimal performance, training and development programs that support organizational creativity to act as a guide in making and taking decisions by reducing the time and effort of this operation or reducing time of work performance by employees.

6) The administrations of Jordanian pharmaceutical companies shall adopt a regulatory environment suitable for creativity and innovation, develop the creative capabilities of employees, motivate creative employees, reward them and develop their skills, and conduct training courses and lectures.

7) Managers in Jordanian pharmaceutical companies shall be encouraged to provide suggestions for developing work on a constant basis.

8) Managers in Jordanian pharmaceutical companies shall link the incentive system strategy and the employee assessment management system with the strategy of sharing and exchanging knowledge to develop the skills and expertise of employees.

The study recommends companies to exchange and share knowledge and experience of employees to enrich knowledge, achieve organizational creativity and raise the level of organizational performance. This can be reflected by presenting live lectures that convey a realistic image on the ground.

The researchers hope that this study and its findings will be a starting point to launch other studies that examine organizational creativity and its impact on organizational performance by sharing knowledge as a moderating variable in other sectors, and adding other variables, such as studying the management's objectives in achieving organizational creativity.

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РАЗВИТИЕ НА КАЧЕСТВОТО НА УСЛУГИТЕ: ПРОБЛЕМИ И ОСНОВНИ ТЕНДЕНЦИИ

Мохамад Саламех Албмеидийн

DEVELOPMENT OF SERVICE QUALITY: PROBLEMS AND BASIC TRENDS

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Abstract

The purpose of this paper is to overview the main concept of service and the factors that lead to the evolution and growth of service in the recent years, along with the views of delivering the service. Shading the light on the main characteristics of the service, those have a significant impact on the management of service operations; four of them were discussed by many researchers and two were recommended by the author. The quality of service and its dimensions compared to the quality and dimensions of product are viewed as a comparative between them.The determination of perceptions of the customer, and how the company response to the according to the three levels as proposed by Kano's model. Introduce the ServQual method or the five gaps, as an important way to treat quality of service as an integrated process, and a systematic way to improve service. The main trends in quality of service development were discussed. Then a brief discussion was included.

Key words: *Service, Service development, Service quality, Technology, and Customer*

JEL Codes: *O140*

1. Introduction

There is a deep review of the concepts, and practices underlying service management since 1970s. The production (manufacturing) department has received the primary attention from the specialists; significant developments and achievements are being realized. The company has the highest levels of productivity, and performance improvement at both the strategic and operational levels. It invests in the industrial sector the largest proportion of Gross National Product (GNP), while service companies were far from this interest, and managed in a traditional manner characterized by poor resource utilization, and low efficiency of performance and poor service.

With the expansion of the service sector, increased specialization, and investment in its areas, and with the entry of new competitors at the local, national and international levels, challenging the old concepts and practices of its management, services have become the main and most important field of competition. In light of the internationalization of production, and the adoption of industrialization worldwide, industrial companies have also focused on the services they provide, and the management of the service in the competition process as an important source of superiority and excellence.

For the first time, the services that were far from the attention and its efficiency that were away from any measurement and evaluation, need a serious pause for the review, measurement, evaluation, and search for means and tools that help rationalize the use of resources. It has also become apparent that services were previously purely manual, often converted to scientific specialties, and have high technical expertise, which requires to be managed in a rational way. The quality of the service, which has been remarkably neglected, due to the characteristics of the service (e.g. asymmetry of the service provided, the separation of service consumption from production, the difficulty of developing service specifications and compliance with industry, etc.), has become a new source of competitive advantage, equally important and powerful are the most advantageous factors in industry, including scale and

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technology. This is perhaps due to the increasing demand for services, especially the highly qualified and specialized services. All this has been largely reflected in the fact that, the service sector has the highest marginal return compared to other sectors; the industry itself has become dependent on so-called service-based competition. This explains the call to skip products and goods to adopt services as a rule in the work of companies in competition. That is clear the service organizations become a predominant form of business in the USA along with other countries all over the world, by 2005 the contributed over 68 % to the gross domestic product according to US Bureau of Economic Analysis (Walsh and Gordon, 2010).

Quinn et al., (1996) argued that companies should adopt what they call a service-based strategy, rather than a commodity production strategy. With this insistence on services, it became apparent that services in the 1990s were under siege, as (Roach, 1991) pointed out in his study "Services under Siege: The Purpose of Reconstruction," Which requires the management of the service to remove all the covers invoked by the services, to justify the lack of efficiency in services. This was the first step to talk about the "service industry", clearly referring to the attempt to build industry-like services. The introduction of mass service and its effective regulation in the cafeteria line and its basic unit, mass production, and its effective organization in the product line and its basic unit is the standard model product.

The same has been seen in the quality of services, as there is damage in industry, there has been talk of "defective customers," (Reichheld and Sasser, 1990). The concept of zero industrial damage was introduced. Zero damage to services was also introduced, as a fundamental objective. Customer loyalty is based on the fact that, each customer requesting the service is a project for a loyal customer, who will buy back from the same company every time without losing it, or being damaged in non-return. The services that have faced a deep review of concepts, and practices in terms of both efficiency, and quality since the 1980s, now stand rich experiences, major achievements, leading models in managing, improving performance, and quality of service.

2. Service concept

A service is an activity or work performed for a particular purpose, or a function to be requested. This function can be predefined (as in standard services such as an ATM service) or unspecified (as in the customer service e.g., medical diagnostic service). On the other hand, the service concept can be viewed as a complete package made up of a set of tangible and intangible elements (as cited in: Karwan and Markland, 2006). The services are characterized by great diversity. They can be specialized as in medical consultation or lecture, solving technical problem in production, accounting work, machine maintenance, etc. The service can also be manual, as in cleaning work or maintenance of tools and equipment. Some industrial companies offer "pure good" only, without mixing it with the service, as in mines that, extract and sell raw materials, without providing any service. Such naked goods are called commodities; competition is based on price rather than characteristics. While the goods are distinguished from each other, competition is done on the basis of characteristics, including the characteristics associated with the associated service. In contrast, some service companies also provide a pure service, only without the association with the commodity. As the case in consulting firms, that does not associate service with any type of goods. However, the majority of companies offer a mix of good-service. The car manufacturer offers cars as a commodity, and offers a wide range of marketing services and after-sales services. It can be concluded that the service concept relates to the characteristics of the service offered to the target market (Ponsignon et al., 2011).

It is important to emphasize that the great development is taking place in the services sector. This development falls within the scope of what can be described as the service revolution. In the developed countries, the industrial sector is no longer the dominant sector, as the developed countries shift from the industrial economy (where industry is the leading sector of the economy which accounts for the largest share of investments and uses the brightest minds) to the service economy (where

services have achieved the highest marginal return compared to other sectors). Since1970s service quality has been receiving increasing attention. In fact, the development of services at high rates makes it more like a service revolution.

The services share of total trade for OECD countries (OECD, 2012) is on a rising trend, increasing from 19% in 1971 to 23% in 2010. Meanwhile, services account for about 30% of US exports. If trade were measured in value added terms (instead of gross output terms), it seems to be likely that this share would be significantly higher, and possibly even exceeding 50 % (Gonzales et al., 2012).

The rate of growth of the service sector is outpacing the rates of growth of other sectors, but in many cases at their expense, as the decline in investments in the industry against the increase in investment in services. The question is: why is the rate of service growth so high? In order to reach an answer, we refer to the following factors that might be the answer:

1) High added value for service

Until recently, most of the added value came from manufacturing processes, that convert raw materials into useful forms of goods (iron conversion to cars or wheat to flour), but value added is increasingly coming from technical improvements such as commodity attributes, commodity image, and other characteristics that services added.

Quinn et al., (1996) have pointed out that more companies are beginning to view manufacturing as low marginal activity. For example, in the computer industry, the production of hardware is a low activity, while the software and the auxiliary activities of the services, are what make the value of the item the largest for the customers. On the same context, they believed that industrial companies need to rethink a new strategy: service-based industrialization strategy, rather than commodity production.

2) Effect of growth

The demand for services is increasing continuously, and according to the laws of consumption, the increase in income lead to an increase in the proportion of spending. The bulk of this increase goes to services rather than material goods. This economic analysis is consistent with the well-known Clark-Fisher hypothesis (Zhou, 2016),which economically assumes that societies move in successive stages, from lower-level societies that depend on fishing, agriculture, and forestry, to second-level societies that rely on manufacturing of material goods; then to third-level societies that rely on services, such as marketing, transport, finance, communications, and professional activities. In post-industrial societies, the provision and marketing of services are more important than the production, and marketing of physical goods, especially when consumer income increases to a point that shifts from the search for more physical goods, to more and better services, better health care, higher education ... etc.

3) Impact of technology

Technology is responsible for finding more goods, but finding more goods is often faster, and sooner than finding more services. Television is already emerging from its maintenance services. Satellite technology and more advanced communication systems create associated services, such as television subscription services. The technological development has contributed to providing the most standard, and consistent service delivery technology, such as ATMs, credit cards, and others, which facilitated the expansion of services, and the rapid exchange of services.

4) Change the customer's lifestyle

Changing consumer lifestyles is a key issue. People are looking for more services such as education and training services, personalized services such as haircut, home and car cleaning. As the business is becoming more specialized, we need more specialists in business and services, especially as women are increasingly out for work, making the need for compensation from home a pressing issue (Markin,1982).

These factors, insofar as they have led to the expansion and diversification of services, have led to the need for a serious review of service management concepts, and practices. Services have followed industrialization in the past. The vast production that flourished in the 1920s was followed by

mass service, like McDonald's opening the first public restaurant in 1955, based on fast service food. This was not possible in the context of the need for new concepts and practices of the service model. Which was must be similar to the old model of manufacturing (Altaee and Al Alak, 2009). Drucker (1999) pointed out that even in Japan (which has the highest productivity in more than two decades), the vast majority of workers in the fields of knowledge work and services are of low productivity, as in the rest of the industrialized world. Such a decline in productivity and performance is facing a strong challenge in the current period, Roach (1991) called it "the new wave of reconstruction", because services until recently were protected from competition, on the basis of service even among industrial companies.

5) Internet and e-services

If the company as a physical entity is the embodiment of capital in the industrial age, e-business works the same in the digital economy. In terms of providing business opportunities in an expanding sector, with a marginal value that outperforms other traditional sectors. Since the mid-1990s, the characteristics of business, assets, production, marketing and material distribution have been diminishing in importance, and in their role in creating value in exchange for the development, and expansion of e-business in its virtual and digital dimensions. With the Internet (the highest technology to date), the wave of e-commerce or digital services has begun. Business and e-commerce are services above all else. Digital products are services above all. Electronic services are the new address for creating value in a digital world. It is enough to point out the volume of business on the Internet today to get a good grasp of what this new type of service is. According to the Statista Portal (Statista, 2018) reported that, retail e-commerce sales in the United States, in 2016, online sales of physical goods amounted to 360.3 billion US dollars and are projected to surpass 603.4 billion US dollars in 2021. In 2016, almost a fifth of China's retail sales occurred via the internet, compared to only 8.1 percent in the United States. The UK, South Korea, and Denmark are also ahead of the U.S. in terms of retail e-commerce share. On the same context, according to shopify the Global Retail Ecommerce Sales Will Reach $2.8 Trillion by 2018 (Orendorff, 2017).

After e-business has shown that it is achieving significant savings. In the context of this development, we must point out that the provision of services may develop significantly not only in terms of individual service providers, or in the automation of services using self-service technology, but also in the level of view and concepts of service delivery. In this context, we can distinguish between three views of service delivery:

5.1. Service Provider View:

A service-tracking view for the industry is an attempt to access the mass service mode. This view is based primarily on understanding the system of service delivery, requirements, and response in order to raise the efficiency and utilization of the service system. Standardization and service stereotyping are the most prominent title in the work of this view. Why? The answer is simply because, with standardization, a limited number of services are provided, and the exact identification and training are provided for employees, when they are submitted by the service machines. Most importantly are the customer's intervention in the service delivery and the diversity of demand. In this view, efficiency is the criterion, and the source of competitive advantage is the standard and large volume of service recipients in a given period. Competitive advantage is the minimum cost of obtaining service. This is what found in fast food restaurants and in the ATM services where one service takes only seconds.

*5.2. Customer View***:**

A view that identifies the service and the customer needs behind the service request. It is based on the customized service style. It is based on the service provider's response to the specific needs of each customer, which often does not match the needs of the other customer. Some services can only be clientele, such as shaving, medical diagnosis, and legal advice.

5.3. Integrative View:

The two views can be seen as a historical development in the company's response to customer needs and expectations.

Before discussing the quality of service and trends in-depth review, it is beneficial to look at the characteristics of the service and its associated causes that have led to low productivity and performance.

3. Service characteristics

Service is a moral activity or heterogeneous commodity, and often non-typical commodity, it is produced and consumed at the same time, and requires interaction and contact with the customer. Studies have been carried out in this field to clarify the characteristics of the service, compared to the characteristics of the commodity. The commodity is tangible material, its ownership can be changed, and their production is prior to their consumption, can be transported or exported elsewhere. The service is an immaterial activity whose ownership is neither altered nor transferred, cannot be resold, stored, produced and consumed simultaneously, and cannot be transferred or exported to another place, but the service offering system can be moved or exported.

I can refer to some of the basic characteristics of the service, which have a significant impact on the management of service operations, and on the policy and plans of companies, in achieving the quality of services in different areas. These characteristics illustrate one aspect of service management problems. The first four characteristics are discussed by many authors, the fifth and sixth characteristics are recommended by the author, which are as follows (Zeithaml et, al., 1985; Moeller, 2010; Jaskulska, 2013):

3.1. Intangibility:

A dominant feature of services is intangible, which means that the service provider is often produced by non-material benefits such as consulting, development of expertise and skills. The airline sells transportation services, and hotels sell accommodation services.

*3.2. Inseparability***:**

In many cases, service delivery and consumption cannot be separated. The provision and consumption of the service is in contrast to the commodity that can be produced at a particular time and place, and consumed at other time and place, other than the place of the worker who produced it.

3.3. Perishability:

Services are subject to fading and disappearing once they are submitted, or after a certain period, cannot be stored. For example, the tour ends at the end of the journey, and a second stroll may not be possible upon completion. The haircut lasts for a few weeks, and no additional shave can be purchased for use when needed. It is this privilege that makes the fluctuating demand for services a big problem.

*3.4. Heterogeneity***:**

Standardization is a feature of the wide production of goods, where goods are identical and homogeneous, orange juice is similar to all other cans in a company in terms of shape, size and juice, but standard is difficult to investigate services, there are no similar services. The service provided to the customers by the employees is unique, and cannot be as standard as the juice box can be produced with the same specifications. But in services, the agent is unable to repeat the same to serve the same way each time.

*3.5. Customer Contact***:**

Most of the services require the presence of the customer, and often intervene in the request for service as needed, and with specific characteristics to suit the needs of the customer. In many services, customer intervention is not limited to the delivery of outputs in the service system, but rather interferes with the inputs (as in the request for health care by the patient according to his or her health), or operations (how to serve in the clinic or hospital) until the output. This is unlike industry, where customer intervention is often limited, to deal with the company's output.

3.6. Lack of ownership:

The service is used on demand, and ends when presented, without any opportunity to own it and then resale it as happens when buying a bicycle and after a period can be sold.

All these characteristics represent problems in services compared to products, and have led to basic results, including:

3.6.1. The difficulty of direct get benefit from the advanced concepts and applications of production management in the field of services. Davis and Botkin (1994) argued that services in banks, hospitals, and other fields are dense Knowledge. Services are now located in the same location, as manufacturing in the early nineteenth century.

3.6.2. The difficulty of measurement and assessment of productivity and performance in the services is, due to asymmetry and standardization in services.

3.6.3. Low productivity and performance, is still the most prominent feature in service companies, due to those characteristics that limit the possibility of measurement, as what is difficult to measure, is difficult to manage as well.

3.6.4. Customer Relationship, the service provision needs the presence of customer unlike the in industry the customer intervention is limited, this will require a special care to the customer relationship and their needs.

