JOURNAL of Applied Economic Sciences

JAES

Journal of Applied Economic Sciences

Volume X
Issue 5(35)

Fall 2015

ISSN-L 1843 - 6110
ISSN 2393 - 5162

Editorial Advisory Board

Journal of Applied Economic Sciences

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Journal of Applied Economic Sciences

ISSN-L 1843-6110
ISSN 2393 – 5162

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Mechanism of Use of Public and Private Partnership in Order to Develop Innovative Economy

Mikhail YAKOVLEVICH VESELOVSKY
Financial Technology Academy[1], Russia
consult46@bk.ru

Julia VLADIMIROVNA GNEZDOVA
Smolensk State University, Russia
uliy_67@mail.ru

Margarita ARKADEVNA MENSHIKOVA
Financial Technology Academy, Russia
lvn3@yandex.ru

Marina ALEKSEEVNA IZMAILOVA
Financial University under the Government of the Russian Federation
m.a.izmailova@mail.ru

Julia ALEXANDROVNA ROMANOVA
Financial University under the Government of the Russian Federation
ryulia1@yandex.ru

Abstract:

The article presents the fundamental and effective tool to achieve strategic goals of the innovation economy under today's conditions – this is the use of the mechanism of public and private partnership (PPP). Nowadays, the place of a country is determined by a set of macro-technologies, which it is able to update and maintain using the huge flow of innovations and the continuous technological upgrading of the advanced sectors of the economy. It is noted that unlike the West, where the PPP is used to attract private investments in the major infrastructure projects, in Russia, this model addresses not only the economic, but also the political and social challenges. For this reason, a simple imitation of a positive or negative experience is impossible without taking into account the Russian specifics. Today, in Russia, the PPP development is hindered not only by the legislative gaps. There is an acute problem of absence of the efficient financing mechanisms even in those cases when the sufficient funds are available. The overall situation in the country does not contribute to the implementation of the long-term projects, which are not supported by the political component. Such situation mainly occurs not due to the high value of the borrowed money and the reluctance of banks to lend for long periods, but due to the general ambiance of the private business being afraid for the successful implementation of the complex long-term projects. The authors propose a model of the integrated assessment of the government and business interactions within the PPP projects, as well as the approaches to assessing the integral effect of the PPP projects implementation, which includes the project's effects not only for the private businesses and public investors directly involved in the project, but also for the regional population and other commercial structures operating in the given region.

Keywords: innovative economy, innovations, state, business, partnership, public and private partnership (PPP), PPP projects efficiency, algorithm and method of assessment.

JEL Classification: O30, Q55.

Introduction

Today, innovative economy is "an economy that is based on knowledge" (Harin, Mayboroda 2003). Strategic potential of any developed country is currently determined by presence of creativity and level of political, technical, scientific elite rather than by universal education. Today, knowledge is the base of the modern paradigm, which has its own dynamics in social systems (Paoli 2011). The investments in intellectual and information sphere of human capital as the current stage of steady sustainable development of countries and cities become most actualty. A number of studies (Toffler E., Fukuyama F., Bell, D., Naisbitt J., etc.) showed that the most developed countries of the modern world have economic domination, due to the innovative economy based on the progressive (in terms of techno-economic development) State.

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[1]Financial Technology Academy Gagarin Street, 42, Korolev, 141070, Russia

This paper sets a goal to give a scientific evidence of the theoretical and methodological approaches from the national perspective of formation and development of public and private partnerships as a process, which forms the equal relationships between State, business and civil society institution, in order to achieve social and economic stability and national security in the period of formation of an innovative economy. In this case, the basis of public and private partnership is the participation of partners in the single scheme of the final products creation and in the production chain of added value creation (Zeldner 2012). The urgency is provided by the fact that the study and application of international experience enables to take maximum advantages that provide a process of cooperation and integration by combining forces and means, reducing the risks of each of the partners in the PPP and providing a synergistic effect that occurs under the partnership.

Method

During the study the existing domestic and foreign examples were reviewed and systematized, organizational models, the composition of the partners' economic benefits, revealing of the specifics of public and private partnership were analyzed (Klinova 2011, Hayrapetyan 2009). Public and private partnership, as a form of interaction between business and the state, does not weaken the role of the state, but reinforces the institutions and mechanisms of partnerships that are aimed at the socialization of public relations. This form is based on the reduction of direct government influence on the economy, the transfer of operational functions to the private sector, while maintaining and strengthening the regulating function. The state acts as a specific agency for the realization of public interest services and goods. A certain part of public goods can be produced by the State itself, and other goods - by involving the private sector. Business is involved in the management of state assets to improve quality during realization of the state projects. "*An effective and humane society requires two components of the mixed system - a state and a market. Both halves are required for the effective functioning of a modern economy – it is impossible to applaud with one hand*" (Drozdenko 2009).

A systematic approach, cause-consequence analysis, logical-mathematical modeling, the theory of innovation are the methodological basis of the study. Theoretical basis are composed by works of leading Russian and foreign researchers and experts in the sphere of management and economics.

As a result of systematization and analysis of materials it was identified, that grounding of the forms and methods of interaction between the state and business with a focus on their innovative development is necessary. PPP may be said to be an organizational and institutional alliance between business and state in order to realize socially important programs and projects in a wide range of sectors of industry and innovation sphere. Public and private partnership makes it possible to avoid on the one hand the threat of direct control of the state, and on the other hand - the "market failures". The basic argument in support of the use of PPP is the fact that each of the private and public sectors have its own unique advantages, when combining of which there is an opportunity to work as efficiently as possible and to achieve maximum results in the spheres where "market failures" or inefficiency of state management are particularly noticeable, namely, environmental issues, social services, creation of infrastructure.

Careful analysis of the literature gave the opportunity to learn the most studied areas and to identify problem areas in the field of development and in the field of interaction between the State and business. These problems require its further development, including the issues of search for effective mechanisms for realization of partnership relations in innovation sphere. More attention was paid to the issues, concerning to which scholarly discussions are being hold, some of them have already been well studied, and some problems have not been solved.

Conclusion

Thus, the authors presented the study that shows that public and private partnership is the starting point for attraction of managerial and financial resources of the private sector to solve the problems that are related to the activities and the implementation the projects that are large in terms of time scale and capital investments in the sectors of education, health care and development of infrastructure. At the same time partnership relations are based on the provisions regulated not only by the civil law, but also by the norms of social responsibility and trust. However, achievement of the goals of the partnership is provided through the mechanisms of contract law, and particular investment projects. The innovative nature of the forms and mechanisms of public and private partnerships, high responsibility for the final results, scales of projects and extended normative legal base of relations of participants give evidence of the need to support and develop partnership, assessment of performance for each of the partners in the new interaction.