4. Quality of service

The concept of quality of service is used to refer to several things, where some managers use the concept to mean how to deal with the customer, while others are seen as a total outcome and not as part of the points of contact with the customer. Quality of service can be defined as, the comparison customers make between their expectations about a service, and their perceptions of the actual service performance (Parasuraman et al., 1988; 1985). On a comparative basis between product and service quality, service can be defined as dimensions and features that distinguish them from the most recent product quality features. Garvin (1984; 1987) has identified eight dimensions of product quality: performance, durability (product lifetime), conformity of specifications, features, perceived quality, reliability, serviceability, and aesthetics. In the same context, (Jaskulska, 2013; Yarimoglu, 2014) identify the basic dimensions of quality of service which are as follows: tangibles, reliability, responsiveness, competence, and empathy. Table no.1, illustrates the quality dimensions of the product and service.

Table no. 1. Product and service quality dimensions

Quality of product dimensions	Quality of service dimensions
1. Performance: How to clean the washing machine clothes? 2. Durability: How long does the lawnmower remain in service? 3. Conformance: How many times did damage occur? 4. Features: Does airline flight offer movies and lunch? 5. Perceived quality: Does the name mean quality? What is the company image? 6. Reliability: With each visit to the restaurant, is the quality identical? 7. Serviceability: Is the service system efficient, capable and appropriate? 8. Aesthetics: Is the appearance, texture or feeling of the product as its quality?	1. Tangibles: Physical facilities, communication materials, equipment, and personnel are shown. 2. Reliability: Ability to perform the service entrusted with reliability and accuracy. 3. Responsiveness: Desire to help customers and provide an encouraging service. 4. Competence: the knowledge and skills of employees and their ability to achieve a sense of confidence and security of the customer. 5. Empathy: Individual care and attention provided by the company to the customer.

There are those who focused on determining the quality of service on the customer first, which makes the determination of quality of service depends on the ability of the company to provide the service, according to the expectations of the customer, and surprise the customer beyond the expectations. According to the Kano's Model, that is determines the perceptions of the customer, and the company's response to the three levels (Kano et al., 1984; Sauerwein et al., 1996; Mikulić, 2007; Mikulić and Prebezac, 2011) which are as follows:

4.1. Foundation (the basic requirements):

At this level lie the needs and the importance of meeting them; the questions of the customer, the importance of answering them, and easy to use products or easy access to service. Finally the company's fulfillment of promises made to the customer in their ads and posters, customer satisfaction is neutral, and in case these requirements are not fulfilled, the customer will be extremely dissatisfied. According to Kano's model this level is originally called (Must Be).

4.2. Customer-Centered Service (one-dimensional requirements:

The quality of the customer's highest service goes to what is yet to be the basis of customer experience. As they relate to services that exceed what is essential, by taking into account what competitors offer. Indeed, this level is related to the competitive circle, in which superiority is achieved from competitors in this attribute, or that based on the preferences of the customer, when comparing the alternatives offered in the market. Kano's model, called this level is (More Better).

4.3. Value Added Service:

This is the level of service makes the customer happy according to the Kano's model. A level that relates to the additional knowledge and information provided to the customer about the possibilities of using the product, including new uses that help the customer to find additional value for what he purchases. This can be through messages received by the customer for this purpose. Adding additional characteristics and features to the product is in line with customer expectations, creating joint groups with customers for continuous dialogue and finding a fast and effective channel within that level (Attractive requirements).

The ServQual method or the five gaps, is an important way to treat quality of service as an integrated process, and a systematic way to improve service based on these gaps. These gaps are as follows (Parasuraman et al., 1985; Zeithaml et al., 1990; Yarimoglu, 2014):

4.3.1. Gap 1: the gap between customer expectations and management perceptions;

The management may think they know what customers are expecting and start doing so, while customers expect something completely different.

4.3.2. Gap 2: the gap between the management perceptions of customer expectations and the company's quality specifications of service;

Management may not develop quality specifications, and may not put it clearly. In other cases, the management may set clear, but not achievable quality standards.

4.3.3. Gap 3: the gap between quality of service specifications and actual service delivery;

Unforeseen problems or poor management can lead to service provider failure to meet quality service standards. This may be due to human error, but also mechanical malfunction of facilitation or supporting goods.

4.3.4. Gap 4: Gap between actual service delivery and external communication;

There may be discontent with the service, due to the high expectations arising from the service provider's connection and promises, or the lack of satisfaction that may arise when the actual service submission does not meet the expectations presented in the company's communications.

4.3.5. Gap 5: The gap between perceived service and expected service;

This gap emerges as a result of one or more of the previous gaps. This gap relates to customers who have their preconceived concepts of services that are different from their expectations of service.

The five gaps when applied in a systematic manner can contribute to achieving positive results at the level of improving the quality of service. The question arises: Why do these gaps appear in the

quality of services? Why quality of service seems in many cases formative and difficult to process? The answer cannot be determined by one answer, but there are multiple reasons for each gap.

5. Trends in quality of service development

The image of quality today, is that it has evolved over a long time. The heritage of quality offers rich lessons in the transformation of concepts and practices. If the sources are rich in talking about the development of quality in the industry, there is a great need to talk about it in the field of services. Studies provide a broad determination of trends in the development of quality of services, which are as follows:

5.1. Quality development trend

The quality has not only evolved in one single sector, but has developed over a relatively long period of time, and has been an intersectorial nature of development. The quality books that were issued at the beginning of quality attention were focused on reducing the damage. In the 1970s, the emphasis was on prevention of damage, accompanied by Japanese emphasis on continuous improvement. In the 1980s, the Six Sigma movement was an upgraded as a new US version of zero damage. In the current decade, human sigma is a quality improvement approach which is discussed in the field of services; Human Sigma focuses on reducing variability and improving performance (Fleming et al., 2005).

5.2. Quality of individual's trend

Quality of service is more than product quality linked to the quality of individuals. Perhaps the most significant reason is that the industry can rely on technology (which to some degree, excludes the worker, and the customers are excluded with more degree, in the production of the service) this is what no service company can do in a large number of services.

The quality of individuals will remain in the future is the high-pitched word, as it was all the time earlier, because individuals are the ability, skill, experience, and renewed talent always. Craftsman was the quality model based on craftsmanship, and inherited their origins from generation to generation. But, the problem with craft production is that, the production of one unit (one unit production) with high cost. With the transform to factory production, the hand worker appeared, and with the expansion of the factories, the army of workers called Blue Collar Workers emerged. The later development was confirmed by Drucker, when he referred to the knowledge worker in 1951. Then later talk about it extensively in his book "The Post-capitalist Society" (Drucker, 1993). Where he stressed that the subsequent development of industrial societies - capitalism will not be socialism, but the post-capitalist society, who's main resource is the worker of knowledge. The Knowledge Workers called Golden Collar Workers are human capital, whose work is focused on knowledge processes which are knowledge generation, sharing, storage, and its application (Drucker, 1995; 1999). The quality of knowledge workers is the ability to generate new ideas, solutions, products, and services.

In the opposite of this development, technological development has created a parallel technical development based on the level of skill and specialization. It is represented in the cycle of transition from the hand worker to the technical (Technician) then to the specialist (Technocrat or Professional). The latter category represents the knowledge professionals. The quality of individuals in this category is high specialization, high skill that can address problems, offer high-skill and efficient solutions.

5.3. Automation of services trend

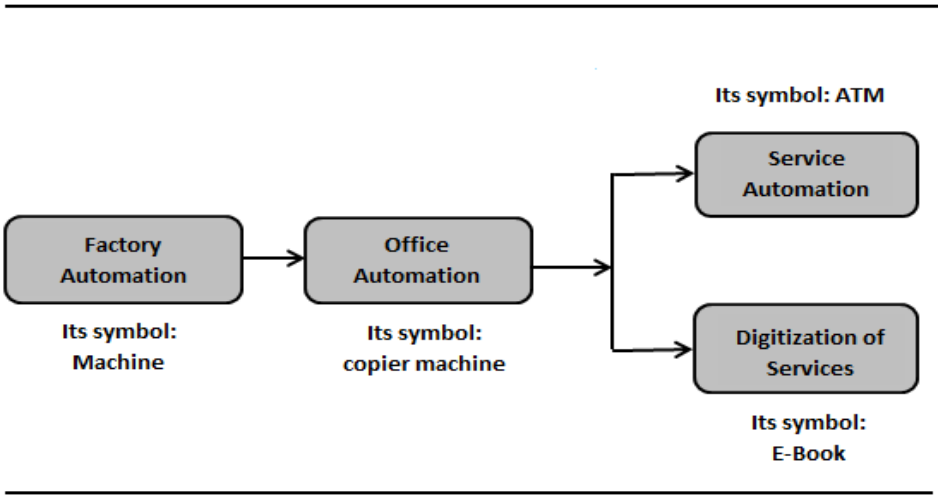
Since the beginning of the industrial revolution in the eighteenth century, there has been a clear tendency towards the machine to replace the worker, but the services were excluded from that except certain cases as in communications. The first phone call phrase "Mr Watson, come here. I want to see you." (Bell, 1876) was an electromagnetic transmitter at Bell Laboratories in AT & T. With technological development, services have become part of this mechanism and automation. This is one

of the fundamental trends in the development of services, in the same way as industry after the industrial revolution.

It should be noted that this trend in services has been restricted primarily to administrative services mainly, while personal services have been less vulnerable to this trend. In the industry there was factory automation, and in the services there was office automation. But, the great development that has occurred with the services economy, as this trend was the most in the services through the mechanism and automation of services. Finally, with the Internet has become a world digitally parallel to the physical world, in almost everything and certainly within the digitization of services (See Figure no. 1).

Automation is the replacement of technology workers, replacement of traditional work sites, and manual operations with automated and electronic equipment, with minimal intervention. In the same way, it can be said that the automation of services is the replacement of manual services by automated, electronic or digital methods. Service automation is based on the relationship between standardization and customer contact. The standardization requires that the service delivery process is be limited with a limited number of model able steps, and then transferred from the worker to the machine, which requires considerable capital investment.

Figure no.1. Evolution towards automation and digitization of services



Customer communication is big and high in manual operations, and minimized with automation of the service. This requires high skills in dealing with the customer, and responding to his needs. The automation of services has become a trend in the economy of services, where companies are constantly looking for any service consists of specific steps, and repeated each time many repeations, in order to replace the worker with machine in their submission. This is what we find in banks, airlines and many more.

This trend has reached its farthest range with the Internet, as e-services are becoming more common, and the more important, it can be offered from anywhere in the world, at any time (24/7) in a digital way that reaches nearly the speed of light,i.e., electricity speed in which the computer operates. The customer has also become an interactive participant, in order to achieve a greater degree of customerization service, despite the standard dimension of providing electronic service to all customers simultaneously in the whole world.

5.4. Trade-off in services trend

As in industry, tradeoffs are also carried out in services. As many industrial companies have sought to cross-trade in the various relationships appropriately, this is also required in service companies. During its long development, companies have experienced a pattern of hostile relations

between the company and employees, the company and suppliers, the company and its customers and others. The relationship was based on the zero-sum game. In such a match, the total amount earned by the first player in the game, is equal to what the second player loses. In the company's relations with employees, the company was seeking to impose lower wages on workers, and if it succeeds, it wins and employees lose, and vice versa, if workers were able to impose higher wages. The same can be said of the company's relationship with customers. when the company charge a higher price for the product to customers it wins and customers lose. Thus, such hostile relations based on the trade-off created in the companies the Win / Lose Culture. But the company quickly evolved into a look at a pattern of cooperative relationships, through a new type of game, called Positive Sum Game. With cooperative relationships between the company and employees, can lead to increased productivity that leads to an increase in the company's profits, partly due to employees. This represents a shift from a profit / loss culture to a profit / profit culture.

In the quality of services we can offer two types of trade-offs, quality / productivity trade-off and high technology / high touch trade-off.

5.4.1. Quality / Productivity trade-off

Frontline service workers to the trade-off between effectiveness (providing a service that satisfies the customer's needs and leads to satisfaction) and efficiency (providing the service as quickly as possible to serve a larger number of customers). To be effective is to achieve quality and to be efficient means to achieve productivity (Drucker, 1995).

The approach to quality which means achieving service suitability to customer, needs and expectations means diversification and customerization of service. While the approach to productivity, means achieving the standard and typical service in providing this, and away from quality in the form of diversity, according to the needs of the customer. However, the service company seeks to overcome this trade-off (profit / loss culture) to achieve a positive total between the two (profit / profit). By focusing on an effective mix of worker / technology in service delivery. The highly qualified front-line worker in dealing with customers offers a good relationship with the customer coupled with understanding, empathy, quick, and gentle response in non-standard and atypical aspects of service.While technology advances speed in providing other aspects of service. This is what we find in a lot of service, in airline or hotel reservations offices, reception of requests can be provided by the receptionists in warm dialogue and human interaction, as well as upon completion of the booking process, while the use of quarantine or electronic software to complete the process of booking the customer. This is what we can called Lean Service style, simillar to the Lean Manufacturing.

5.4.2. High technology and high touch

In the development of the industry there are important learned lessons. The most important of these lessons is that, the radical development of production rates, is a high-technology. This was done with the steam engine, and then the gas engine, at the beginning of the industrial revolution. As well as productivity leaps with Automation and Robotics. But high technology in every new development is far from human touch, and the heat of human interaction. Because services were tracking industry in the process of evolution, they sought to use technology in services. It soon became clear that high-technology service delivery was facing a real problem. Many services with high customer contact and warmth would lose much, when technology was introduced. This is why the effective combination of high technology / high human touch has been put forward.

Naisbitt et al. (1999), argued in their book, "High Technology / High Touch", that High-technology is a trend that rely on technology and work to bring it into everything.This has been called "High-Technology Intoxication". Once again, going to high- tech would have lost us the high human touch. This is a culture of profit / loss, and we must achieve the integration, and creative cooperation between the two. This is a profit / profit culture.

6. Discussion

It is very important to emphasize the great development takes place in the services sector. It is obvious that the industrial sector is no longer the dominant sector in the developed countries, but service do. That was due to the expansion, increased specialization, and investment of the service sector. Services have become the main and most important field of competition. This what makes some researchers as (Quinn et al., 1996) argued that, companies should adopt in their business a service-based strategy, rather than commodity production strategy

Due to the high added value, impact of technology evolution, inreased pace of internet and e-services and life style of customer change factors (Markin,1982; Zhou, 2016), the rate of growth of the service sector is so high. Service have many characteristics,available in the literitures of service and discussed in amply, such as Intangibility, Inseparability, Perishability, and Heterogeneity (Zeithaml et, al., 1985), the author recommond other two characteristics, Which he considered them not less importance than its predecessors ; Customer Contact and lack of ownership. On the same context, Moeller (2010) argued the above four characteristics and pointed that each of the characteristics has an ongoing potential to inform research and practice. Although, the above characteristics represent a problems in service as compared to products. On the other hand, the quality of service have some basic dimensions, which are: tangibles, reliability, responsiveness, competence, and empathy. These dimensions were identified and argued by (Yarimoglu, 2014), and pointed out that these dimensions having primary importance that affect quality, core attributes having secondary importance, and peripheral attributes having significant tertiary.

According to the Kano's Model, (Kano, et al.,1984), they proposed that perceptions of the customer can be determine through three levels;must-be requirements,a study by (Zhu et al., 2010) reached to the conclusion that "fulfilling the must-be requirements will only lead to a state of not dissatisfied". The customer regards the must-be requirements as prerequisites. For one-dimensional requirements, the same study found that "customer satisfaction is proportional to the level of fulfillment,i.e., the higher the level of fulfillment, the higher the customer's satisfaction and vice versa. Nevertheless, not always the more is better, the high attention to the customer may lead to complaints, dissatisfaction and switching for a competitor, ths same conclusion reached by (Keh et al., 2011). For the third level, attractive requirements, the same study found that "fulfilling these requirements leads to more satisfaction. Even if they are not met, customers do not feel dissatisfied".

The quality of service argued, how to be improved in order to satisfied the customers. Many researchers discussed that and proposed that, one of the important tools which can be used to improve the service quality, is through using five gaps or the ServQual method (Parasuraman et al., 1985; Zeithaml et al., 1990). Yarimoglu (2014), reached to the same conclusion that ServQual was the most used model when measuring service quality, and it has become the most widely applied scale in researches.