Conceptually, the study assigns a task to analyze the principles of assessment of the public-private partnership performance, which include: obligation of assessment, compliance of initial requirements with the project characteristics, alternativeness and flexibility in the selection and correcting of the forms of interactions and mechanisms of implementation, reasonable sharing of risks, the systematic increase of the requirements for quality of project results. After summing up all the indicators and capabilities of PPP, it may be concluded that the public-private partnership in the modern world with right and rational behavior can become a mechanism, a basis for the creation of high-tech corporate structures intended to provide the orientation of business and the state on solution of the problems related to the revival of the economy after the financial crisis. Therefore, the PPP must not be a simple composition of resources but partnership relations of the state and business that require the alignment of interests of two main institutions of modern society and economy (Tullock, Seldon, Brady 2005). It should be understood that each of the parties of the partnership has its own goals, solves its specific problems, the parties have different motivation and the fact how the partnership will be structured and what the PPP scheme is selected and specified by the relevant agreements depends on the consideration of these factors.

References

[1] Gnezdova, Y.V. (2014). Public and private partnership in the public sector: the history of the emergence and development prospects. *Proceedings of Academy of Public Administration,*1:118-125

[2] Klinova, M.V. (2011). The State and private capital: from theory to practice of the interaction in European countries. Moscow: Magistr.

[3] Drozdenko, E.B. (2009). State and Business in the innovation economy: foreign experience of partnership. *Intellectual Property Exchange*, 3, 24.

[4] Zeldner, A.G. (2012). Public and private partnerships in the innovative development of the economy - Publisher: *RAS Institute of Economy*, 212:222.

[5] Lenin, V.I. (1979). Complete Works. Moscow: Political Literature Publishing House,

[6] Safonov, M.M. (2012). The partnership of state and business as a mechanism of innovative development of the real economy. PhD thesis, Polytechnic University, 22.

[7] Harin, A.A., V.P. Mayboroda. Innovative economy in Russia. Realities and Prospects. Educational Portal FEiF NWAPA [electronic resource]. Retrieved from: http://nit.miem.edu.ru/2003/harinmyboroda.htm

[8] Ernazarov, T.Y. (2011). Use of systematic approach to assessment the efficiency of the realization of PPP projects. Ernazarov T.Y. *Problems of Economics*, 6: 134-139.

[9] Yakunin, V.I. (2007). Partnership in the mechanism of state management. Sociological studies. Moscow: Institute of Sociology, *Russian Academy of Sciences*, 2.

[10] Dixon, T., Pottinger G., Jordan A. (2005) Lessons from the private finance initiative in the UK: Benefits, problems and critical success factors. *Journal of Property Investment & Finance*, 23(5): 412-423.

[11] Gilroy, L.C., Poole, R.W.Jr., Samuel, P., Segal, G. (2007) Building New Roads through Public-Private Partnerships: Frequently Asked Questions: Policy Brief/Reason Foundation. No. 58.

[12] Gerrard, M.B. (2001). What are public-private partnerships, and how do they differ from privatizations? *Finance & Development,*38(3): 45-55.

[13] Hofmeister, A., Borchert, H. (2007). Public-Private Partnerships in Switzerland: Crossing the Bridge with the Aid of a new Governance Approach. *International Review of Administrative Sciences*, 70(2): 8-20.

[14] Lyasnikov, N.V., Dudin, M.N., Sekerin, V.D., Veselovsky, M.Y., Aleksakhina, V.G. (2014). The national innovation system: the conditions of its making and factors in its development. *Life Science* Journal, 11(8): 535-538.

[15] Paoli, M. (2010). Management dell'innovazione A.A. 2010-2011 Corsi.

[16] Renda, A., Schrefler, L. (2006). Public-Private Partnerships: Models and Trends in the European Union. The European Parliament, IP/A/IMCO/SC/2005–161.

[17] Tullock, G., Seldon, A., Brady, G.L. (2005). Government Failure: A Primer in Public Choice. 2nd ed. Washington, D.C.: Cato Institute.

[18] Treasury, H.M. (2008). Public private partnerships. Retrieved from http://www.hm-treasury.gov.uk/documents/public_private_partner-ships/ppp_index.cfm

*** Hayrapetyan, M.S. Foreign experience of the use of public and private partnerships. The briefing note is published on the official website of the State Duma of the Russian Federation. Retrieved at: http://wbase.duma.gov.ru:8080/law?d&nd=981605628&mark=r981605004

*** Technology and innovation in financial services. (2007). Scenarios to 2020. World Economic Forum.

Journal of Applied Economic Sciences
Volume X, Issue 5 (35), Fall 2015

Does Foreign Direct Investment Cause Economic Growth? Panel Data Evidence from Transition Economies

Ebru ÇAĞLAYAN AKAY
Marmara University, Department of Econometrics, Turkey
ecaglayan@marmara.edu.tr

Nazan ŞAK
Osmaniye Korkut Ata University, Department of Econometrics, Turkey
nazansak@osmaniye.edu.tr

Abstract:

The paper examines the causal relationship between foreign capital investments and economic growth for 27 countries known as the transition economies. In this study, these countries were categorized in two subgroups as Central West Asia (8 countries) and Central Eastern Europe (19 countries) as well as all of 27 countries as the causality was analyzed. The causality between foreign direct investment and growth was investigated by the Panel Granger Causality Analysis and Hurlin-Venet (2001) Panel Causality Analysis in categorized countries. The findings show that there is a causal relationship in the transition economies involved in Central Eastern European Classification from foreign capital investment to economic growth.

Keywords: foreign direct investment, economic growth, transition economies, panel causality.

JEL Classification: C23, F21, O40, O50, P24

Introduction

Foreign capital investment is the investment type foreign companies make in another country as necessitated by financial, political and social motives. Parallel to the spread of globalization foreign capital investments have also climbed throughout the globe. At the core of foreign capital investments lie financial factors yet political and social factors are equally effective in the determination of investments.

Liberal economy, globalization, financial deregulation, technological advancements, inexpensive raw material and labor force in developing markets, incentives, high demand collectively operate to gain foreign capital investments a more attractive character. The investee countries correspondingly strive to allure foreign capital investments to be able to improve their financial situation and social life, create employment opportunities, benefit from technological innovations, compete with other countries, multiply production capacity thus accelerate growth.

Currently not only investor countries but also investees are more inclined towards foreign capital investments by virtue of the advantages these investments offer for both parties. Relevant studies point out that foreign capital investments generally promote mutual growth. Various researchers underline that foreign investments have a positive effect on growth while other researchers maintain that the emergence of such positive effect depends on fulfilling certain conditions (Adewumi 2008). Amongst these conditions are structure of the country (capitalist, socialist or mixed), settlement of the country, sector, global financial and political situation. Triggered by these factors the velocity and direction of interrelation between foreign capital investments and growth may alternate. In order for these factors to leave effect on foreign capital investments and growth, the investor and investee countries are supposed to have homogenous structures.

Economies in transition consist of states with differing structures. To obtain consistent data from analyses it is deemed essential to classify the countries into two groups in which the member states are alike: Central Eastern Europe and Central Western Asia. The underlying reason is the divergences in the financial and political structures of group member states. Central Western Asia countries are eastern bloc members of the former Soviet Union. These are socialist countries which possessed a secluded financial and political structure for long years. Unlike Central Western Asia countries, Central Eastern Europe states have had further outward-oriented financial and political structure and integrated better with the capitalist system of Europe. As a natural consequence it is considered that interrelation between foreign investments and growth shall vary between both groups. Through the analysis conducted on the overall group of transition economies it is aimed to manifest that the interrelation changes with respect to homogenous groups.