Many trends in the development of quality of services were argued, these trends are; quality development,quality of individuals, technology,automation,and internit. Improving the quality of service or a product and consequently improve the quality of individuals which lead to improve the performane. Using human sigma as an indicator for improving the perfomance, this is what (Fleming et al., 2005) reached to that "if the Human Sigma numbers throughout the organization are lower than expected, or if parts of the organization sustain low numbers over time, then a broader intervention may be needed."

Regarding the evolution toward the automation and digitalization of service, this trend in services mainly goes to administrative services, while personal services have less concentration in this trend. In the industry there was factory automation,that is through machine automation, and in the services there was office automation, through i.e., copier machine. But the huge development that took place with the services economy, as this trend was the most in services through the automation of services, and then with the Internet has become a world digitally equal or more than the physical world

in almost everything and certainly within the digitization of services. The evolution from zero-sum game to positive sum-game, and what accompany this game from shifting from win/lose culture to the new culture that is based on the cooperation between employees and companies, which is win/win culture. This evolution can lead to increased productivity that leads to an increase in the company's profits, which is consequently partly go to employees. The evolution in technology results in lose in the human- touch and replace it with the technology- touch, which makes each and every thing rely on technology,which is called by (Naisbitt et al.,1999) the High-Technology Intoxication.

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МАРКЕТИНГ НА ВЗАИМООТНОШЕНИЯТА НА ХОТЕЛИЕРСКИЯ БИЗНЕС

Вяра Кюрова

RELATIONSHIP MARKETING OF HOTEL BUSINESS

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Abstract

Under the conditions of constant and unforeseeable market changes, the success of hotel business is guaranteed to a considerable extent by its skill to develop, maintain and improve long-term relations with customers. The application of the customer-orientated approach facilitates the development of relations of mutual trust in clients and complete satisfaction. In this context, the aim of this article is to outline the major problems connected with relationship marketing of hotel business. The research is based on the results of a survey conducted among owners of hotel business.

Keywords: *relationship marketing, hotel business, problem*

JEL Codes: *M31, Z39*

1. Introduction

In the contemporary dynamically changing market conditions the hotel business is forced to seek new solutions regarding the establishment of effective communication with customers. Moreover, managers of this business are looking for new solutions connected with the satisfaction of the increasing demands of customers. For the achieving of this aim relationship marketing plays an important role (Filipova, 2010).

Having in mind that the hotel business is an economic branch connected with offering one specific product – namely public services they inevitably become a prerequisite for meeting the demands of tourists (Yaneva, 2013). The adoption and implementation of a customer – orientated approach by the hotel business facilitates the development of relations based on mutual trust to customers and better customer satisfaction mainly by offering unique value to the product. Moreover, „relationship marketing acknowledges that a stable customer base is a core business asset" (Rowley, 2005).

The success of hotel business is strongly affected by its ability to keep relations with its customers and employees. With regard to this, De Madariaga and Valor (2007) point out that the main factor for successful survival of developed markets is the establishment of long-term relationship between the interested sides.

As a result of the relationships of business with customers are made deals, sales of products are realized (Ostashko, 2014, p. 220) and profits are generated which leads to increased productivity. In turn, relationship marketing will result in benefits such as increased stability and security (Gummesson, 1997; Peppers and Rogers, 2011), as well as in decrease of expenditures for client services.

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Filipova's view is that, the traditional approach to marketing putting the stress on the management of the key marketing mix elements as product, price, promotion and venue, is more and more often brought in question throughout the recent years. The new approach of the customer relationship management, though accepting the key elements, reflects the need for the establishment of an integrated multifunctional focus on the marketing, which attaches importance on the retaining as well as on the winning of new customers. This way the focus is shifted from the acquisition of customers to the retaining of consumers and provision of the necessary time, means and managers' resources aiming at these two key tasks (Filipova, 2007).

The use of relationship marketing in hotel business helps the creation of loyal customers. The success of this business is crucially affected by its ability to create, maintain and improve long-term relations with customers. With this respect, the aim of this paper is to outline the major problems connected with relationship marketing in hotel business. For the achievement of this aim, a survey was conducted among 24 hotel owners in Blagoevgrad region in the period between February – May 2017. For the collection of data, the method of direct survey was applied in which the respondents fill in questionnaires on their own.

2. Problem definition

Entrepreneurial activity in hotel business cannot be developed without the establishment, development and maintainance of long-term relations with customers. The idea of relationship marketing is extremely important due to the fact that it facilitates the better understanding of tourists' demands and based on this could be created a hotel product with unique customer value as well as high quality and attractiveness. Relationship marketing also allows the achievement of competition advantage, which possesses the specific characteristics of the hotel product which in turn add customer value and more benefit in comparison with the products of competitors. It is not by accident, that Takala and Uusitalo (1996) think that relationship marketing is in itself the strategic answer of the business to receive a competition advantage. For this reason, we need to explain the essence and peculiarities of relationship marketing.

In scientific literature, there is not a unanimous opinion about the essence of relationship marketing. For example, in their view of relationship marketing Morgan and Hunt (1994) put emphasis on marketing activity. They define relationship marketing as „this, which relates to all marketing activities aimed at establishing, developing and maintaining successful relations". In the same line of thought, is the opinion of Mishra and Li (2008), who view relationship marketing as the sum of all marketing activities aimed at establishing, developing and maintaining of successful exchange of relations. Bruhn also supports this line of thought. He points out that relationship marketing should be viewed as a combination of all activities – analysis, planning, realization and control measures – which create, stabilize, improve and reestablish business relations with the interested business partners, mainly with customers, as well as those which create mutual value in the process of relationship (Bruhn, 2003, p. 11). O'Malley and Tynan (2000) put an important emphasis on relationship marketing by stating that relationship marketing will work effectively on the condition that customers are strongly engaged with the product or service i.e. there is personalization element and customers are interested in being part of the activities of establishing the relationship. McKenna's position (1991) is that relationship marketing could be defined as the increased role of customers and manipulating the customers towards the formation of real customer interest (communication and knowledge exchange).

Another approach to relationship marketing defines it as the current process of engaging in cooperative and joint activities and projects with current or final customers for the creation or increase of mutual economic value at decreased expenditures (Sheth and Parvatiyar, 2000, p. 9). Grönroos has an original understanding of relationship marketing. He thinks that „marketing has the role of establishing, maintaining and developing relations with customers and other partners with the aim of

reaching common goals and profit" (Grönroos, 1990, p. 138). Unlike the authors cited above, Vavra (1992) defines relationship marketing exceptionally as connection with customers and contacts with them only after realization of deals.

In their views of the essence of relationship marketing, some authors emphasize the network of relationships. For example, Gummesson (2008, p. 5) defines relationship marketing as interaction in the network of relationship. According to Shani and Chalasani (1992, p. 44) it can be interpreted as the integrated effort for identifying, supporting and establishing of network with individual customers and constant consolidation of the network for the mutual benefit of both partners by means of interactive, personalized contacts with added value for long periods in the future.

The essence of relationship marketing is also viewed from the perspective of competencies by authors such as Arnett and Badrinarayanan (2005). They view it as the competence of the business to identify, develop and manage cooperative relations with key customers, characterized by trust, involvement in the relationship and communication.

It is important to mention that Naumov and Shubaeva contribute to the already existing definitions of relationship marketing in theoretical literature. According to them relationship marketing can be defined as „a business philosophy of all participants", and as „a tool for taking strategic decision aimed at using resources and key competencies for creating customer value" (Naumov, Shubaeva, 2015, p. 79). Moreover, scientific literature has shown that the formation of relationship marketing policy is based on three key component: identifying and understanding the customers, selecting them and adapting the offering to each of them (Carlos, 2011, p. 72). We think, that the most exact and complete classification of basic components is given by Winer. According to him these components are creating a customer database, analysing the data, selecting the customers, targeting them, developing relationships' programs, adopting privacy issues and producing a metrics for measuring the results (Winer, 2001).

Summarizing the opinions of the discussed authors, we can make the conclusion that relationship marketing is a combination of competencies in businesses for carrying out marketing activities, connected with establishing, developing and maintaining business relations with customers, as well as the creation of mutual benefits for both sides. They are an important instrument which business have to use in the taking of strategic decisions which in their turn facilitate the effective management of customer relationships. We think that relationship marketing could be viewed by business, including the hotel business, as an important resource for the development of business relations with customers.

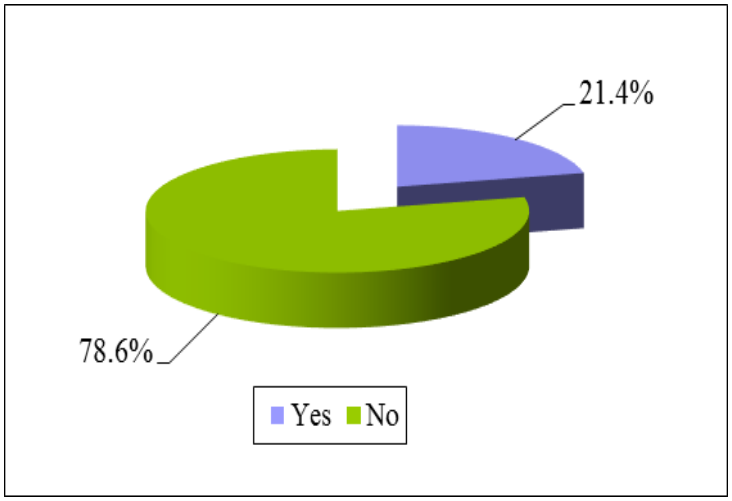
"The correct and targeted application of the methods, mechanisms and techniques of marketing activity in the sector of services can not only work for customer interests and facilitate correct choices, but also contribute greatly for the improvement of competitiveness and effectiveness of the company's activity" (Tzvetkova, 2014, p. 113). It is important to take into consideration the fact that the ability to carry out effective marketing activity is a prerequisite for the achieving of competition advantage (Koyundziyska-Davidkova, 2016, p. 204).

3. Analysis and Discussion

The main problem in hotel business is the one connected with the establishment of strong connections with potential partners and customers, as well as the consolidation of existing relations. Velikova points out that "there is a growing demand for intelligent specializations which will provide the desired stable intelligent growth. This requires searching and finding of innovative solutions as a result of which to create innovative economic and managerial models." (2017, p. 41). In this context, it is very important to choose correctly the mechanisms and instruments for the effective market management of hotel businesses. The use of relationship marketing gives excellent opportunity to hotel businesses in the taking of strategic decisions. At the same time results of the survey show that a considerable number of respondents (78.6%) don't have a special department or a qualified specialist

of relationship marketing (fig. 1). At the same, according to 63.4% of respondents, the staff responsible for customer relations is well-qualified and possesses the necessary marketing competence.

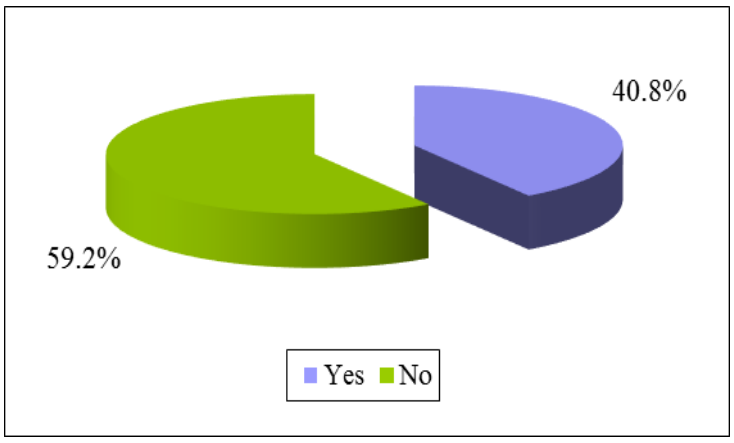
Figure no. 1. Existence of specialized department or specialist in relationship marketing



Source: authors' own survey

To achieve effectiveness in the realization of relationship marketing in hotel business, it is very important to possess a strategy for its management. In this connection, it was found that 59.2% of hotel owners haven't planned or considered planning a strategy for the management of customer relationships (fig. 2). Similarly, not a small number of respondents (32.8%) who claim to have a strategy, answer that they don't have the habit of following it and when necessary taking corrective measure.

Figure no.2. Existing of strategy for management of customer relationships

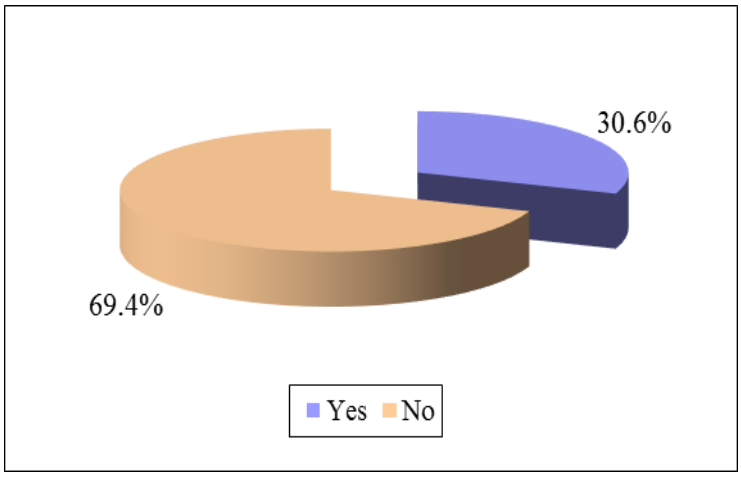


Source: authors' own survey

An important instrument for the realization of the strategy of managing customer relationships is the developed business programme by hotel owners. The results of the survey show that 30.6% of respondents have developed such a programme (fig. 3). At the same time, it becomes obvious that a

small part of hotel business (8.9%) have developed and applied standards for evaluating the effectiveness of their programmes of customer relationship.

Figure no. 3. Existing of programme



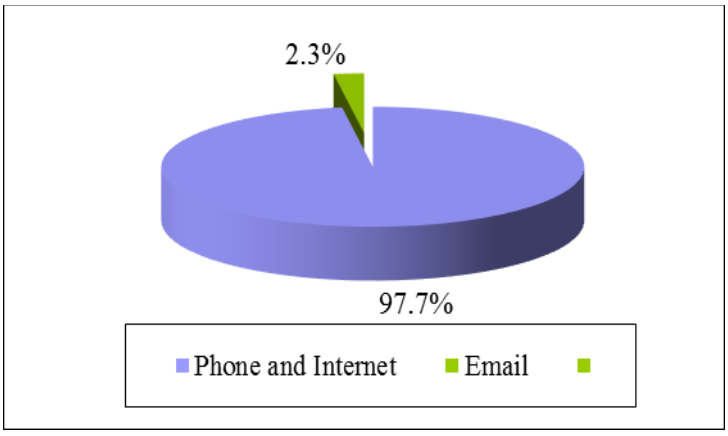
Source: authors' own survey

Of crucial importance for the effective management of customer relationships is the formation of clear vision of them. In this respect, 87.4% of respondents say that they have a clear vision of their clients. However, it was found that despite such claim, a substantial part of them (40.8%) don't have precisely defined aims with respect to the management of customer relationships.

The results of the survey show that nearly a half of respondents underestimate the importance of systematic customer research – for instance, 51.2% of respondents say that there is not systematic research of customers and managerial decision making is based on observation and customer research based only on limited criteria. The most commonly collected information about customers relates to frequency of shopping, average size of purchase, and service expenditures. It is worth mentioning, that 39.7% of respondents possess specialized software for analyzing customers and making deals based on that.

The additional analysis of the customer communication techniques applied by hotel business show that nearly all (97.7%) use phones and the Internet (fig. 4). Only 2.3% of respondents say, that they use emails as a way of keeping contacts with their customers.

Figure no. 4. Applied communication techniques with customers



Source: authors' own survey

Corporate culture is a factor which influences the effectiveness of customer activities in hotel business. The results of research show that a considerable number of respondents (81.3%) have developed procedures aimed at customer activities such as offering, servicing and managing complaints. At the same time, it becomes obvious from the research that only a small part of hotel business (24.5%) organize planned training of staffs to operate with customers.