In present study interrelation between foreign capital investments and growth has been assessed by making use of panel data analysis on transition economies. As regards a multitude of studies have been conducted on transition economies and recently panel data analysis in which transition economies are analyzed collectively has been employed. A closer look at the contents of these researches indicates that there are fixed and random effect panel model predictions, panel co-integration and panel causality analyses. Present research differs from earlier studies in its grouping of the countries and application of panel causality analysis method.

Section 2 of this research relates literature review which encompasses panel data analyses performed to examine the relationship between foreign direct investments and growth in transition economies. In the third section, research method is elaborated. Section fourth describes the information on the data used for analysis is presented. In the fifth section, findings are provided and explained. The research is ended with conclusion section.

Literature review

One of the researches focusing on the interrelation between foreign capital investments and growth in transition economies is Campos and Kinoshita (2002) work detailing 25 transition economies. In this research fixed effect panel data analysis has been employed and it has been detected that foreign capital investments have positive and meaningful effect on economic growth. In the co-study of Aleksynska *et al.*, (2003),17 transition economies have been put under microscope. Panel data analysis has been conducted and no causality relation could be detected between variables. Campos and Kinoshita (2003) however have searched through panel data method if there are regional differences of foreign capital investments and analyzed transition economies with respect to two different settlements (Central- Eastern Europe and Baltic and former Soviet Union members). They have concluded in their research that due to the characteristics of settlements, foreign capital investments affect the ratio of growth differently with respect to sector structure. In the research of Lyroudi, *et al.*, (2004) interrelation between foreign capital investments and growth in 17 transition economies has been examined via Bayesian analysis and no findings have been detected to prove any correlation. Merlevede and Schoors (2004) have explored via panel data analysis the interrelation between direct foreign capital investments and growth in 25 transition economies and concluded that in 25 transition economies, direct foreign capital investments and growth are correlated. In his research Nath (2004) has employed panel data analysis in 10 transition economies and concluded that economic growth is positively affected by foreign capital investments. Bevan*et al.*, (2004) have examined the interrelation between foreign capital investments and growth in 12 transition economies and detected that foreign capital investments have positive effect on countries' economies. Değer and Emsen (2006) in their study have employed fixed and random effect panel data analysis on 27 transition economies and foreign capital detected that foreign capital investments have positive effect on countries' economic growth. Johnson (2006) has also analyzed 25 transition economies via fixed effect panel data analysis. Likewise in present research transition economies have been put under microscope within two groups as Central Eastern Europe and former Soviet Union members and it has been concluded that foreign capital investments have weak effect on economic growth. Dhakal*et al.*, (2007) in their research have employed panel data analysis and detected that foreign capital investments in transition economies affect economic growth positively. In his researchStanisic (2008) has analyzed the interrelation between foreign capital investments and growth in transition economies on the sample of 7 transition economies. In that particular research correlation between variables has been assessed yet no meaningful explanation could be determined. In Ağayev (2010), panel causality analysis covering 25 transition economies, two-way causality has been detected between capital investments and growth. Damijan *et al.* (2011) has examined the reasons for the remarkable growth of transition economies' export performance.

Conclusion

Foreign capital investments are transfer of resources exported from hosting countries to foreign countries. Relevant studies point out that both direct and indirect foreign transfers affect national economies positively. Developing countries in particular meet their demand for capital and technology by means of foreign investments. Investor country seeks to find new, profitable markets while hosting country reaches the goods, services and technology it cannot manufacture by means of foreign capital investments. Based on this perspective it can be argued that foreign capital investments can provide mutual benefits for trading countries. Potential relation between foreign capital and growth is under the effect of investee countries' financial and political stability, global economic and political status and several other factors. Hence these factors should not be missed while determining the interrelation between growth and foreign capital investments.

In this research it has been aimed to analyze panel causality relation between direct foreign capital investments and growth by making use of data pertaining to 27 transition economies for the period 1995-2009. To conduct panel data analysis, homogenous countries have been classified into three groups as Central Eastern Europe (19 countries), Central Western Asia (8 countries) and all transition economies (27 countries). Panel unit root, panel co-integration and panel causality analyses respectively have been conducted on grouped states. For Panel causality, Panel Granger and Hurlin-Venet (2001) Panel causality analysis has been utilized. Conducted analyses have shown that only for Central Eastern Europe states there has been one-way (from foreign capital investments to growth) causality while for the other groups no evidence could be detected to verify causality.

The presence of causality between foreign capital investments and growth only for Central Eastern Europe states is meaningful once the financial and political structures of these countries are examined in detail. In Central Eastern Europe states foreign capital investments shall positively affect growth and in the members of this group it shall be feasible to witness a rise in development level.

References

[1] Adewumi, S. (2008). The Impact of FDI on Growth in Developing Countries: An African Experience, http://www.openthesis.org/documents/Impact-FDI-Growth-in-Developing-425447.html

[2] Ağayev, S. (2010).Doğrudan Yabancı Sermaye Yatırımları ve Ekonomik Büyüme İlişkisi: Geçiş Ekonomileri Örneğinde Panel Eştümleşme ve Panel Nedensellik Analizleri,*Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 12(1):159-184. http://iibfdergisi.gazi.edu.tr/index.php/iibfdergisi/article/download/59/50

[3] Aleksynska, M., Gaisford, J., Kerr, W. (2003). Foreign Direct Investment and Growth in Transition Economies. *Munich Personal RePEc Archive*, MPRA. 1-39. https://mpra.ub.uni-muenchen.de/7668/1/MPRA_paper_7668.pdf

[4] Bevan, A., Estrin, E., Meyer K. (2004). Foreign investment location and institutional development in transition economies. *International Business Review*, 13: 43–64. http://dx.doi.org/10.1016/j.ibusrev.2003.05.005

[5] Campos, N.F., Kinoshita, Y. (2002). Foreign Direct Investment as Technology Transferred: Some Panel Evidence from the Transition Countries. *The Manchester School.* 70(3): 398–419.DOI: 10.1111/1467-9957.00309

[6] Campos, N.F., Kinoshita, Y. (2003). Why Does FDI Go Where it Goes? New Evidence from the Transition Economies. *IMF Working Paper*. WP/03/228: 1-31. https://www.imf.org/external/pubs/ft/wp/2003/wp03228.pdf

[7] Damijan, J.P., Rojec, M., Ferjancic, M. (2011). The Growing Export Performance of Transition Economies: EU Market Access versus Supply Capacity Factors. *Panoeconomicus*, 4: 489-509. http://www.doiserbia.nb.rs/ img/doi/1452-595X/2011/1452-595X1104489D.pdf

[8] Değer, M. K., Emsen, Ö.S. (2006). Geçiş Ekonomilerinde Doğrudan Yabancı Sermaye Yatırımları ve Ekonomik Büyüme İlişkileri: Panel Veri Analizleri (1990–2002). *C.Ü. İktisadi ve İdari Bilimler Dergisi*. 7(2): 121–137. http://iibfdergi.cumhuriyet.edu.tr/archive.pdf