The results of the research show that the problems faced by hotel business are the following: lack of data base of customers, especially of loyal ones; lack of systematic research, analysis and evaluation of customers; lack of systematic relationship management of customers; lack of flexible programmes of customer relationships; lack of qualified staff in the sphere of relationship marketing .

4. Conclusion

The research of customer relationships should be viewed as a prerequisite for the complete satisfaction of customer demands in hotel business and for the researching of mutual benefit for both sides. Moreover, market changes are so fast and unpredictable in contemporary world that the already established models of marketing behaviour are made redundant (Anastasova, Hristov, 2014, p. 9). Accepting the approach of personalization of customer relationships and the development of long-term partnership with each customer will make it possible to keep the clients for the future. Through the research and analysis of the relations between hotel business and loyal customers, it will become possible to give an answer to the question of which strategic initiatives of the businesses would be successful.

The analysis of the results of our research prove that hotel business don't understand the role of relationship marketing for achieving effective and long-term business relations with customers. Hotel business don't use relationship marketing as an important instrument in taking successful managerial decisions in connection with the better satisfaction of customer needs. It is of great importance to pay serious attention to the management of customer relations because the skilful management is a prerequisite for the achievement of considerable economic effectiveness of the hotel business as well as its high market resistance.

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СТРАТЕГИИ „ЗЕЛЕН МАРКЕТИНГ“

Таня Кръстева

GREEN MARKETING STRATEGIES

Tanja Krsteva[1]

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Abstract

This is a conceptual paper to study the effects of green marketing strategy on the firms' performance. The paper aims at presenting the reviews of the literature on the green marketing strategy and analyses factors that will influence the firms' performance. As green marketing strategy become increasingly more important to firms adhering to a triple-bottom line performance evaluation, the present paper seeks to better understand the role of "green marketing mix" as a marketing strategy. The conclusion that was drawn is that, green product, green price, green distribution, green promotion green people, green process, and green physical evidence have a positive effect on the firms' performance.

Keywords: *Green marketing strategy, Firm performance, Green marketing, Green marketing mix, Green product*

JEL Codes: *M31*

1. Introduction

In the industrialised nations around the world, both businesses and consumers are concerned about the environment and the future of our planet. In the business arena this concern has translated into environmental or green marketing. Marketers viewed this phenomenon as offering business opportunities, and a number of organisations developed and implemented short-term orientated reactive or long-term orientated proactive environmental strategies.

As the competitive landscape is being drastically changed by the increasing concern toward environmental sustainability, firms are beginning to determine how the adoption of "green" marketing practices can benefit or harm their performance. The increasing sensitivity of the public, strictness of regulations, and amount of pressure from stakeholders have driven professionals to consider "green" issues in their corporate decisions. Environmental products and services, such as green vehicles, have also attracted increasing attention from customers. However, although corporate managers are beginning to include such issues in their agenda, the sustainability of their marketing strategies has been insufficiently documented in empirical studies. Therefore, the effects of adopting environmental marketing practices remain relatively unknown among the managers and policy makers of contemporary firms.

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2. Literature review

As consumers become more environmentally conscious, businesses must adapt a green strategy. Small businesses seeking to leverage the power of "going green" should carefully coordinate genuine actions and marketing strategies.

1. **Successful Market Segmentation and Concentration on Selected Market Segment:** A company needs to focus on the market comprising of the green consumers. The company can run advertisement for its products in green focussed media. It can also innovate of a new green product along with its existing products. Further, it can altogether launch a new strategic business unit aimed at green.

2. **Developing a New Generation of Green Product:** Insufficient production processes and poor designing of products can be very harmful for the environment that is why the companies should consider possible negative effects on the environment and minimize them at the beginning of New Product Development.

3. **Green Positioning:**Companies interested in positioning themselves as green should make sure that all the activities that it is involved in supports its projected image, so as not to cheat the consumers as well the media.

4. **Applying Green Promotion:**Successful promotion depends on choosing the right strategy and media for promotion of green products. Any kind of green promotion becomes neutral unless it supported by corresponding corporate activities.

5. **Green Packaging:** A business that manufactures and packages products can convert to eco-friendly packaging. Converting to biodegradable packaging provides customers with a visible symbol of the company's commitment to "going green". The business can also leverage the eco-friendly packaging as part of its advertising program to help draw in new environmentally conscious customers.

6. **Deciding about Green Prices:** Consumers today are willing to pay only a small premium or no premium at all for the green products. Pricing may become a cause of concern when it comes to selling the product in the market, as its manufacturing may be expensive due to new technology involved. It therefore becomes the responsibility of the manufacturer to decide upon the pricing of the product.

7**. Applying "Green" Logistics:** Distribution of goods can also be designed such that they leave minimum impact on the environment. Mere reduction in packaging and wrapping can contribute to a large extent in reducing the waste and saving paper. Efficient inventory management can also contribute in minimizing wastage in a big way.

8. **Changing the Attitude towards Waste:** Generated always does not necessarily have to be an unhelpful result of production processes. A newer understanding of the idea of waste has given birth to a new market of recycled products. Also it may be so that which is deemed waste for a company may be a raw material for another.

3. Methodology

Some of the other successful strategies of Green Marketing are as follows: Show potential customers that the company follow green business practices and could reap more green on bottom line. For green marketing to be effective, company have use following strategies too.

1. **Being genuine:** The companies are actually doing what the business claim to be doing in the green marketing campaign and the rest of business policies are consistent with whatever the company

is doing that's environmentally friendly. Both these conditions have to be met for the business to establish the kind of environmental credentials that will allow a green marketing campaign to succeed.

2. **Educate your customers:** It is not just a matter of telling people about to know whatever the companies are doing to protect the environment but also a matter of telling them to know why it matters and its importance.

3. **Give your customers an opportunity to participate:** Personalizing the benefits of environmentally friendly actions, normally through letting the customer take part in positive environmental action.

4. **Know your customer:** To sell a greener product to consumers, first the company need to make sure that the consumer is aware of and concerned about the issues that its product attempts to address.

5. **Empower consumers:** Make sure that consumers feel, by themselves or in concert with all the other users of the company's product, that they can make a difference. This is called empowerment and it's the main reason why consumers buy greener products.

6. **Be transparent:** Consumers must believe in the legitimacy of the product and the specific claims the companies are making. Hence complete information need to be disclosed to make environmentally friendly economy.

Green Marketing Mix: Every company has its own favourite marketing mix. Some have 4 P"s and some have P"s of marketing mix. The 4 P"s of green marketing are that of a conventional marketing but the challenge before marketers is to use 4 P"s in an innovative manner.

1. **Product:** The ecological objectives in planning products are to reduce resource consumption and pollution and to increase conservation of scarce resources.

2. **Price:** Price is a critical and important factor of green marketing mix. Most consumers will only be prepared to pay additional value if there is a perception of extra product value. This value may be improved performance, function, design, visual appeal, or taste. Green marketing should take all these facts into consideration while charging a premium price.

3. **Promotion:** There are three types of green advertising:

- Ads that address a relationship between a product/service and the biophysical environment.
- Those that promote a green lifestyle by highlighting a product or service.
- Ads that present a corporate image of environmental responsibility.

4. **Place:** The choice of where and when to make a product available will have significant impact on the customers. Very few customers will go out of their way to buy green products.

Strategies: The marketing strategies for green marketing include:

1. Market Auditing (including internal and external situation analysis).
2. Develop a marketing plan outlining strategies with regard to 4 P"s
3. Implement marketing strategies.
4. Plan results evaluation

4. Analysis and discussion

Green marketing has been widely adopted by the firms worldwide and the following are the possible reasons cited for this wide adoption:

1. **Opportunities** - As demand changes, many firms see these changes as an opportunity to exploit and have a competitive advantage over firms marketing non environmentally responsible alternatives. Some examples of firms who have strived to become more environmentally responsible, in an attempt to better satisfy their consumer needs.

2. **Government Pressure** - As with all marketing related activities, governments want to "protect" consumer and society; this protection has significant green marketing implications. Government regulations relating to environmental marketing are designed to protect consumers in several ways,

- Reduce production of harmful goods or byproducts Modify consumer and industry's use and/or consumption of harmful goods
- Ensure that all types of consumers have the ability to evaluate the environmental composition of goods. Government establish regulations designed to control the amount of hazardous wastes produced by firms.

3. **Competitive Pressure** - Another major force in the environmental marketing area has been firms' desire to maintain their competitive position. In many cases firms observe competitors promoting their environmental behaviours and attempt to emulate this behaviour. In some instances this competitive pressure has caused an entire industry to modify and thus reduce its detrimental environmental behaviour.

4. **Social Responsibility** - Many firms are beginning to realize that they are members of the wider community and therefore must behave in an environmentally responsible fashion. This translates into firms that believe they must achieve environmental objectives as well as profit related objectives. This results in environmental issues being integrated into the firm's corporate culture. There are examples of firms adopting both strategies.

There are many lessons to be learned to be learned to avoid green marketing myopia, the short version of all this is that effective green marketing requires applying good marketing principles to make green products desirable for consumers. The question that remains, however, is, what is green marketing's future? Business scholars have viewed it as a "fringe" topic, given that environmentalism's acceptance of limits and conservation does not mesh well with marketing's traditional axioms of "give customer what they want" and "sell as much as you can". Evidence indicates that successful green products have avoided green marketing myopia by following three important principles:

1. **Consumer value positioning:** Design environmental product to perform as well as (or better than) alternatives Promote and deliver the consumer desired value of environmental products and target relevant consumer market segments. Broaden mainstream appeal by bundling consumer desired value into environmental products.

2. **Calibration of consumer knowledge:** Educate consumers with marketing messages that connect environmental attributes with desired consumer value. Frame environmental product attributes as "solutions" for consumer needs. Create engaging and educational internet sites about environmental products desired consumer value.

3. **Credibility of product claim:** Employ environmental product and consumer benefit claims that are specific and meaningful. Procure product endorsements or eco-certifications from trustworthy third parties and educate consumers about the meaning behind those endorsements and eco certifications. Encourage consumer evangelism via consumers social and internet communication network with compelling, interesting and entertaining information about environmental products.

5. Conclusion

This paper extensively reviews the literature in the field of green marketing strategy and highlights that Firms that adopt green marketing strategy (green product, green price, green distribution, green promotion green people, green process, and green physical evidence) are expected to generate more profits than those firms that do not adopt such strategies. The current paper is

expected to contribute to the extant body of literature that focuses on green marketing strategy, and the financial and non-financial performance of firms. Despite promotion from scholars and policy makers, several fundamental issues in green marketing, such as the relationship between green marketing strategy and firm performance, remain under investigated. The reviewed and analyzed factors green product, green price, green distribution, green promotion green people, green process, and green physical evidence indicated that the green marketing strategy effect positively on the financial and non-financial performance of firms.

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ЧЕТВЪРТАТА ИНДУСТРИАЛНА РЕВОЛЮЦИЯ – ПРЕДИМСТВА И НЕДОСТАТЪЦИ

Савица Димитриеска, Александра Станковска, Таня Ефремова

THE FOURTH INDUSTRIAL REVOLUTION – ADVANTAGES AND DISADVANTAGES

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Abstract

People have always wanted to improve and ease their lives. They used a variety of means, tools, machines, and other people to achieve that goal. In achieving it, people change the way they live, work and relate to one another. All these rapid and abrupt changes in society that radically changed human life and occurred in a certain period of time are called Revolutions. Human history recognizes about 3 Revolutions so far that have affected all aspects of life.

The world is facing the Fourth Industrial Revolution (4IR) which is characterized by a range of new technologies that are fusing physical, digital and biological worlds, impacting all disciplines, economies and industries. The 4IR will fundamentally change people's lives. It covers wide-ranging fields such as Artificial intelligence, The Internet of Things (IoT), robotics, autonomous vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy savings, computing, etc. This paper aims to explain in detail the advantages and disadvantages of the Fourth Industrial Revolution and warn people to understand it and make adaptations to it. Understanding the 4IR and its new technologies and their threats is critical for all the nations.

Key words: *4th Industrial Revolution, robotics, artificial intelligence, 3D printing, new technologies*
JEL Codes: *M31*

1. Introduction

The 4th Industrial Revolution is a term coined by Professor Klaus Schwab, founder and Executive chairman of the World Economic Forum, who described it as a "current and developing environment in which disruptive technologies and trends such as the Internet of Things, robotics, virtual reality and Artificial intelligence are changing the way people live and work".

The First Industrial Revolution, in the 18th and 19th centuries, involved a change from mostly agrarian societies to greater industrialization as a consequence of the steam engine and other technological developments. This Revolution made a transformation from an agrarian and handcraft economy to one dominated by industry and manufacturing. The next Second Industrial Revolution was driven by oil and electricity and involved expansion of industries and mass production as well as technological advances. The Third Industrial Revolution (Digital Revolution) involved the

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development of computers and IT (information technology) since the middle of the 20th century. IT science was used to automate production. The Fourth Industrial Revolution is growing out of the Third but is considered a new era rather than a continuation because of the explosiveness of its development and the disruptiveness of its technologies. The Fourth Industrial Revolution is differentiated by the speed of technological breakthroughs, the pervasiveness of scope and the tremendous impact of new systems. This new technological era will bring changes in power, shifts in wealth and knowledge.

2. History of industrial revolutions

The First Industrial Revolution started in 1760 with the invention of the steam engine that allowed the transition from farming and feudal society to the new manufacturing process. The most important invention of this period, which was a catalyst for other achievements, was the steaming machine that was patented and improved by James Watt in 1763 that enabled a larger production with lower energy consumption. Apart from the progress in production, this was also a period of transportation progress and other numerous sciences. Technological changes included: a) the use of new materials, mainly iron and steel, b) the use of new sources of energy, fuel and coal -that became the main factor of industrialization, c) important achievements in the field of communication and transportation (trains) and d) increased use of science in industry. In this period textile and steel were the dominant industries in terms of employment, value of output and capital investments. These technological changes have enabled the exploitation of natural resources and increase production capacity of goods.

The Second Industrial Revolution is marked by the use of electricity and oil, the period that lasted from 1870 to 1914. This period is characterized by many new inventions, such as telephone, radio, telegraph, diesel and gasoline engines, electricity, internal combustion engine, x-rays without which the world today would be unthinkable. The Second Industrial Revolution is recognized by the rapid development of transport (railways and entire trans-continental railway systems were built), rapid industrialization and mass production (Henry Ford has improved automotive industry with the invention of the conveyor belt).

The Third Industrial Revolution started in 1960s and is usually called the computer or digital revolution because it was catalysed by the development of semiconductors, mainframe computing (1960s), personal computing (1970s and 80s) and the Internet (1990s). Information technology and electronics in this period automate the production.

Today we are living on the brink of the **Fourth Industrial Revolution**. It began at the turn of this century and builds on the digital revolution. It is characterized by a much more ubiquitous and mobile internet, by smaller and more powerful sensors that have become cheaper, and by artificial intelligence and machine learning. The 4IR is a kind of fusion of technologies of physical, digital and biological spheres. The main objective of Industry 4.0 is the introduction of a smart factory that is characterized by: flexibility, efficient use of resources, and integration of clients and business partners into the business process. In a new, smart factory, everything should be connected with everything: the machines communicate with semi-products, individual parts of the machine communicate among themselves, robots and humans are no longer separate by fences, but they are in mutual interaction. For The success of this Revolution lays in the use of so-called “big data" which is a technology that allows collecting and processing large quantities of structured and unstructured data in real time. The 4IR is a new concept of economic development that will improve the living standard by integrating production, marketing and consumers with the best communication technologies. The idea of 4IR is

that all facilities in the factory (machines, robots, devices, products, computers) and people communicate with each other, mostly wirelessly. The result of this revolution is high flexible, individualized, mass production with little costs. Consumers get the products tailored to their wants and needs by relative low price. For the production process, it is essential to be as flexible as possible because it must be able to produce different types of products and be able to make a change on the product in the last moment due to the change of the customer's desires. Engineering is expected to participate in the whole product life cycle. The smart products that are the result of 4IR will send a large set of data to their producer that will suggest him to make improvements needed in the future.

Even though each of the Industrial revolutions can be considered as a separate event, it is better to see them as a series of events where one revolution builds on the innovations of the previous one and adopts a new and advanced form of production.

3. Advantages of the fourth industrial revolution

There is a connection between the four industrial revolutions and the five ages of civilization: the hunter and gather age, the agricultural age, the industrial age, the information age, and the emerging digital age. The advantages and opportunities of the 4IR may infer through the characteristics of the five ages of civilization.

✓ **Higher productivity:** productivity of each subsequent age goes up 50 times over the preceding age. For example, the increase in productivity of the Industrial age over the Agricultural age. The 4IR carries out continuous optimization of production, that means finding ways how to produce more with less resources.In the next 5-10 years, it is estimated that productivity will increase from 5-8%.

✓ **Destroying current jobs and creating new ones:** each subsequent age destroys many of the jobs of the preceding age. For example, the Information age is replacing the jobs created by the Industrial age. AT the same time, new, more advanced, knowledgeable, more sophisticated jobs are created.

✓ **Manual work is replaced by knowledge**: in the first three ages of civilization manual workers produced most goods and services with their body, but in the last two ages, knowledge workers produce most goods and services with their mind. Knowledge workers provide focus, creativity, and leverage in using investments to achieve the organization’s objectives more efficiently. In other words, knowledge is an integral part of total management and cuts across functional boundaries. The main assets and primary drivers of the industrial age were machines and capital. People were necessary but replaceable. The management style of the industrial age simply does not work in the new economy. Management focused on motivating employees to perform the physical labour needed to produce the products and services. In the fourth industrial age, the challenge now is how companies can motivate their knowledge workers to release their human potential.

However, the main opportunities that comes with the Fourth industrial revolution are: 1) lower barriers between inventors and markets, 2) more active role for the artificial intelligence (AI), 3) integration of different techniques and domains (fusion), 4) improved quality of lives (robotics) and 5) the connected life (Internet).

The Fourth Industrial Revolution is likely to reduce barriers between inventors and markets due to new technologies such as 3D printing for prototyping. Also, increasing trends in artificial intelligence point to significant economic disruptions in the coming years. Artificial systems that rationally solve complex problems pose a threat to many kinds of employment, but also offer new avenues to economic growth. Approximately half of all existing work activities would be automated

by currently existing technologies, thereby enabling companies to save billions of dollars and to create new types of jobs. For example, driverless cars may modestly replace taxi and Uber drivers. Innovative technologies will integrate different scientific and technical disciplines. Key forces will come together in "a fusion of technologies that is blurring the lines between physical, digital, and biological spheres." (Schwab 2015) This fusion of technologies goes beyond mere combination. Fusion is more than complementary technology, because it creates new markets and new growth opportunities for each participant in the innovation. Robotics will change our lives in the near future. Technically robots are automated motorized tools. They cook food, play music, record our shows, and even run our cars. Consequently, robots have the potential to improve the quality of our lives at home, work, and many other places. Customized robots will create new jobs, improve the quality of existing jobs, and give people more time to focus on what they want to do. The Internet of things (IoT) is expected to offer advanced connectivity of devices, systems, and services that goes beyond machine-to-machine (M2M) communications and covers a variety of protocols, domains, and applications. The interconnection of these embedded devices is expected to usher in automation in nearly all fields, while also enabling advanced applications like a smart grid, and expanding to areas such as smart cities. The revolution of the connected life came about thanks to the advance of the Internet. In 1969, the first data was transmitted over the Internet and linked two main frame computers. Now, the Internet is connecting personal computers and mobile devices. By 2010, the number of computers on the Internet had surpassed the number of people on the earth.

4. Disadvantages of the fourth industrial revolution

The 4IR will fundamentally alter the way people live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before. The evolution of global industries in the fourth industrial revolution is both exciting and scary. Life will change with the 3D printing, the IoT, and the fusion of technologies. There are several key challenges that lay ahead the Fourth industrial revolution.

1) **Greater inequality and disruption of labour markets:** the scarcest and most valuable resource in an era driven by digital technologies will be neither ordinary labour nor ordinary capital; rather it will be those people who can create new ideas and innovations. In the future, talent, more than capital, will represent the critical factor of production. People with ideas, not workers or investors, will be the scarcest resource. Low skilled and low wage jobs will be replaced by computers and digitization. The higher paid jobs requiring more skills are less likely to be replaced. This increased dichotomization can lead to an increase in social tensions.

2) **Cybersecurity, hacking, risk assessment:** a higher level of alert is raised up when human lives become extensively connected to various devices, from cell phones, cars, and light switches to home security cameras, and smart speakers. Privacy will be the main issue in the new era. Nowadays everything is connected and there is no going back.

3) **Impact on core industries and sectors, such as education, health and business:** The fourth industrial revolution is more than just technology-driven change. In education, new modes of curriculum and teaching arise, and the focus changes from modes of teach to modes of learning. Alternative curriculums are being constantly developed. Disruptive innovation also reshapes how businesses operate. New markets are created and new products are defined. Netflix is competing with traditional television. Taxis must compete against Uber and Lyft. These offered similar product to customers in new ways. The Airbnb alternative overnight accommodations are competing against traditional hotels and motels.

4) **Manipulation and ethical issues:** in an era featuring AI, automation, robots, and genetic engineering, there are new ethical concerns emerging. Robots have become smarter and more autonomous, but they still lack an essential feature - the capacity of moral reasoning. This limits their ability to make good or ethical decisions in complex situations. Further, the most critical question is whose moral standards should robots inherit. Moral values differ greatly from individual to individual, across countries, religions, and ideological boundaries.

5. Conclusion

We are entering the era of the Fourth Industrial Revolution that implies abrupt and radical changes in the socieites, integrating the economy in artificial intelligence (AI), robotics, IoT (Internet of things), auto industry (vehicles without driver), 3D printing, quantum computers, and nanotechnology. Changes happen everyday. And while it took 75 years for telephone to be used by 50 million people around the world, the radio expanded to the same number by 38 years, TV for 13, and Internet in just four years!

The good side of the Fourth Industrial Revolution could be cheaper goods and services, which would lead to a new wave of economic growth, while the biggest threat is expected to be the mass unemployment and a growing gap between corporations and the population. There are also other challenges stemming from the Fourth industrial revolution to overcome. From income inequality to cybersecurity, the benefits of the fourth industrial revolution have obstacles that must be harnessed, directed and overcome, such as income inequality, cybersecurity, and ethical dilemmas. Technology and advancements in science drive transformation around the world. They create ripple effects on societies, institutions, and economies. They will transform the ways in which we live, work, and interact with one another.

Understanding these new technologies and their disruption potential is critical for all nations and especially developing countries. The fourth industrial revolution may affect society and economy in a variety of ways. First, a large portion of people around the world are likely to use social-media platforms to connect, learn, and change information. Second, a variety of innovative producers and competitors will have easy access to digital platforms of marketing, sales, and distribution, thereby improving the quality and price of goods and services. Third, consumers will be more and more involved in the production and distribution chains. The main effects of this revolution on the business environment are the impact it will have on consumer expectations, product quality, the move toward collaborative innovation, and innovations in organizational forms.

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СЪЩНОСТТА И ФУНКЦИИТЕ НА САМОУПРАВЛЕНИЕТО ОТ ПЕРСПЕКТИВАТА НА ПОЛША - ИЗБРАНИ АСПЕКТИ

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THE ESSENCE AND FUNCTIONS OF SELF-GOVERNMENT FROM THE POLISH PERSPETIVE - SELECTED ASPECTS

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Abstract

The aim of this article is to present the importance of the essence and function of Self-Government in Poland in relation to the local municipal management. In the article there are presented the functions and possibilities in the field of municipal management based on the current legal status in Poland and the organization of local government resulting from the provisions of law. The whole presented material reflects a certain mental process that took place in Poland in connection with the reform of the local government system.

Keywords: *management, self-government, public management, municipal management, public administration, public property*

JEL Codes: *H76, H83, K23*

1. Introduction - analysis of recent researches and publication

The Polish Constitution regulates existence of various local government units. A commune is the primary local government unit in Poland. Under the act of 8 March 1990 on communal self-government, residents of a commune create a community under the law. A commune shall be understood as a self-government community and an appropriate territory, hence one may speak about communal self-government when there are two equally-legal factors: an appropriate territory and self-government community. When one of the above factors is unavailable, we may not talk about local government at the communal level. Hence, a self-government community may be used to describe all residents living on a given territory that has specific characteristic features such as: social and business bonds ensuring ability to carry out public tasks as well as a unified spatial arrangement (Dolnicki, 2013, p. 91).

It is worth noting that residents compose an integrated society with common social awareness due to local conditions, and one that is able to organise and fulfil tasks. Each member of the community participates in it on relatively the same conditions and may benefit from its value equally as others. With its activity, a commune covers the entire population or at least the primary core of population residing on its territory, as well as people who stay there temporarily (Dahlek, 2017, p. 39) . The general local government life is focused on the communal level and this is where the majority of competences of the local government are situated. A commune has a legal personality and court-

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guaranteed independence protection that is exhibited in the public law and private law aspects (Dolnicki, 2013, p. 98).

Thanks to the legal personality, the community may participate in business trade and may enter into legal relationships with state authorities, characteristic for equal entities. The Act on Communal Self-Government indicates that a commune carries out public tasks on its own behalf and responsibility. The scope of activities undertaken by communes includes all public matters that are locally-important, not reserved with acts benefitting other entities (Iluk, 2018, p. 105). A commune may possess its own assets, manage them, take out liabilities, enter into legal relationships with state authorities and also enter into disputes with them. It is independent of the state apparatus, it shapes it own internal organisation, chooses its representative authorities and creates the local law (Jaworska-Dębska, 2004, p. 88).

2. The essence of self- government in the polish reality

The model of local government is described in the Polish Constitution adopted by the National Assembly on 2 April 1997 and approved by means of a national referendum on 25 May 1997. This Constitution refers to solutions that apply in the Constitution of 1990 waived by the Small Constitution, and to legal regulation of the local government in the Constitution from 1952. This Act is focused more on public law entities and independence of local government units. A local government was defined in the Constitution from 1997 as an entity taking part in providing public authority and executing the general part of public tasks in this scope, on its own behalf and responsibility (Constitution from 1997, Article 16 (2)).

Local government units were provided with a legal personality. Public tasks were assigned to them not reserved by the Constitution or Act benefitting other authorities (Constitution from 1997, Article 163, Article 165 (1)). Public tasks that satisfy the needs of the self-government community were defined as the local government units' own tasks (Constitution from 1997, Article 166(1)). The Constitution ensures independence to a local government in terms of carrying out its assigned tasks subject to court protection and also provides for the possibility of appointing a multi-level structure of a local government in Poland, indicating that a commune shall remain the basic authority (Constitution from 1997, Article 164).

Some of the provisions contained in the Constitution and its explication are resembled in the Act on Local Government of 8 March 1990, uniform text, applicable from the point of the announcement of Speaker of the Lower House of the Polish Parliament of 17 March 2016 regarding announcement of uniform text about the Act on Communal Self-Government. In the Act, a commune is described as a self-government community appointed to carry out public tasks on its own behalf and responsibility. Article 1 of the Act of 17 May 1990 on the division of tasks and competences defined in special acts between communal authorities and government administration authorities, and on amending some acts similarly as the Act on local government, states that competences of the communal authorities are handed over (if special regulations do not state otherwise) as own tasks, specified in Acts, and competences that were the responsibility of national councils and local authorities of state administration of the basic degree to date, (Jaworska-Dębska, 2004, p. 89).

The regulation of local government is characterised by multiple sources of law. From regulations contained in the Constitution of 2 April 1997, to Acts dedicated to particular units of local government. Besides the above sources, the Act on local government permits functioning of separate acts regarding the organisation and creation of accounting chambers, taxes, fees and profits considered to be the commune's income, general principles of the budget procedure and financial management as well as the conditions of taking out loans by communes. All provisions that regulate the legal position of a local government indicate it as a legal personality that is equipped with attributes of public government, i.e. with administrative authority, and executing a significant part of public and local tasks independently (Jaworska-Dębska, 2004, p. 90).

Territorial division of the country introduced on 1 January 1999 by means of the Act of 24 July 1998 on introducing a general three-level territorial division, was a "supplement" to the reform regarding the local government from 1990. In line with the above Act, the principle units of territorial division are as follows: communes (2489 communes), districts (308 townships, 65 towns with district rights – country districts) and provinces (16 provinces) (Jaworska-Dębska, 2004, p. 98).

The reform regarding local government implemented in 1990, consisted mainly of creating the so-called self-government communities and assigning particular formal and legal independence to them. The centralisation principle applicable from 1990 was the reason why the scope of independence of national councils was narrow(Matejek & Kucharczyk, 2017, p. 112). Development of communes meant suppressing the monopoly of government administration, activation of initiatives of local positions and democratisation of Poland's system. The reason for the reform also consisted of thorough remodelling of the system of local finances. The system that was based on centralised structure of state budget covering the central budget and local budgets adopted by national councils, strictly connected with central budget and executed by local state administration authorities at the provincial and communal level, was replaced by a decentralised system.

In this system, each of the communes is in possession of their own assets, income, has the right to manage its expenses freely, has a legal personality and the possibility of choosing local government (representatives) by the local community in elections. Nevertheless, many tasks that were strictly local, remained within the scope of responsibilities of the government administration. Expanding competences of communes lasted until 1990 and was caused by lack of stability of the political system in Poland, causing delays in the legislative operation of the Lower House as well as the lack of willingness of a significant part of government administration to hand over their permissions to communes. The reform on three-level division of the territory of the country connected with the reform of public finances introduced on 1 January 1999 changed the previous arrangement of ministries and branches to local arrangements. As a result of the above, the general politics of the country as well as strategic tasks with constitutional character are executed at the central level, while local and regional issues are handled at particular levels of the local government. Through decentralisation, communal, district and provincial self-governments were assigned tasks, obligations and administrative permissions of the central government and administration, and the financial means related thereto. Introducing three levels of the local government is compliant with the general principles resulting from the Polish Constitution of 2 April 1997. The model of a unitary state specified in Article 3 of the Polish Constitution was retained. Constitutional principles are also executed, such as:

- decentralisation of the public government (Article 15 (1)),
- the principle of subsidiarity (preamble of the Polish Constitution),
- principles of assigning a significant part of public tasks to local governments (Article 16 (2)),
- the principle of implication of local government competences (Article 163, Article 164(3) (Zieleniewski, 2006, p. 35).

The local government system is based on three levels of authority, where public law entities (communes, districts, provinces) independently, handle public matters and are responsible for their proper execution. There are tree segments on each level of the government:

- local (communes, districts or cities with district rights),
- regional (self-government provinces),
- authority (government, central administration, governors) (Kowalewski, 2010, p. 15).

Activities of the commune and district are to guarantee satisfying of collective needs of local communities so they should consist of providing popular services as a rule, which can be received by potentially any person from a particular commune. Activities of the commune and district are focused on an individual (citizen) and their needs. Tasks with basic character remain in the competences of the commune. A district carries a supplementary role in the scope of those public tasks that exceed the

possibility of an average commune. As a result of the reform, a district has acquired the previous competences of a governor (Kowalewski, 2010, p. 17).

3. Types of self-government in Poland and it's tasks

The purpose the regional segment of local government is to satisfy the needs of a unit and ensure development of economy and its entities. The essence of a self-government province is to execute the interest of the country with special consideration of regional conditions (Kowalewski, 2010, p. 19).

The main tasks of the region are as follows:

1) ensuring economic and civil growth of the region,
2) regional planning,
3) promoting the region,
4) international economic cooperation,
5) cherishing Polish identity,
6) shaping national and civil awareness of residents (Kowalewski, 2010, p. 20).

A self-government district takes over the previous competences of a governor and various provincial and regional government administration authorities. A self-government province acquires many previous tasks and competences of central administration. Governors are responsible towards the government for activity on the territory of a province of the entire public administration.

Duality in the scope of administration structures occurs at the provincial level. This is management of the province with a marshal as the leader and governor as a representative the Council of Ministers. The purpose of this division is to ensure consistency of operation of local government units with the directions of state politics. Governors in a province and a starost in a district provide general supervision over various authorities operating on the territory and accept legal and political liability for the public order and collective safety.