[9] Dhakal, D., Mixon, F., Upadhyaya, K. (2007). Foreign direct investment and transition economies:empirical evidence from a panel data estimator. *Economics Bulletin*. 6(33): 1-9. http://www.accessecon.com/pubs/EB/2007/Volume6/EB-07F20005A.pdf

[10] Engle, R.F., Granger, C.W.J. (1987).Cointegration and error-correction: representation, estimation and testing. *Econometrica*. 55: 251–276. DOI: 10.2307/1913236

[11] Granger, C.W.J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*. 37: 424-438. DOI: 10.2307/1912791

[12] Hurlin, C., Venet, B. (2001). Granger causality tests in panel data models with fixed coefficients. *Mimeo*. University Paris IX. http://basepub.dauphine.fr/xmlui/handle/123456789/6159

[13] Johnson, A. (2006). FDI inflows to the Transition Economies in Eastern Europe: Magnitude and Determinants. *CESIS Electronic Working Paper Series*, Paper No. 59. http://zunia.org/sites/ default/files/media/node-files/wp/156049_WP591.pdf

[14] Levin, A., Chien F. L., Chu, J. (2002). Unit root tests in panel data: asymptotic and finite sample properties. *Journal of Econometrics*. 1-24.http://dx.doi.org/10.1016/S0304-4076(01)00098-7

[15] Lyroudi, K., Papanastasiou, J., Vamvakidis, A. (2004). Foreign Direct Investment and Economic Growth in Transition Economies. *South Eastern Europe Journal of Economics*. 1: 97-110. http://www.asecu.gr/Seeje/issue02/lyroudi.pdf

[16] Merlevede, B., Schoors, K. (2004). Reform, FDI and Economic Growth: Tale of the Tortoise and the Hare. *William Davidson Institute Working Paper Number*. 730. November. http://dx.doi.org/10.2139/ ssrn.665125

[17] Nath, H.K. (2005). Trade, Foreign Direct Investment and Growth: Evidence from Transition Economies. *Sam Houston State University Department ofEconomics and International BusinessWorking Paper*, 5(4). http://core.ac.uk/download/pdf/6375867.pdf

[18] Pedroni, P. (1995). Panel co-integration: asymptotic and finite sample properties of pooled time series tests, with an application to the PPP hypothesis. *Indiana University Working Papers in Economics*. 95(13). http://web.williams.edu/Economics/pedroni/WP-95-13.pdf

[19] Pedroni, P. (1999). Critical values for co-integration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economic and Statistics*. Special Issue, 305(9049): 653-670. DOI:10.1111/1468-0084.0610s1653, http://web.williams.edu/Economics/wp/pedronicriticalvalues.pdf

[20] Stanisic, N. (2008). Do Foreign Direct Investment Increase The Economic Growth of South Eeastern European Transition Economies? *South-Eastern Europe Journal of Economics*. 1: 29-38. https://mpra.ub.uni-muenchen.de/id/eprint/8875

Journal of Applied Economic Sciences
Volume X, Issue 5 (35), Fall 2015

Development of Established and Cancelled Companies in Slovakia

Katarína ČULKOVÁ
Department of Business and Management
Technical University of Košice, Slovakia
katarina.culkova@tuke.sk

Adriana CSIKÓSOVÁ
Department of Business and Management
Technical University of Košice, Slovakia
adriana.csikosova@tuke.sk

Mária JANOŠKOVÁ
Department of Business and Management
Technical University of Košice, Slovakia
maria.janoskova@tuke.sk

Abstract:

The existence of the company as abusiness entity is limited by rising and termination of its business activity. There is therefore necessary to find out possible risk to make business during life cycle of the company. In presented contribution we followed up development of new established companies in Slovakia in time series, as well as according legal form of business, and consequently we compared the development with situation in chosen EU countries. During exploration of development of the number of companies there have been used processing and analysis of collected data. By such comparison we found out position of Slovakia in EU from the view of duration time of business termination.

Keywords: life cycle of company, formation of company, business termination, Slovakia, Joint Stock Company, limited company

JEL Classification: M 13.

Introduction

The existence of the company as a business entity is limited by rising and termination of its business activity - life cycle, which is reflecting the impact of external and internal surrounding of company (activity of competing companies, fiscal policy of the state, innovative activities, qualification of manpower, etc.). It speaks about level of development of the company and its market position. Establishment of the company and decision about starting business is a serious decision. At the beginning of the business there is usually a good idea. This is then developed into a business plan. Termination of company and its business have various reasons: termination of period for which the company is based, achieving the purpose for which the company was founded, the decision of entrepreneur to liquidate company voluntarily, judicial decision, and consultation of shareholders, bankruptcy or rejection of the proposal on bankruptcy due to insufficient assets. Companies must therefore follow up possible business risks and find out solutions for their prevention. Companies that manage the risks are much more successful in continuing their business. Conversely, it is also a lot of businesses that are unable to passthrough the risks. They must there forecease its activities, respectively cancel it.

Present state of problem solving

The existence ofthe company as a business entity is limited by rising and termination of its business activity - life cycle, which is reflecting the impact of external and internal surrounding of company (activity of competing companies, fiscal policy of the state, innovative activities, qualification of manpower, etc.). It speaks about level ofdevelopment of the companyandits market position.

Establishment of the company and decision about starting business is a serious decision. At the beginning of the business there is usually a good idea.This is then developed into a business plan. The task of business plan is to prepare establishment, formation and development of the company. Termination of company and its business have various reasons: termination of period, for which the company is based, achieving the purpose for which the company was founded, the decision of entrepreneur to liquidate company voluntarily, judicial decision, and consultation of shareholders, bankruptcy or rejection of the proposal on bankruptcy due to insufficient assets (Antošová 2014).

Termination of the company can be without liquidation-in the case of voluntary cancellation of company and in case company has its legal successor, in this case, its economic activity continues and liquidation is not necessary. Termination with liquidation - during not voluntarily company termination there is real material liquidation. In the process of liquidation it is selling the company's assets and the money raised will be used to cover liabilities. Information about liquidation shall be entered inthe Commercial Register. The liquidator appointed by the statutory body of the company maybe only physical person. Entering of company into liquidation is notified by the liquidator to all known creditors. He simultaneously publishes it in the Commercial Bulletin. The result of the liquidation should be complete payment ofliabilities. Enterprise expires by deleting from the Commercial Register or cancellation ofa trade license (Svoboda 2013).

During their life cycles, many companies are confronted with crisis. Kraus *et al.* (2013) searched empirically test theoretical approaches in the case of 30 small and medium sized enterprises (SMEs) from Germany with aim to describe how these companies deal with crisis. The results show that the personal contact to stakeholders is an added value of SMEs because of their size in order to manage and overcome crisis. Finally, it is shown that crisis can be best overcome by focusing on the core business and growth of company (Kraus *et al.* 2013).

An important strategy for companies facing competitive disadvantages is followed by inter organizational agreements and cooperative business networks. Specially small and medium firms adopted collaborative network models as a way to overcome common problems. Wegner *et al.* (2005) speaks that over 1,000 small-firm networks (SFNs) are estimated to have been created in Brazilsince the year 2000 and they studied SFNs life cycle model, applying it to a sample of twenty-eight SFNs established in two regions of southern Brazil. The results revealed that 68% of the analyzed SFNs are declining or no longer in business. Among the active business networks, 21% remain at the development stage, and only 11% have achieved consolidation. Most SFNs analyzed fell into a stage of decline early on in the life cycle, incapable of reaching Consolidation (Wegner *et al.* 2015).

Gancarczyk (2015) discussed the international strategies of lead companies and the modularization of production networks as drivers of cluster evolution in developed countries, and to formulate propositions regarding the impact of those drivers on relationships with clusters in less-developed countries (Gancarczyk 2015).

Life cycle marketing strategy is emerging as a way for firms to enhance its activity by new product development efforts whilst managing ecological impacts. Such pursuits combining life cycle assessment and ecological marketing offer promise when it comes to assisting firms to decrease product based ecological impacts (Lockrey 2015).

Iotti and Bonazzi (2014) quantified cost of an industrial production, in its whole cycle, during a long-run period, which shows that innovative firms that have made investments to improve business efficiency, have lower production cost in the long run; these firms are able to gain efficiency in the production cycle and persist on the market (Iotti and Bonazzi, 2014).

Some companies are more successful in detecting risks early in their life cycle, and in decoupling risk factors from work processes before they impact their performance. Effective risk management in company involves an intricately linked set of variables, related to work process, organizational environment, and people. Some of the best success scenarios point to the critical importance of recognizing and dealing with risks early in their development, which could prevent bankruptcy of the company (Thamhain 2013).

Conclusion

Development of the number of established and cancelled companies speaks about necessity to react timely to unfavorable situation. The analysis shows the forecast of increasing trend of companies in bankruptcy (bankruptcy restructuring). There were included to the analysis of development of companies' number legal subjects, as well as physical subjects – tradesmen, which assets were included to the bankruptcy, respectively they were allowed to make restructuring. Despite these developments, companies are likely to survive, as the global economy is gradually recovering, and economies of different countries showed some recovery as well. On the other hand, a heavy burden of public and private debt, causes using of a large part of revenues just to pay the debt. Paradoxically, mainly negative inflation supported by low demand causes the real debt increase. Growth is hindered also by geopolitical events that have still unclear results, since return of political risk to Europe itself affects the confidence of the individual entrepreneur in business opportunity.

In terms of the global economy, the presently used strategies of existing comparative competitive advantages of low cost are not further sustainable for Slovakia in the future. The growing competition of countries having cheap labor quickly devalues these temporary competitive advantages. Slovakian companies must focus on resource advantages, resp. intellectual capital, which are already represented in the knowledge base of the economy, i.e. growing innovation potential of enterprises, the quality of human resources, research and technology, which are considered as key factors of European competitiveness (Volna and Papula 2013). Stability seems to be the right path to building capacity for innovation. An excessive thoughtless action in costs reduction, although that may bring short-term economic effects, in the long term can seriously undermine the competitiveness of the company.

Acknowledgements

Contribution is partial result of project solving VEGA MŠVVaŠ SR 1/0176/13 and 1/0316/16.

References

[1] Antošová, M. (2014). *Podnikanie – vybrané aspekty podnikania v malom a strednom podniku*. ES AMS F BERG, TU v Košiciach. DOI: 10.13140/2.1.1275.4567.

[2] Gancarczyk, M. (2015). Enterprise – and Industry - Level Drivers of Cluster Evolution and Their Outcomes for Clusters from Developed and Less-developed Countries, *European Planning Studies,* 23(10): 1932-1952. DOI:10.1080/09654313.2014.959811

[3] Groh, A.P., Von Liechtenstein, H., Lieser, K. (2010). The European capital and private equity country attractiveness indices, *Journal of Corporate Finance,* 16(2): 205-224. DOI:10.1016/j.jcorpfin. 2009.09.003

[4] Iotti, M., Bonazzi, G. (2014). The application of life cycle cost (LCC) approach to quality food production: A comparative analysis in the Parma PDO ham sector, *American Journal of Applied Science,* 11(9): 1492-1506. DOI:10.3844/ajassp.2014.1492.1506

[5] Kraus, S., Moog, P., Schlepphorst, S., Raich, M. (2013). Crisis and turnaround management in SMEs: A qualitative – empirical investigation of 30 companies, *International Journal of Entrepreneurial Venturing,* 5(4): 406-430. DOI: 10.1504/IJEV.2013.058169

[6] Lawrence, D.S. (2006). *Discounted cash flow analysis, methodology and discount rates,* Rio Algom Limited.

[7] Lockrey, S. (2015). A review of life cycle based ecological marketing strategy for new product development in the organizational environment, *Journal of Cleaner Production*, (95): 1-15. DOI: 10.1016/j.jclepro.2015.02.022

[8] Svoboda, E. (2013). Economic crisis in company´s management and possibilities of their solving, *Acta Universitatis Agriculturae et Silvifculturae Mendelianae Brunensis,* (61)7: 2821-2826. DOI: 10.11118/ actaun201361072821

[9] Thamhain, H. (2013). Managing risks in complex projects, *Project Management Journal,* (44)2: 20-35. DOI: 10.1002/pmj.21325

[10] Volna, J., Papula, J. (2013). Analysis of the Behavior of Slovak enterprises in the context of Low Innovation Performance.Paper presented at the 9th International Strategic Management Conference 2013, *Procedia – Social and Behavioral Sciences*, 99: 600-608. DOI: 10.1016/j.sbspro.2013.10.530

[11] Wegner, D., Alievi, R.M., Begnis, H.S.M. (2015). The life cycle of small-firm networks: An evaluation of Brazilian business networks, *BAR - Brazilian Administration Review*, (12)1: 39-62. DOI: 10.1590/1807-7692bar2015140030

Assessment of Balance of the Economic Development of BRICS

Natalia Victorovna KUZNETSOVA
School of Economics and Management
Far Eastern Federal University, Russia
ipatovanat@mail.ru

Ekaterina Victorovna KOCHEVA
School of Economics and Management
Far Eastern Federal University, Russia
kochevaev@mail.ru

Nikolay Anatolievich MATEV
School of Economics and Management
Far Eastern Federal University, Russia
matev_n@mail.ru

Abstract:

During the study the factors that influence the balance of economic development of the country were identified through which it was the necessity of a comprehensive approach to assessing the balance of economic development from the perspective of two interconnected approaches: economic and social. In order to determine the overall quantitative assessment of the balance of economic development of countries it has been developed the indicator that integrates the categories such as investment climate, innovative activity, the resource-potential productive capacity, financial capacity, pertaining to the economic block of indicators and demographics and labor force, health and education that are related to the social block indicators. The main advantages are the possibility of the integral index of the complex (consolidated) assesses the balance of economic development within countries in the context of major socio-economic indicators, as well as in cross-country comparisons. In this study, the authors detail the algorithm of selection of indicators to assess the balance of economic development of countries and to track the dynamics of changes in the base factors, as well as the selection of homogeneous groups of countries with different levels of socio-economic development. Produced experimental calculation of integral index of balance of economic development on the example of the BRICS countries has given a fairly complete picture of the studied categories. Based on the calculated data main trends of integrated indicators of the balance of economic development of the BRICS were predicted and point forecasts for the development of two variants: pessimistic and optimistic are given.