The key rule of particular levels is independence. This means that a self-government of the province does not violate the independence of local governments and does not supervise them. Similar relations occur between district and communal self-governments. Mutual relations between units of local government of various levels may be regulated by means of settlements concluded, to manage certain public tasks. An important goal of the reform is also to adjust the territorial organisation of the country and local government structures to the standards of the European Union. This will make it possible to use the legal and economic instruments of the EU contributing to regional development and international cooperation (Kowalewski, 2010, p. 22).

A commune is a legally-organised local association of people defined in the Act as a self-government community living on a given territory. It has a legal personality separate from the state as well as competence- and task-related independence. The following elements compose a commune:

- area;
- residents; each commune resident is its member, regardless of being inactive or active in a given community;
- authority; commune authorities elected democratically;
- organisational units; e.g. budget entities, budget units, auxiliary enterprises, special means (Kowalewski, 2010, p. 25).

The criteria separating a commune from other units of territorial division are as follows:

- unified settlement and spatial system;
- social and economic bonds ensuring the ability of carrying out public tasks (Kowalewski, 2010, p. 27).

The key aim of a commune is to carry out tasks aiming at satisfying collective needs of residents. The tasks of a commune may be divided as follows:

- own tasks;
- assigned tasks (Jaworska-Dębska, 2004, p. 88).

When executing tasks, the commune utilises its independence. Independence of a commune has various aspects:

- organisational and personal; (own authorities and structures, the right to appoint jobs of communal administration in companies, plants and other self-government institutions);
- economic; (asset resources including ownership entitlements and financial means);
- administrative; (own competences for creating administrative laws and for providing administrative authorities in individual forms within the scope of statutory authorisations);
- political; (free choices based on the criteria of local interest) (Jaworska-Dębska, 2004, p. 89).

Such defined independence of the commune as a decentralised entity of public administration and legal personality is subject to court protection. Independence is to guarantee the possibility of executing tasks of the commune corresponding to its interest, but independence of the commune is in certain cases limited by introducing mandatory own tasks that the commune cannot waive. When performing tasks at its own responsibility, the commune faces full consequences of its activity or negligence, and is also obliged to remedy a generated loss (Jaworska-Dębska, 2004, p. 90). A commune, as an organisational system occurring in a civil law sphere is an entity of rights and obligations. It features the following spheres:

- internal, i.e. the mechanism of mutual associations;
- external, thanks to which it is possible to establish legal relations with third parties.

A commune executes the following functions:

- organisational and legal;
- administrative and legal;
- social and economic;
- communal and legal;
- management.

The Polish system defines the following communes:

- agricultural;
- agricultural and industrial;
- industrial;
- industrialised;
- service;
- tourist (Zieleniewski, 2006, p. 35).

A community creating the local government makes decisions and executes tasks through representative bodies chosen by them in democratic elections. The community council is an authority that controls the local government chosen by the community residing a given territory in direct elections (Zieleniewski, 2006, p. 36).

4. Functions of self- government in Poland in European conditions

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Such defined independence of the commune as a decentralised entity of public administration and legal personality is subject to court protection. Independence is to guarantee the possibility of executing tasks of the commune corresponding to its interest, but independence of the commune is in certain cases limited by introducing mandatory own tasks that the commune cannot waive. When performing tasks at its own responsibility, the commune faces full consequences of its activity or negligence, and is also obliged to remedy a generated loss (Jaworska-Dębska, 2004, p. 90). A

commune, as an organisational system occurring in a civil law sphere is an entity of rights and obligations. It features the following spheres:

- internal, i.e. the mechanism of mutual associations;
- external, thanks to which it is possible to establish legal relations with third parties.

A commune executes the following functions:

- organisational and legal;
- administrative and legal;
- social and economic;
- communal and legal;
- management.

The Polish system defines the following communes:

- agricultural;
- agricultural and industrial;
- industrial;
- industrialised;
- service;
- tourist (Zieleniewski, 2006, p. 35).

A community creating the local government makes decisions and executes tasks through representative bodies chosen by them in democratic elections. The community council is an authority that controls the local government chosen by the community residing a given territory in direct elections (Zieleniewski, 2006, p. 36).

5. Functions of self-government in Poland and it's municipal nature

A local government may execute tasks in various organisational and legal forms. It executes them independently creating its own organisational units or assigns tasks to external entities. Communal management uses the following institutions for executing tasks:

— budget entity;
— budget unit;
— auxiliary enterprise;
— communal organisational units;
— commercial partnerships;
— foundations;
— cooperatives;
— communal banks;
— communal insurance institutions.

The choice of communal management is not fully independent and the following factors affect it:

— type of business conducted and level of capital intensity;
— local conditions;
— economic situation of a country (Konosala, Zachorko & Matan, 2002, p. 32).

A limitation is also enforced by means of Article 7 of the Act on communal management of 20 December 1996, which states that tasks exceeding the character of public utility may not be conducted in the form of a budget entity. The tasks of the commune result from Article 7 of the Act on communal self-government. In order to fulfil them, forms of budget law and non-budget management are used. Budget units are the key form of activity. They are created by the communal council in the form of resolutions in order to execute its own public utility character. The unit does not feature a legal personality. It operates on the basis of a legal personality of the commune. A budget unit does not have separate assets. It uses property of the local government in order to execute tasks. A budget unit is associated with the budget by means of the gross method, i.e. the income is fully transferred to the

budget of the unit, which is used to cover all of its expenses (Konosala, Zachorko & Matan, 2002, pp. 32-33).

The basis of a budget unit's functioning is an annual financial plan. Financial management of those units is not flexible and ineffective. It lacks motivation for generating bigger income because it has to be transferred to the budget instead of being spent on own development and investments. Besides the listed characteristics, budget units are also characterised by the following:

— their expenses are independent of revenues;

— a budget unit provides services fully or partially for free;

— budget units do not pay taxes to the budget;

— financial means at the disposal of a budget unit expire at the end of each year (Konosala, Zachorko & Matan, 2002, p. 40).

Another form of budgetary management is a budget entity. Entities are created in order to satisfy on-going needs of the people by providing services that are commonly available. A budget entity is created by the communal council on the basis of the Act on public finance and regulation of the Minister of Finances of 8 May 1991. Similarly as a budget unit, it does not feature a legal personality, and according to C. Kosikowski, it is a "legal personality with limited legal capacity" (Konosala, Zachorko & Matan, 2002, p. 42).

An entity conducts its business on behalf of and on the account of the local government unit, which impacts its activity, e.g. by appointing an entity leader by the management. The management assigns an authorisation to the leader that cannot be exceeded without the management's consent. A budget entity possess assets that are its property and constitute communal property. Special means are created beside budget units. They are associated with the unit by means of financing through the net method. They are clearly defined and separated incomes from auxiliary activity conducted by a budget unit and used for covering costs of such an activity. Accounts in which fees for using rooms, premises equipment or medical care are an example of special means. The obtained revenue is used for improving the quality of services provided by units.

6. Conclusion and Recommendations

The local self-government enables to decentralise **the authority,** to bring it closer to citizens in order to ensure its effectiveness on the one hand (Kucharczyk, 2017, p. 115), while on the other, and this is worth emphasising, in order to respond to needs of people in a better way. A very important function of local government is also to ensure proper financial allocation – effective division of finances is only possible where the authority has an actual insight into the needs of a given community, and the possibility of social and economic growth. To conclude our considerations, we cannot forget that it is thanks to local government that activation of the civil society is enabled, **i.e. making it possible for the people to participate in the government, and hence making it possible to execute the principles of democracy.** The role of local government as a factor in development of a democratic legal state with effective politics and activation of the society cannot be overstated. The local government, despite some difficulties it has to face (such as effective cooperation of its particular levels), makes it possible to manage the country in a significantly better way, in order to execute the public business consisting of the good of all citizens.

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НАМАЛЯВАНЕ НА РИСКА ПРИ УПРАВЛЕНИЕ НА ТРАНСПОРТНИ ПРОЕКТИ

Светла Цветкова

RISK REDUCTION IN TRANSPORT PROJECT MANAGEMENT

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Abstract:

The management of each transport project involves probabilities for the emergence of different types of risks conditioned by the uncertainty which results from the dynamic development of modern society and the specificity of transport activities, as well as the impossibility to foresee future events. This in turn could lead to serious negative consequences such as reduced enterprise productivity, low competitive power or lack of highly qualified workforce. The present article determines the necessity to do mandatory preliminary analyses and assessments of the probabilities for the emergence of future risks when it comes to managing the development of transport projects; it also indicates specific approaches and methods for the reduction of said risks.

Ke words*: risk reduction, management of transport projects, sources, factors, assessment and analysis of possible risks, approaches and methods for reducing risks*

JEL: R 40, R 49

Introduction

Risks result from completely random interconnected occurrences which inflict certain damage under specific circumstances. Risks are usually used to characterize an economic situation where all probabilities for the emergence of certain events are known, and the inability to assess this probability is defined by the term uncertainty, which involves unauthentic and incomplete information regarding the conditions, prerequisites, project realization and losses related to them. Uncertainty usually involves incompetence, accidencts or the emergence of counteraction. That way, no amount of ingenuity and skill can eliminate the risk. There are only ways to reduce it. It is enough to identify and assess the risks and to take them into account when making management decisions. Therefore, the primary goal in the modern management of transport projects is to find approaches for minimizing business risks for the purpose of more effective transport proeject realization as well as reacting adequately and flexibly to potentially occurring changes. In recent years, the variety of risks in the conditions of globalization and extremely dynamic market development has shown a steady growth trend because risks are an integral element of society's economic, political and social life, accompanying all directions and fields of activity of transport enterprises. The potential risks related to the development of transport projects usually involve the speed, rhythm, safety and environmental friendliness in the functioning of transport systems – each freight holds risks of cargo damage or potential threats to people's lives and health. The factors that have the most influence on the emergence of risks include the cargo's nature, the technical characteristics and technical condition of

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transport vehicles, seasons, climate and weather conditions, the length and direction of freight routes (Parvanov, H., Bakalova, V., Tzvetkova, S. 2010).

Theoretical Justification of the Terms "Risk" and "Uncertainty"

Risks emerge when there are oversights in the identification of uncertainty. The ability to identify possible threats of occurring accidents and failures in the activity of transport enterprises on time would reduce risks and contribute to the more effective realization of projects; for example, when managing operating activities, it has to be reduced to an acceptable level, which is the most important task for the successful development of the enterprise's activity in the conditions of uncertainty. Absolute uncertainty practically does not exist in the management of operating activities and it is usually accepted that it is equal to 0,90…0,99. Uncertainty is not susceptible to assessment, whereas risk is an estimated probabilty. Uncertainty involves the presence of factors under which the results of their actions are not determined and the degree of their possible influence on the results is unknown. Generally speaking, it is caused by the insufficient amount of information for analyzing the situation or by mistakes in setting the management target, as well as making unjustified economic decisions, including the expenses and financial results related to them. The source of uncertainty in economy is objectively determined after the causal links between the studied processes have been analyzed. The desired state of the system is one where the system's reliability reaches a level that corresponds to the acceptable risk, as a synonym of uncertainty. Therefore, objective understanding of risks is necessary in transport activity. Objective understanding of risks means the presences of undetermined probability with an unfavorable outcome which depends on the will and consciousness of the individual at risk. Economic uncertainties could include: indeterminancy of market demand, weak predictability of market prices, indeterminancy of market supply, insufficient information about competitors' actions, etc., under which uncertainty could be divided into three types: complete uncertainty - $\lim t \rightarrow t_{k,} H_{t =} 0$, where t is the time, $t_{k -}$ the end time for the predicted event; partial uncertainty $\lim_{t \rightarrow tk} H_{t =} 1$, with a corresponding predictability of events of almost one; uncertainty which is determined by the inequality: $0 < \lim_{t} \rightarrow_{tk} H < 1$, and uncertainty of obtaining the final result of investment holdings, which is a universal law of economy.

Main Stages and Methods for Analyzing and Assessing Risks

The main reasons for the emergence of risks in processes related to project management include random factors and lack of sufficient information, as well as the impossibility to use appropriate tools and methods of analysis, based on which corresponding management decisions are made. Additionally, heterogenous opinions and differences in party interests, discrepancies between party interests or random factors could be indicated as well. Business risks could also result from competition between transport enterprises which offer similar services – the higher their number, the higher the risk of doing business in one market segment or another. Under these circumstances, companies with large average-weighted risks have competitive advantages. In that regard, risk analysis and assessment need to go through the following stages:

- analysis of every possible potentially dangerous source leading to the occurrence of accidents and failures with various consequences;
- classification of possible accidents and failures;
- determination of the consequences of every possible accident and failure;
- qualitative risk assessment.

The actual process of analyzing the situation and making decisions involves: identifying the problem, setting the respective goal, forming scenarios, selecting criteria for assessment, carrying out

the decision; selecting criteria for monitoring; final evaluation of the result. Risk identification and analysis presupposes quantitative and qualitative studies of the risks that enterprises will encounter.

Quantitative analysis involves the processing of statistical information with the methods of correlation and variance analysis, analysis of the time series, factor analysis or other methods for multidimensional classification. Methods of simulation modelling can also be used to determine the probability of risk emergence and the amount of damage; the numerical meanings of risk factors are determined on the basis of statistical, analytical and expert evaluation. The statistical method for quantitative assessment of risk factors is based on: (1) an analysis of all statistical data on the effectiveness of the realization of the studied operations; and (2) further calculations of the probability for occurrence of losses. The analytical method for quantitative assessment of risk factors is based on: (1) the use of data for the consequences of the impact of unfavorable risk factors in similar works; and (2) their use when calculating the probability for occurrence of losses. Depending on the factors' nature of influence, the expert method for analysis of risk factors divides them into: simple, but independent from each other, simple and integrated factors. The primary objective of this type of method is compiling a comprehensive list of risks, followed by determining the relative weight of each individual one and the whole sum. The first stage of the expert assessment of risk factors determines all factor groups with the smallest priority with regard to possible losses, the second one determines the weight of each group by priorities, and the third one determines the weight of factors for each risk that enters the respective priority group. Under these circumstances, the following system for evaluating risk factors is adopted: 10 – a factor with no real significance; 20 – a future risk factor which will probably not be realized; 40 –nothing specific can be said about the occurrence of the event; 60 – a factor which will most likely lead to risks in the future; 80 – a high probability for the emergence of risks in the future; 100 – the risk will most certainly be realized.

Qualitative analysis reveals the factors, studies their specific characteristics and peculiarities and determines the consequences of the realization of each risk in the form of economic losses and uncovers the sources of information for each risk. This type of analysis is aimed at determining the risk factors and their potential areas, i.e. determining all possible risks.

Usually, risks in transport service, for example, is evaluated through the cargo's price and the transport-distribution system's ability to provide the necessary freight quality such as guaranteed delivery to consumers within the determined schedule and at the indicated location, as well as retention of utility value – the probability for that should be approximately 0,95. In this case, diversification reduces risks and allows for more flexible reactions to changes in economy and the achievement of a systematic effect from the combination of various activities. More often than not, however, the measures are universal and based on an institutional foundation for protecting transport enterprises from certain types of risks. However, "narrow" (critical) places are found quite often in the functioning of the transport socio-economic system, which means increased danger or risk of damage in the constant nature of the process or increasing the value of the transported cargo. In transport the risk of losses with regard to worth and reduction of the cargo's utility value due to detention of delivery, for example, is a common occurrence.

Guidelines for Reducing Risks in the Management of Transport Projects

Transport enterprises always encounter a wide variety of risks regarding the management of project realization processes. There are risks involving the occurrence of fires, natural disasters, international conflicts, changes in legislation regulating transport activities, inflation fluctuations, etc. The high degree of risk emergence in the management of transport projects leads to the necessity for seeking ways to reduce them artificially. In the practice of project management, the most frequently used methods for risk reduction include: risk diversification, distribution of risks between participants in transport activity and risk insurance (Berman, Schmidt, 1997).

Risk diversification in transport enterprises stipulates reduction of demand for offered transport services, seeks new niche markets for work or aims its activity at carrying out other types of services or providing other services that accompany the main one. Diversification offers two primary ways for managing risks – active and passive. The active tactic of transport enterprises for realizing transport production on the market stipulates, on one hand, careful research, study and realization of the most effective investment projects, conquest of the transport market through specializing in one type of services, and as fast a reorientation as possible from one type of transport services to another, including possible conquests of other markets. Passive risk management is characterized by low turnover or minimal level of concentration of the volume of work.

Risk allocation among participants in the transport activity is a standard practice. It places the responsibility for the risk on the one participant in the transport activity who is more capable of identifying and controlling risks than everyone else. Risk is allocated through the development of financial plans for the project and contractual documentation. It should be taken into account that the growth of risk levels for one of the participants should be accompanied by an adequate alteration in the allocation of profit on the project. Therefore, when negotiating, the first thing that should be taken into account is the capacities of all project participants regarding the prevention of unfavorable consequences in the eventual emergence of risks. An acceptable reward for the risk should be negotiated and parity in the risk/profit ratio between all participants in the transport project should be observed. The higher the degree of the risk that participants intend to assign to their partners is, the harder it becomes to attract funding for the transport activity of experienced investors. Therefore, it is recommended that participants in transport projects demonstrate maximum flexibility with regard to how much of the risk they are willing to take. The willingness to discuss the issue of participants taking a large part of the risk could convince experienced investors to lower their requirements (Parvanov, Bakalova, Tzvetkova, 2010).

Risk insurance essentially means passing certain risks to an insurance company. Insurance covers all risks, including exceptional circumstances, and encompasses the transference of cargo from warehouse to warehouse, i.e. it includes the entire process of transportation, including ground transportation in the port of loading and from the port of unloading. This form of insurance is usually also applied to rented equipment. Additionally, it is often used as protection against the consequences from the material damage of transport vehicles. As a means of minimizing risks, insurance is a form of prior appropriation of resources deisgned for compensating damage from the expected manifestation of various risks. At the start of the fiscal period, the enterprise pays an insurance premium and ensures compensation for future damage. The enterprise's worth at the end of the fiscal period when carrying out the insurance is expressed through the formula:

$$S_1 = S - P + r\,(S - P),$$

where:

S_1 is the enterprise's worth at the end of the fiscal period when insuring;

S – the enterprise's worth at the start of the fiscal period;

P – the amount of the insurance premium;

r – the average yield of working assets.

The size of the losses does not affect the enterprise's worth because, as is suggested, they are fully compensated at the expense of the paid insurance benefits. When self-insuring, the enterprise fully retains its own risk and forms a specialized reserve fund – a risk fund. The enterprise directs no less than 5% of the profit obtained during the accounting period toward the formation of this reserve fund.

The influence on the size of the free assets of fully retained risk could be assessed through the following formula:

$$S_r = S - L + r\,(S - L - F) + iF,$$

where:

S_r is the enterprise's worth at the end of the fiscal period with fully retained risk;

L - the expected losses from the studied risks;

F - the size of the reserve risk fund;

i – the average yield of assets from the risk fund.

When self-insuring, the enterprise suffers two types of losses: direct ones and indirect ones. Direct ones are in the forms of expected annual losses. Aside from expected losses, certain resources should be directed toward the reserve fund in order to compensate these expected losses, and with a certain supply. It is assumed that assets in the reserve fund are stored in a quicker liquidity form than the assets invested in manufacture because they are less profitable. When self-insuring, the redcuction of investment profitability due to the necessity to form a reserve risk fund will be an indirect loss.

The comparison of the meanings of S_1 and S_r makes it possible to determine the comparative economic effectiveness of insurance and self-insurance. It should be noted that, in order to make the calculations more accurate, it is necessary to account for the discounting of cash flows as a result of the distribution of losses in time, such as delays in the payment of insurance compensations related to forming and making demands and the presence of inflation.

The most frequently used means of *insurance against transport risks* include: optimization of routes, traffic control, property insurance and insurance of responsibility. The list of insurance risks during freight includes insurance of responsibility for all types of risks, responsibility for partial damage, without responsibility for damage, excluding traffic accidents. For inland transport, auto carriers take out an insurance against the following groups of risks: risk of compensation of losses for cargo owners in the event of misplacement, inadequacy, damage or spoiling of cargo; risk of compensating losses and financial damage related to the consequences of mistakes or oversights of carrier workers; risk of compensating third party losses if damage is inflicted on the carried cargo; customs risk; risks involving the cost of investigating circumstances, accidents or reductions of the size of compensations. When insuring cargo, it is liable to compensation as a result of the following types of losses: fire, lightning strike, explosion, storm and other natural disasters; as a result of traffic accidents; transport vehicle theft; during the process of cargo loading and unloading, etc.

The defining characteristics of cargo insurance are as follows:

- owners are unable to control cargo preservation;
- several carriers can participate in the delivery, using different types of transport;
- during the delivery process, the cargo can pass through the territory of several foreign countries.

When insuring cargo, the subject of insurance can be all types of cargo carried by different types of transport, freight and other expenses involving delivering the cargo to its designated location, but no more than 10% of the cargo's insurance value; responsibility for the cargo during freight, at the point of loading, transfer, unloading and intermediate storage, including the professional responsibility of carriers and shipping agents, warehouse terminal operators and security companies.

Insurance protection for cargo with responsibility for all types of risks helps compensate damage, complete destruction or misplacement of the whole cargo or parts of it due to all manner of reasons, except for the ones specifically excluded from the insurance contract; expenses for general average; all necessary and expedient expenses for cargo salvation or reduction of losses and determining their size.

Coverage of unforeseen expenses is a means of risk reduction which stipulates the establishment of correlation between potential risks that affect the project's value and the amount of costs necessary for overcoming losses.

The magnitude of this amount has to equal or exceed the magnitude of the fluctuations of system parameters in time. The overall value of the project should not grow beyond 7-12% when it comes to allocating funds intended for the occurrence of exceptional circumstances (Parvanov, H., Bakalova, V., Tzvetkova, S. 2010). It is also necessary to allocate additional sources of funding for projects and create reserve funds for collecting deductions within a certain percentage of the realization of transport services. In order to reduce risks in the development of the project's financial

plane, a sufficient reserve should be created in order to guarantee stability in the realization of project stages; additional expenses and temporary reduction of provided transport services should also be taken into account.

Written agreements or obtaining of warranties for risk reduction in transport enterprises, etc.

After the actions for reducing risks in the realization of transport projects have been carried out, their effectiveness should also be evaluated. For this purpose, risks are given a quanitative analysis, and a comparison is made between the expenses for their minimization and the size of the losses if risk events occur. On this basis, project managers should make the respective management decisions regarding the emergence and reduction of possible risks in the process of carrying out transport activities.

The realization of each transport project involves searching for the appropriate approaches and mixing them optimally in order to reduce risks, which are quite expansive and varied.

Inferences and Recommendations

In order to manage transport projects more effectively and reduce risks, managers should focus their attention primarily on rationalizing relations between partners and participants, especially between consignors, consignees and insurers. The arsenal of tools for risk management should involve taking actions aimed at risk prevention and influencing risk sources such as:

- reducing the duration of existing uncertainties;
- reducing the probability for the emergence of unwanted events;
- technical monitoring of situations and ceasing dangerous behavior;
- duplicating operations, objects or resources, if possible;
- allocating risks by various areas or subdividing them;
- integrating innovations or preemptive actions;
- allocating risks in time;
- isolating dangerous, mutually strengthening factors from each other;
- insurance transfer of risks;
- financial hedging of risks;
- price adjustment, eliminating actual losses;
- compensating potential losses with additional earnings;

The program for risk management should be a full description of the formal actions that need to be taken, their information and resource insurance, the criteria for the effectiveness of their realization and the system for allocating the responsibility for the decisions made. The formal methods for risk management could be subdivided into the following groups: **risk evasion, risk differentiation and risk compensation.**

Risk evasion involves rejecting unreliable partners and risky projects, insurance against risks, seeking guarantors or firing incompetent employees.

Risk differentiation aims to distribute invested resources among various subjects which are not directly linked.

Risk compensation involves strategic prognostication of all fields of the company's activity such as prognosis of external conditions, monitoring the socio-economic and normative-legal environment of the respective processes, as well as creating backup systems within the enterprise, including raw materials and component materials, and reserve funds of financial resources. Risks could also be localized in the conditions of their precise identification and the sources of their emergence (Zarenkov, V., 2011).

In order to reduce risks and manage transport proejcts effectively, risk management should be able to answer the following questions: What actions need to be taken? Within what time limits? What

monetary and other resources should be spent on the realization of the given measures and in what volume? Who holds responsibility for carrying out the decisions made and the control over their realization? For example, some of the primary formal methods of the process of risk management which hold the most significance in the modern conditions of investment activity include: risk assessment, perspective development, preemptive actions, self-insurance, insurance, controlling and monitoring integral and residual risks where the limit of financial responsibility is equal to the volume of acceptable losses, divided by the probability for risk realization. The majority of risks could be reduced or eliminated through insurance. Of course, insurance does not provide firms with complete protection from eventual risks, but it helps them protect themselves from some or all financial consequences. Managers often have to ask the question "Is my company insured against certain risks and are risk policies enough to protect it from events which cannot be overcome any other way?".

The informal methods for risk minimization could include: improving the effectiveness of using personnel potential (quality team and hiring personnel, intensive training and professional development for co-workers, a worked out motivation mechanism); optimizing the organizational structure and the enterprise's level of innovation; developing and maintaining relations with infrastructural organizations and other participants on the market. Some risks could arise from insignificant and small acts, but if managers do not identify the probability for their emergence on time, this could turn out to be quite a costly situation with dangerous consequences for the transport project.

Conclusion

The main purpose of risk management is to ensure the successful functioning of transport enterprises in the conditions of uncertainty, i.e. in the conditions of risky situations. Risks could have a certain negative influence on effective project management such as acceptable level of uncertainty regarding possible damage; legality of actions, i.e. consistency with regard to the main objectives of the system, stable operations, realization of profits, etc. Risk reduction in transport primarily involves the search and incorporation of new products, services and technology whose production does not lead to risk growth; and secondly, risk reduction in project management stipulates its precise identification and correct assessment, as well as methods which could minimize possible risks. The unpredictable nature of the search, saturation and differentiation of necessities, as well as the constant changes in customers' preferences and demands and the growing competition increase the possibilities for emergence of risks in transport.

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МОДЕРНИ МЕТОДИ ЗА ВЛИЯНИЕ ВЪРХУ ПРЕДЛАГАНЕТО И ТЪРСЕНЕТО НА ПАЗАРА НА УСЛУГИ

Светла Цветкова

MODERN METHODS FOR INFLUENCING SUPPLY AND DEMAND ON THE SERVICE MARKET

Svetla Tzvetkova[1]

Abstract

The economic nature of services differentiates them from material goods and determines the specificity of the service market, which in turn stipulates various approaches in the management of market segments. On one hand, this field obeys the universal laws of market economy; on the other hand, all services have unique characteristics which greatly differentiate them from those of goods, such as immateriality, indivisibility, fragility, fickleness of quality and unevenness in time. All these peculiarities of services should be taken into account when developing the various methods which are designed to affect the market elements by stimulating the supply and demand for them, for example. The present article indicates the modern effective methods for influencing supply and demand on the service market, given its specific characteristics.

Key words: *service market, specific characteristics of the service market, influencing supply and demand, methods for affecting market elements*

JEL Codes: *R 40, R 41, R 49*

Introduction

The main purpose of services is the direct satisfaction of various human necessities – they are not just a part of public proceedings, they are an element that forms socio-economic conditions directly. The level of development in the field of services reflects the population's quality of life and the degree of its prosperity. Services mediate the economic relations of material production and dominate the field of the so-called "production" services, i.e. those services whose conditions of production are the closest ones to the conditions of material production. Production services include the services of branches such as transport (designed to service the population), messages, commerce, catering and some types of domestic services. The provision of services involves partnership interactions between suppliers and consumers – in most services consumers have direct participation in their provision. The service itself represents utility value only at a certain time and in a certain place, which drastically reduces the probabilities for its substitution on the market. To a larger extent, the service market corresponds with the requirements for the classic type of free markets and it is less susceptible to monopolization. Smaller enterprises which are based on partial and collective ownership are the most widespread form of organizing the provision of services. The service market is defined by characteristic features and significant fluctuations which set it apart from the commodity market. This suggests that, in order to influence supply and demand on service markets, firms have to implement

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various methods, ways and resources which are completely consistent with the characteristics and peculiarities of the services (Tzvetkova, 2014).

Characteristic Features of the Services and Specificity of the Market

A large part of the services cannot be created as a reserve designed to adjust to fluctuations in demand due to the fact that their creation and consumption happen simultaneously. The execution of an order can only be delayed if consumers are willing to wait. Due to their finite capabilities, some service systems do not excel with flexibility. The volume of activity of production systems could be increased for a short amount of time with the help of overtime work and additional shifts, for example.

It is difficult to prognosticate the demand for a great deal of services. Prognoses for the demand for services are harder to make compared to the demand for most goods and their fluctuations are usually more frequent, i.e. they happen over shorter time periods. One of the reasons for that is that decisions to consume certain services usually arise spontaneously, under the influence of circumstances. In other words, people usually do not make long-term plans for the consumption of certain services. The demand for services which are incidental and depend on unpredictable circumstances cannot be planned in advance. Moreover, there is minimum demand and maximum demand for some services. In some fields, like catering, public transport and power engineering, the points of minimum consumption and maximum consumption are well-known and predictable, whereas with other services they are not. Due to the variety of offered services, it is difficult to predetermine their individual nature and the individual needs of each customer, as well as the time necessary to service the expected number of consumers. For example, the time it takes to service a customer in a bank varies greatly, depending on the quantity and type of operations that customers demand. This could result in underestimating or overestimating the necessary volume of activity. It is also difficult to measure the necessary volume of activity (Parvanov, Tzvetkova, 2007).

Because the service cannot be relocated, the service has to be done within the necessary time frame and at the necessary location. For firms working in the field of servicing, with structural subdivisions, this means that when one point of service is too busy with customers, another is not busy enough. When such imbalances with goods occur, they could be relocated from one place to another, but consumers are not so easily relocated or they do not wish to go to another subdivision of service.

The service market excels with its unpredictability and its considerable segmentation, i.e. it is strongly oriented toward a certain group of customers. Over time, the comprehensive principle is also imposed upon it. For example, services involving the organization of holidays are related to commercial services, tourist services, hotel services, cinema services, television, video, advertising, etc.

Compared to the commodity market, the service market is also characterized by a large degree of localization and adherence to a specific region. Thanks to technological progress, locality is overcome too easily, but it still involves implementing a combination of the various methods of influence (both economic, as well as socio-psychological ones) due to the fact that the provision of services requires personal contact between suppliers and consumers, as well as showing interest and preliminary adjustment on the part of consumers that this is the service they desire. Preliminary confidence in the need for the respective service involves either relocating the supplier to the consumer’s location or relocating the consumer to the supplier’s location. Unlike the commodity market, the service market is too dynamic and flexible, which explains the fact that capital turnover in the field of services is faster than it is in production industries, as well as the fact that the organization of the service business requires considerably less initial capital than the industrial and agricultural sectors (Parvanov, Tzvetkova, 2007).

Methods for Influencing Demand on the Service Market

The demand for services cannot be controlled directly because it depends on multiple factors such as competitive prices, the level of income of potential consumers, accessibility to the service, etc. Firms could influence the demand by using the following methods:

- Regulation of prices, depending on the level of demand.
- Preliminary registration and reservation systems.
- Offering services with an opposite cycle of demand amendment.
- Provision of associated and additional services.
- Advertisements and realization of sales.

Regulation of prices, depending on the level of demand

Price changes are one of the most effective methods for influencing the demand. Some companies offer their services at lower prices than legislatively established ones to transition from periods of peak demand to off-peak periods. Prices could be a strong enough incentive for consumers to receive the service they demand during off-peak periods, thus "smoothing out" demand fluctuations. Lower tariffs for long-distance freights or lower ticket prices in movie theaters for matinee showings are indicative examples of that. Changes in peak periods are vital for the effective use of resources such as workforce and production capacity. If demand cannot be regulated, the firm has to either increase the volume of provided services to fully satisfy demands or lose consumers who make demands during peak periods. The first alternative will result in ineffective use of resources: service power and associates will be in stagnation during periods of minimum demand. The second option could result in lower profit or company bankruptcy.