Keywords: balance, economic development, investment attraction, social development, BRICS.

JEL Classification: F63, O11.

Introduction

The BRICS, according to experts in the field of the world economy, was a response to the five largest countries on the imbalances of the global economy. Today BRICS alliance allows member countries more effectively implement the national interests and the interests of slightly represented in the international organizations, on the global and regional forums in developing countries and countries with emerging markets. With regard to the further development of the group, speaking at the third BRICS summit, which took place on April 14, 2011 in China (Sanya), Chinese President Hu Jintao highlighted four main objectives:

- The consolidation of peace and stability, respect for sovereignty, democracy in international relations;
- Economic development for all interest, based on a fair and equitable financial system and free trade;
- Development of cooperation in multilateral formats;
- Enhanced the cooperation among BRICS countries on the principles of solidarity, mutual trust, openness and transparency and the overall development (Glinkina 2014).

Of particular note is the declaration adopted at the third summit of the BRICS Leaders' Declaration. The Declaration considers the fundamental problems of the global financial and economic system, quite so topical political issues happening in the world today. In all of this, the BRICS adheres to the principles of partnership, solidarity, mutual understanding and openness. The basis for the action is a global solution to the problems of economic development (Arkhipov 2013).

It is recognized that BRICS is primarily a political project as a major source of technology and investment, as well as the markets are Western countries, and the economic ties between BRICS countries (except China) are minimal (Lukow 2014). However, now a new multilateral institutions of BRICS are forming (Development Bank, created an insurance fund financial BRICS). This in turn entails the institutionalization of community, more active trade and economic ties between BRICS countries; the question of the possibility of developing common investment strategies associations in various regions of the world appears. BRICS countries today are oriented primarily to the innovative model of modernization - to ensure balanced development by the progress in high-tech industries. Countries consolidation gives the participants of the "five" the chance to build on complementarities of each other. At present, the BRICS intensively developed more than 20 formats of cooperation - promising areas of scientific and technical cooperation in the fields of aeronautics, biotechnology and nanotechnology. In order to modernize the global economic system, the center of which are the US and EU, the leaders of the BRICS member countries signed the documents establishing the Development Bank for the financing the major infrastructure projects.

BRICS countries have certain features, in particular, economic activity, differentiating them from other countries, and the accumulation of human potential. In addition, the BRICS countries have a high development potential, based primarily on the presence of the huge natural reserves of raw materials: Russia is the world's largest exporter of oil and gas, India - iron ore, diamonds, gold, and thorium. China has large reserves of coal, copper, aluminum, molybdenum, manganese; Brazil - iron and manganese ore, bauxite, nickel, uranium ore, tungsten, gold, zirconium, thorium; there is information that the country has proven oil reserves. Brazil and Russia also are the owners of the largest reserves of fresh water, which in the modern world is becoming an increasingly scarce resource.

In recent years, the search for new ways to enhance economic cooperation between the countries unites in various international organizations: EU, APEC, UN, the "Group of Eight", the "Group of Twenty" and others. One of the most important geopolitical events was the creation initiated by the Russian Federation in 2006, the Association of the Federal Republic of Brazil, the Russian Federation, the Republic of India, the People's Republic of China and South Africa (BRICS). The association was able in a short time become a significant factor in world politics.

Now in the context of globalization of the world economy an increasing the role in the development of the national economy plays a principle of balance development. Defined the criteria for a balance development of the national economies are not only economic growth but also social aspects. Over time, the development of the world community has shown that economic growth is not always accompanied by favorable social consequences that are manifested in the creation of conditions for improving the population's education, qualifications, availability of health care services and others. To the effectively Union it is needed an understanding of the degree of balance between economic development of the BRICS countries.

Balance economic development is provided primarily by the achievement of socio-economic equilibrium and the development of public relations, providing conditions for the material well-being and spiritual development and fulfillment of social rights. The main problem of the transition from the concept of unlimited growth to the balance development is the choice of target indicators. Currently, there is no consensus about what indicator or system of indicators allows evaluating more comprehensively the balance of the economic development. Currently used tools for constructing aggregate socio-economic indicators are based primarily on expert assessments, which often lead to subjective and controversial conclusions, in particular to the distortion of the real situation. In this connection, the problem is of particular importance of the research balance economic development of the state in accordance with modern trends.

Conclusion

BRICS countries which previously were attributed to the periphery of the World (Russia and South Africa were also on the list in the 1990s.) began to find not typical for them before the economic power and geopolitical importance.

As an independent entity, and the phenomenon of global economic the phenomenon of BRICS in many respects is unique. For the first time in the history there is the prospect of close cooperation and convergence in the framework of a coordinated political and economic project of very distant from each other, diverse economic, political weight and even civilizational and cultural memory countries. The few studies of the theory of a new model of global economic development provide scientific justification for the phenomenon of BRICS as a political and economic phenomenon and an integral methodology of the global forecasting and modeling is studying, comparative analysis and forecast of the two poles of modern geo-civilizational space - BRICS and G7 is performed. (Sadovnichiy *et al.* 2014, Yakovets 2014, Davydov 2014, Heifitz 2014)

Some authors consider the BRICS countries as important suppliers of raw materials and production and as a key market for many suppliers of goods. It is noted that the BRICS countries are the most important trading partners (Schrooten 2011).

Many scientists substantiate the influence of the BRICS on the transformation of the global economic system (Goldman 2012, Clifton and Díaz-Fuentes 2011, Kappel 2010.)Obviously, that any strong common BRICS institutions has not yet been developed, but these countries are important actors on the world political scene, and have a growing influence on the international relations (Kappel 2010).Serious institutional analysis of the development prospects of the BRICS countries is a major part of the research (Rothstein 2011). The necessity of not only the hierarchical forms of decision-making institutions, but also large extent informal decision-making institutions is proved (Jann and Seyfried 2011). Attention is given to the measuring instruments, finding indicators (quantitative and qualitative) to measure the institutional mechanisms of the BRICS countries (Brusis and Jörg 2011).

The emergence of the BRICS has shown a new approach to the knowledge of the phenomenon of catching-up development, highlighting in it the scientific research group of leading countries as a specific object, which play a special role in shaping the face of the modern world economy. BRICS countries, as we think, are one of the most important examples of such leadership, and hence the subject of an in-depth study. Prospects for research in this field are manifold. However, the success of the economic union of BRICS depends on the assessment of the balance economic development of the countries, which will develop a rational mechanism of interaction of the economic system.

Acknowledgement

The results of this research were achieved within the frameworks of the governmental assignmentof Russian Ministry of Education and Science in the sphere of scientific researches during the researching assignment # 26.1478.2014/K “The structural transformation of Russian Economy through the integration installation in the industrial markets of Asia-Pacific Region”.