Preliminary registration and reservation systems

Another widespread form of demand management that many firms implement consists of supplying services with the help of preliminary registration and appointments. This resembles the process of "creating reserves" for demand or "delaying" the demand for services. This practice is suitable for services which are inaccessible in large volumes, but are highly praised by consumers. Airlines, hotels, health organizations, beauty salons and hairdresser salons supply services by using reservations, hence why service for random consumers is not guaranteed. This helps create a constant level of demand. Indeed, people who have not appealed for services and have failed to make an appointment may not turn to this firm anymore. However, such practices sit well with customers because the main advantage is the confidence in the reception of services at a specifically set time. Moreover, consumers save time because they would not have to wait in line, which also spares them from tension.

One flaw of this system is the probability for lack of customers. An order may be placed at a specific time, but the customer fails to show up due to personal reasons. The company will not make a profit unless it immediately substitutes the missing customer with another. Airlines and hotels often face this issue. Because it is practically impossible to find a new customer quickly, sometimes a practice called reservation "in excess"/"in store" is implemented – firms accept more preliminary orders than they can execute. This practice reduces the probability for vacancies in airplanes or hotel rooms, but it could lead to complications if the number of customers exceeds the number of available spaces. A standard airline practice in such cases is compensating passengers whose orders have not been fulfilled in the form of free tickets to every point in the country or a seat on the next flight along the same run. If hotels do not have the indicated room number of the customer who placed the order,

the customer is given a number in the nearest hotel of the same category or with a higher level of service.

Offering services with an opposite cycle of demand amendment

The demand for some services is very difficult to manage due to its clearly defined and non-elastic seasonal nature, which is indifferent to price incentives. The booking or announcement of information usually has no effect with regard to altering the characteristics of peaks in demand or smoothing them out. There is little to no demand for such services during off-season periods. One possible means of counteraction is supplying additional services which could provide the same capacity and possibly the same staff; the demand for it, however, has an opposite cyclical or seasonal nature (Tzvetkova, 2009).

Provision of associated and additional services

The loss of regular customers due to waiting too long could be reduced if attention is redirected to additional services. During periods of peak demand, additional services make waiting more pleasant and customers are less likely to give up on the firm or to express preference for the offered service again if this does happen. That way, for instance, bars and rest rooms could keep regular restaurant visitors.

Advertisements and realization of sales

Advertisements and realization of sales are two additional means of stimulating demand. Programs for realization of sales offer additional benefits or discount prices for a limited time. Such examples include tourist trips with additional possibilities and encouragement with bonuses when attending late-night screenings. Sometimes even the simple act of addressing consumers could reduce peak demand. For example, advertising posters and clearance sale announcements convince consumers that public transport, parks and museums should not be used during peak periods because their prices are considerably lower the rest of the time. The number of people is smaller, trips are more comfortable and the overall experience is more pleasant.

Methods for Influencing Supply on the Service Market

Regulating the size of the workforce

This method can be implemented successfully in the short run, i.e. in the course of the planned 3 to 12-month period. When managers prognosticate spikes or drops in demand, they gradually increase or reduce the staff of associates. Additionally, having knowledge of the seasonal points of minimum demand and maximum demand will allow companies to hire personnel for the season. The main flaws of this strategy include: high rent prices, hiring and discharging associates, as well as the issue of associates becoming attached to the company (Demchenko, Maklakova, 2009).

Another way involves using the labor of part-time workers – many firms nowadays rely on part-time associates who are a significant part of the need for workforce. Hiring part-time associates is most appropriate when the daily need for workforce and provision of services are clearly and specifically defined, as is the case for fast-food restaurants and merchandise-supplying companies. When it is justified, the use of part-time workers gives significant flexibility to the firm if the volume of activities is changed and it allows managers to control the supply of services better.

Cross-training of associates

Most services involve the completion of several objectives. Training associates for fulfilling obligations and customer service powers different from the usual helps increase production during periods of peak demand. This strategy has other advantages, too – for example, it helps associates develop, acquire additional habits and reduce the routine which is inevitable when doing the same work everyday.

Increased participation of consumers

As mentioned earlier, consumers can be a valuable source of workforce in service delivery and one that some companies use sensibly. For example, in self-service laundry most operations are directly performed by the consumers and staff functions are minimized. Customer participation as a whole reduces company needs for workforce in the delivery of services and increases the speed of service, respectively the number of offered services. In this case there is a risk of consumers doing their work slowly due to lack of experience, thus reducing the volume of realized services.

Equipment leasing

Equipment and tools are an important component for the volume of sales in the provision of a number of services. Therefore, in order to increase the number of provided services, it is not enough to simply increase the number of associates. Parallel to that, the purchase of equipment is not always economically justified and the issue could be solved through renting or leasing equipment. In developed countries such practices are used by airlines which are in high demand during the summer period or holidays – they rent or lease rolling stock.

Automation

The automation of objectives carried out by people in the production field has been implemented for many years. The main advantages of automation include relatively low prime costs, large volume and stability of release, which also means higher quality of products. Automation of services is not always welcome because it usually results in their depersonalization. In some cases, however, speed and lower prime cost, among other advantages, make automation more appealing – for example, hotel chains which create autonomous centers for fast registration and recording of departures. Managers in the hotel branch believe that such centers will become a standard in the future. At the same time, however, such a strategy is not always justified for smaller firms.

Increased service time

Some companies can increase the volume of provided services through longer office hours under certain circumstances or during periods of peak demand. For example, some retailers keep their trade points open all night long during the period of New Year shopping and amusement parks have longer office hours during summer months and holidays.

Improved calendar planning

The volume of offered services could be increased significantly by improving calendar planning for staff activities. Management science offers means which can optimize the staff's work schedule, as well as the location and work schedule of service firms.

Queues in service firms make many consumers indignant, but most put up with them, viewing them as an unavoidable evil. Management strategies for supply and demand of services effectively influence a large portion of firms, but they cannot fully avoid waiting.

Reducing waiting time is an essential component of supply and demand management. As mentioned earlier, the science of management methods could help operating managers make decisions regarding the service system in order to reduce waiting time and their negative influence on consumers and companies. Let us look at another approach regarding demand management in case a queue is formed. This approach focuses on making anticipation less painful for both consumers and suppliers. In order to achieve this, it is necessary to understand the psychology of people waiting in lines. David Master has formed eight statements about the psychology of consumers with regard to waiting time:

- The need for *engaging consumers' attention while waiting.* Many firms are aware of this and they use various means of distraction to engage consumers. Some restaurants create bar countertops for regular customers to have a drink and communicate while waiting for their tables. Newspapers and magazines which can be found in doctors' reception halls, or television sets in the waiting rooms of auto-repair shops – all of them serve one purpose: to distract consumers from the tedious waiting;
- *Anticipation outside the service process feels longer to consumers than anticipation during the service process*. Anticipation feels shorter to us when service has already begun. Consumers are more dissatisfied when they wait to be served. They fear that they will be neglected, but once they are inside the system and the service process is already underway, these concerns are laid to rest. Most restaurants offer menus to customers who wait at their tables, thus creating the impression that service has already begun, engaging consumers' time. Sometimes all it takes to create the same impression is the simplest of notices: a letter from the inspection board of the college where admission requests are submitted makes anticipation shorter, especially if an approximate date of decision is indicated;
- *Excitement makes anticipation longer*. As mentioned earlier, "the fear of being neglected" can be a major cause for excitement; not knowing how long we'll have to wait for the service, what its quality will be, is our time enough – all of these are cause for alarm. In order to lay consumers' concerns to rest, waiting could be made less painful and be perceived as shorter;
- *Indefinite anticipation is longer than certain anticipation, which has a determined deadline*. Waiting could be longer if we do not know when we will be serviced, which increases our anxiety. Clarifications on the part of companies with regard to waiting time usually helps consumers calm down and understand the situation. However, assessments have to be as accurate as possible; and if they are wrong, it would be better to be wrong to a larger extent because this usually surprises customers pleasantly;
- *Unexplained waiting is longer than explained waiting.* When people are given an explanation for waiting, they gain a better understanding and they feel more comfortable; but when they are kept in the dark, they do not feel well. For example, if a nurse explains to waiting patients that the doctor will be late because he is performing an emergency operation, most people will view his delay as justified. Therefore, firms need to be honest, issue warnings to their customers and explain the reasons for delays in the service system;
- *The more valuable the service is, the more willing consumers are to wait*. In other words, the time dedicated to waiting is part of the "sacrifice" that customers are willing to make in order to receive the service. The more valuable the service is, the more willing consumers are to pay a higher price for it – this refers to monetary and non-monetary values. Company managers need to have a good understanding of the value that the service holds for consumers in order to guarantee that waiting will not overshadow the value set by consumers;
- *Individual anticipation is longer than group anticipation.* The anticipation for many services takes place in the company of other consumers, i.e. consumers in the literal sense are not alone in their waiting. However, because consumers do not know each other, they may feel isolated, especially when no one is talking or there is nothing to distract them. If possible, operating managers should create situations where customers can communicate with each other. This creates an atmosphere of

community, distracts customers' attention and "shortens" the waiting time. Studies on the perception of waiting confirm the fact that when waiting time is perceived as longer, customers are less satisfied. It becomes evident that the most important issues for consumers are the ones regarding: justice; the degree of interest; their personal position and subjective opinion on acceptable waiting time; the surrounding environment and external influences; service value and degree of satisfaction.

Recommendations and Conclusions

Unlike goods, services cannot be defined by their physical characteristics because they are immaterial. As mentioned earlier, it is very difficult for consumers to determine the quality of the offered services in advance and evaluate the possible alternatives. The majority of services are associated with their supplier. Once the firm has built a good image for itself, it has a much easier time selling its services. Because consumers have a tendency for trying to acquire some information – about transport services, for example – if the transport company has not been established on the market yet, the main things that make an impression on potential consumers include: servicing, the staff's level of qualification, the uniforms and presentable appearance of the company's employees and other seemingly insignificant at first glance things which in actuality are quite indicative of the company's image. In that regard, careful personnel selection is mandatory. The staff has to be comprised of well-trained, motivated and well-behaved people (Tzvetkova, 2014).

In principle, there is a significant difference between service users and service providers. They usually have different ideas about the type and quality of offered services. Very often customers use services with a specific level of preliminary expectations, but when actual customer experience exceeds these expectations, corresponds to them or fails to live up to them, this affects the future relations of service consumers and service providers. The company that provides the services should immediately implement methods of influence and adopt specific measures in order to correct its service in a way that makes it exceed or at least correspond to customers' requirements and ideas. When implementing the respective strategies and mechanisms for influencing supply and demand on the market, firms have to take into account the peculiarities of the services and the specificity of the market.

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„КОРПОРАТИВНА СОЦИАЛНА ОТГОВОРНОСТ НА БЪЛГАРСКИТЕ ФИРМИ – СЪВРЕМЕННИ ТЕНДЕНЦИИ И ЕВРОПЕЙСКИ ПЕРСПЕКТИВИ”
доц. д-р Радостина Бакърджиева

Отзив от доц. д-р Яница Димитрова, УниБИТ

Корпоративна социална отговорност на българските фирми – съвременни тенденции и европейски перспективи /представяне на проект, разработен по научно изследователската програма на Институт за Икономически изследвания при БАН/[1] с автор доц. д-р Радостина Бакърджиева, е актуална и експертна монография в контекста на възприемането и действието в съответствие с практиките и принципите на концепцията за корпоративна социална отговорност (КСО) от фирмите, реализиращи бизнес дейност в България.

Целта на автора чрез настоящата монография е на основата на съществуващите академични разработки, относно теорията на КСО, да задълбочи и осмисли теорията в контекста на българската социално икономическа реалност, да акцентира на добрите практики, прилагани от български фирми и да очертае възможностите за въвеждането им и в други фирми.

В структурно отношение монографията ***Корпоративна социална отговорност на българските фирми – съвременни тенденции и европейски перспективи*** е разделена на две глави.

В първа глава доц. Бакърджиева представя теоретичните основи на концепцията за КСО чрез сравнения между нея и други сходни термини, сред които социално отговорното инвестиране, социалното предприемачество, социалните предприятия, социалните инвестиции, теорията за споделената ценност. Очертана е значимостта на концепцията, като част от Дневния ред на устойчиво развитие 2030, Европейската стратегия 2020 и други важни международни, европейски и национални документи. Авторът анализира в еволюционен порядък теориите в областта на КСО и стратегиите за реализацията й, както и критериите за оценка на социално отговорните практики в избраните български компании, базирани на прилагането на изискванията на международни стандарти като ISO 26000, SA 8000, AA1000 и други.

Съществен принос на монографията е представянето на концепцията за КСО като проекция на корпоративното управление, чийто генезис и развитие са представени изключително компетентно. Корпоративната социална отговорност е разгледана от доц. Бакърджиева като „мениджмънт на риска” (Kytle, 2005) и фасилитатор на взаимоотношенията, претенциите, изискванията на всички заинтересовани страни. Разкрит е механизмът на фирменото, публичното и съвместното регулиране, характерен и за практиките на българските фирми. Задълбочено е изследван и процесът на институционалното изграждане на основите на корпоративната социална отговорност у нас. Корпоративната социална отговорност е дефинирана като „единна система от последователни икономически, екологични и социални инициативи, …етични норми и ценности, реализирани посредством системата за корпоративно управление, при постоянно взаимодействие със заинтересованите страни в насока към редуциране на финансовите рискове, подобряване на фирмената репутация и конкурентоспособност” (с. 59).

Във втора глава на монографията ***Корпоративна социална отговорност на българските фирми – съвременни тенденции и европейски перспективи*** авторът представя обобщените резултати на емпиричното изследване „Корпоративна социална отговорност на фирмите в България”, базирано на данните от Национално изследване на корпоративното управление (2013/14 г.). Изследването е представително и обхваща 131 акционерни дружества,

[1] Бакърджиева, Р. (2017) *„Корпоративна социална отговорност на българските фирми – съвременни тенденции и европейски перспективи*, ГорексПрес, София. Радостина Бакърджиева е доцент в секция „Икономика на фирмата”към Институт за икономически изследвания на БАН

от които 40 са публични и 91 – непублични. На база анализа на резултатите от изследването са очертани два основни вида корпоративна социална отговорност – вътрешна и външна.

Вътрешната социална отговорност поставя фокус на практиките, свързани с най-приоритетната стейкхолдър група на всяка компания, а именно – нейните служители. Тук са разгледани различни корпоративни практики в контекста на управлението на човешкия капитал, социалния пакет, предоставян на членовете на компаниите, добрите условия на труд и почивка, като възможности за привличане и задържане на квалифицирани кадри, повишаването на удовлетворението от работата за компанията и насърчаване на мотивацията.

Представяни са и част от проявленията на външната корпоративна социална отговорност – практики за опазване на околната среда, екологични изисквания към доставчици и клиенти. Положителна за развитието на българските фирми, като прилагащи добри практики ,е реално посочената екологична отговорност и разработените екологични програми за опазване на околната среда.

След обстоен контент анализ на фирмени документи са изготвени мониторинг и оценка на постигнатото съответствие с нормите и правилата на корпоративната социална отговорност, прилагани от българските фирми и хармониращи с изискванията на Глобалния договор. В контекста на казаното българските фирми отчитат реални резултати по отношение на правата на човека, спазването на трудовите норми, опазването на околната среда, антикорупционните практики. Българските фирми, съобразяващи политиките си с ценностите на Глобалния договор, са обособени в три групи, съгласно предварително определена скала от трима независими оценители – напреднали, догонващи, учещи се.

Положителният извод в монографията ***Корпоративна социална отговорност на българските фирми – съвременни тенденции и европейски перспективи*** на доц. Радостина Бакърджиева е разкриването на тенденцията за прилагане на добри практики от българските фирми и значимостта на концепцията за корпоративна социална отговорност като реална възможност за постигане на устойчиви конкурентни предимства.

Позитив за монографията е, че е двуезична – съдържанието е представено на български и на английски езици, което предоставя реална възможност за запознаване с нея и на чуждестранни експерти, корпоративни ръководители, представители на академичната общност.

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