References

[1] Arkhangelskaia, A. (2014). BRICS in Africa: trade and sustainable development. BRICS cooperation in building a sustainable future, 4: 25-28.

[2] Barabash, D.A. (2014) Improvement of assessment tools balanced regional development. PhD thesis.

[3] Belikova, K.M., Akhmadova, M.A. (2012). Advancing Innovation in the BRICS countries: the experience of China. *Intellectual property. Industrial Property*, 10: 64-72.

[4] Davydov, V.M. (2014). BRICS - Latin America: Positioning and Interaction (p. 186). M.: ILA RAS.

[5] Brusis, M., Jörg, S. (2011). Sustainable Governance Indicators 2011. Concepts and Methodology. In Sustainable Governance Indicators.

[6] Clifton, J., Díaz-Fuentes, D. (2011). The OECD and Phases in the International Political Economy, 1961–2011. *Review of International Political Economy*, (18)5: 552–569.

[7] Goldman S. (2012). BRICs-Kompass. Theorie & Praxis – Geldanlage in den BRICs. Frankfurt am Main.

[8] Heifitz, B.A. (2014). Russia and BRICS. New Opportunities for Mutual Investments (p. 224). M.: Publishing and Trading Corporation Dashkov and Co.

[9] Jann, W., Seyfried, M. (2011). Democratic Governance: The Strategic Capacity of the Core Executive and Social Groups in Sustainable Governance Indicators.

[10] Kappel, R. (2010). On the Economics of Regional Powers: Comparing China, India, Brazil, and South Africa (p. 145). GIGA Working Papers Hamburg.

[11] Kappel, R. (2010). Deutschland und die neuen Gestaltungsmächte. GIGA Focus Global, 2. Hamburg.

[12] Lukov, B. (2014). BRICS - an important constant of world politics and economy. *BRICS cooperation in building a sustainable future*, 4: 4-6.

[13] Martusevich, R. (2014). BRICS Development Bank - a new tool for promoting cooperation. BRICS countries in building a sustainable future, 4: 9-13.

[14] Glinkina, S.P. (2014). The new direction of Russian foreign and foreign economic policy - cooperation in BRICS (p. 220). M., Institute of Economics, Russian Academy of Sciences.

[15] Arkhipova, A. Yu., Fomicheva, E.V. (2013). Experience and cooperation of the BRICS and its regions (pp. 112). Rostov on Don: University of SFU, 112 s.

[16] Rothstein, Bo. (2011). The Quality of Government. Corruption, Social Trust and Inequality in International Perspective. Chicago.

[17] Sadovnichiy, V.A., Akayev, A.A., Korotaev, A.V., Malkov, S.Yu. (2014). Complex Modeling and Forecasting of the BRICS Countries Development in the Context of World Dynamics. M: Publishing House Nauka.

[18] Schrooten, M. (2011). Brasilien, Russland, Indien, China und Südafrika: Starkes Wirtschaftswachstum – große Herausforderungen. DIW Wochenbericht No. 37, 38. Berlin.

[19] Yakovets, Y. (2014). New Global Divide and Prospects for BRICS. Partnership of Civilizations, 1–2.

*** China Development Bank. Retrieved on 07/29/2015 from http://www.cdb.com.cn

*** Reserved Bank of India. Retrieved on 07/25/2015 from http://www.rbi.org.in

*** The World Bank. Retrieved from www.worldbank.org

*** Federal State Statistics Service of the Russian Federation. Retrieved on 08/11/2015 from http://www.gks.ru

*** Central Bank of Brazil. Retrieved from http://www.bcb.gov.br

*** South African Reserve bank. Retrieved on 08/02/2015 from https://www.resbank.co.za

Integration of Industrial and Educational Sphere in Modernization of Economic Relations

Eduard ALEKSANDROVICH OSADCHY
Kazan Federal University, Elabuga Institute of Kazan Federal University, Russian Federation
eosadchij@mail.ru

Elvir MUNIROVICH AKHMETSHIN
Kazan Federal University, Elabuga Institute of Kazan Federal University, Russian Federation
elvir@mail.ru

Abstract:

The scientific article is devoted to the questions of developing the relevance of a human potential in modernization of an economic society system. The role of human fund in the system of new economic relations of an innovational industry is studied by the author. The influence of institutional changes to developing of economic relations is investigated in the article. The level of health, qualification, skills of using knowledge, competence nowadays is considered to be the main parts that make new economic relations of innovational industry. Based on the data of the concepts of long-term social-economic development of the Russian Federation from this time till 2020, may come to conclusion that Russia drops behind from other countries with the level of economic development though it has high educational potential. It can be explained with ineffective using of human fund and irrational investment into it. Having investigated, the authors classify into several groups: scientific center ↔ entity customer ↔ state. The main advantage of the innovational system is communicative skills and possibilities of organization. The practical importance consists in possibility of application of the theoretical provisions and practical recommendations stated in the research by bodies of legislative and executive power during the developing and implementation of federal and regional programs of support of the production and educational sphere by them in the conditions of modernization of system of the economic relations. The conclusions received in the course of research can form a methodological basis of creation of comprehensive programs of support of the production and educational sphere by means of efficiency of use of the available intellectual capital.

Keywords: human capital, innovative production, investments into education, economic growth, intellectual capital, innovative economy, social capital, innovative system.

JEL Classification: J24, O34.

Introduction

The main task of functioning of national economic system is maximization of satisfying society needs based on the effective using restricted resources. The reason of solving this problem is connected with the work of industry, providing extended reproduction. The effective work of an industry is conditioned by its stable development. During the developing of innovation economy it helps to solve problems connected with extended reproduction, the basis of which are the principles resource-saving, investments of human fund, social responsibility, working up new equipment and technology, scientific researches, that have practical parts (Romanov, Shubina 2012).

In the conditions of modernization of economic relation system, accumulated world experience of integration of industrial and educational sphere is important and must be improved. But, it is necessary for caring out the radical economic reforms in Russia with its different conditions to find untraditional methods to developing both industrial and educational sphere (Shvandar 2006). So, it leads to working up scientific systematic way to the beginning, regularities of functioning of these spheres in innovational economy (Yerokhina 2012).

Conclusion

However, the economic crisis in Russia will help to a certain extent, make the act more rationally, will promote the use of new technologies (energy saving), the innovation capacity production, address contemporary problems of development of human capital. In this case, it is an intelligent investment in human capital will contribute to the growth of its social capital, which is evident in the increasing confidence in the state as a legal institution, development and respect for moral and legal standards, as well as an understanding of the existing rules for each player present on the market field.

Acknowledgments

The work is carried at the expense of subsidy means within the limits of Government support of Kazan Federal University to increase its competitive ability among leading world science-educative centres.

References

[1] Romanov, V.N., Shubina, T.N. (2012). Investments into a sociality as contribution to economy modernization, *Economic Analysis*, 8: 19-26.

[2] ShvandarK. (2006). Human capital as an important component of international competitiveness, *Person and work*, 1: 55-65.

[3] Yerokhina E.V. (2012). Problems of formation of new personnel potential for innovative regional economy, *Economic Analysis: Theory and Practice*, 256(1): 32-45.

[4] Coase, R. (1988). Lecture on the nature of the firm, *Journal of Law, Economics and Organization,* 4: 33-34.

[5] Verian, H.R. (1997). Microeconomics. Intermediate level. Modern approach: The textbook for the higher education institutions. Moscow: YuNITI. 767 pages. ISBN 5-85173-072-2.

[6] Nort, D. (1997). Institutes, institutional changes and functioning economy. Moscow: Beginnings, 1997. 190 pages.

[7] Gusev, S. Surkov (2006). Human capital and its use for personnel management, *Personnel Management*, 143(13): 36-46.

[8] Fischer S., Dornbush R., Shmalenzi R. (1995). The economy. The translation from English Sapova G.G. under the general edition. 2nd Ed. Moscow: Delo LTD. 864 pages. ISBN 5-86461-199-9.

[9] Arend, R. (2005). Sources of post-crisis economic growth in Russia, *Economy Questions*, (1): 28-48.

[10] Blaug, M. (1994). Economic thought in a retrospective: The translation from English. Moscow: Delo LTD, 1994. 720 pages. ISBN 0-521-31644-8.

[11] Yemelyanenkov. (2009). It's time to settle down: For applicants degrees, and the heads of their opponents will get the dossier, *Russian newspaper*, January 22, 9 (4833): 10.

[12] Mukhametzyanova, G. (2009). Knowledge is never too much, *Russian newspaper,* 4 (4828): 19.

[13] Osadchy, E.A. (2006). Investments and innovations in real production sector as a basis of formation of financial stability of domestic enterprises, *Messenger of the Chuvash University (Humanities)*, 7: 418-422.

[14] Bashirova, M.Ya. (2005). The contribution of higher education in the socio-economic development of the country, *Finance and Credit,* 17 (185): 55-75

[15] Yerokhina, E.V. (2012). Problems of formation of a new human resources for innovative regional economy, *Economic Analysis: Theory and Practice*, 1 (256): 32-33.

[16] Erfurt, K.(2006). Features of invested capital and depreciation of human capital in economic practice of Russia and their reflection in the theory, *Person and Work*, 8: 49-59.

[17] Palkina, N.(2006). Listen, a candidate - become a member! OECD believes that the state plays a very active role in the economy, Economic and lives, 49 (December): 6-16.

[18] Olsevich, Yu, Mazarchuk, V. (2005). On the specifics of the economic institutions of the social sphere (the theoretical aspect), *Problems of Economics*, 5: 61-71.

[19] Elkov (2007).The Russians turn gray, *Russian newspaper*, 143(4406): 11-21.

[20] Sorokin, D.(2006). Reproductive dynamics and quality, *The Economist*, 3: 11-21.

[21] Fedorova, N.(2005). Labor, so to speak, the potential ... in the next 20 years Russia will reduce the working population of nearly 50 million, *Economy and Life*, 39 (September): 6-16.

[22] Glazyev, S. (2005). Federal socio-economic policy: Fundamental changes are planned (for the government budget projections and forward-looking estimates - 2006), *Russian Economic Journal.*7-8: 18-19.

*** Law of the Russian Federation (2008). The concept of long-term socio-economic development of the Russian Federation for the period up to 2020, Collected legislation of the Russian Federation, #47, Article 5489.

*** World Bank. (2008). Russian Economic Report (Report of the World Bank), Society and economy, 6: 92.

*** Economy and life. (2006).We get more than we pay: Economic Development and Trade forecasts, 49 (December): 3.

Journal of Applied Economic Sciences
Volume X, Issue 5 (35), Fall 2015

The Importance of Facebook Ads in Terms of Online Promotion

Radovan BAČÍK
University of Presov, Faculty of Management, Slovakia
Radovan.Bacik@unipo.sk

Richard FEDORKO
University of Presov, Faculty of Management, Slovakia
Richard.Fedorko@unipo.sk

Lukáš KAKALEJČÍK
Technical university of Košice, Faculty of Economics, Slovakia
Kakalejcik.Lukas@gmail.com

Patrycja PUDŁO
Higher Vocational State School in Sanok, Department of Economics, Poland
patrycja.pudlo@gmail.com

Abstract

The aim of the article is to describe specific aspects of the social network Facebook as a phenomenon of modern times. In assessing the direction of the issue the article summarizes the theoretical basis of advertising in the online environment, the issue of social media, and last but not least the narrower concept of social networking. The main attention of the article is focused on the social networking site Facebook as the most popular global social network and also vital marketing channel of communication from the perspective of existing social networks. Another aim of the article is to point out the current status of issues while pointing out their pitfalls.

Key words: Facebook Ads, social media, promoted post.

JEL Classification: M30, M31.

1. Introduction

It is not necessary to remind that advertising has long been accessible only to organizations with million-worth budgets. With the coming of the Internet and social media, the circumstance has changed; Internet has brought to showcasing chance to connect with target groups in real time at relatively low cost (Scott 2014). This interactivity is a key to the success when creating the right mix of online communication on the Internet (Gavurová *et al.* 2014, Stec *et al.* 2014). Each organization must be aware of the fact that the customer controls the entire transaction by selecting and controlling the content, time and communication channel (Šoltés and Gavurová, 2013, 2015). It follows that only interactive strategy can produce the maximum benefit out of communication and marketing. Google AdWords changed the status of micro, small and medium enterprises in the market and allowed them to use targeted advertising with a wider range for the cost significantly lower than in mainstream media. The authors Turner and Shah (2014) argue that the advent of social networks, especially Facebook, has moved the location of people and organizations from the search engines towards this new medium because it allows two-way communication between the enterprise and their potential customers.

Facebook, as the most popular global social networking site, has become a universal communication application. Paradoxically because of its popularity, many traditional media use it to communicate with their audience. At the same time Facebook is now an essential platform for promotion and public communication. Companies, institutions, non-profit organizations – they all are on Facebook. To present one self here is becoming more and more necessary. As reported by Dorčák *et al.* (2014), Facebook can change existing marketing efforts of companies by offering them a platform to grow the number of their audience and fans, allowing them to create deeper connections with customers and creates new possibilities for strengthening relationships with loyal customers. Facebook Ads, as a new advertising platform, was established as a logical outcome of the global popularity of social networks on the one hand and large amounts of data useful for advertising on the other (Marshall, Skranc and Meloche 2014). A number of authors concentrate on these issues, Such as Fisher (2015), Schleipfer (2014), and Cvijikj & Michahelles (2013)

Facebook Ads advertising platform is one of the most powerful marketing opportunities in history, as it allows companies to target their target audience very precisely (Carter 2013, Kirkpatrick 2011). Whenever you promote something through Facebook advertising, you take the opportunity to complete the desired action directly in the ad (Crager *et al.* 2014). This means that your business website gets "likes" or an application without the customer having to leave Facebook. As the Crager *et al.* (2014) noted that another advantage is the relevance of the ads by the target audience and the opportunity to increase outreach through a relevant social proof in the form of "likes", sharing, and comments of other users. Moreover, the distributed message is thanks to precise targeting more valuable (Beck 2013). It should be emphasized that Facebook Ads is a powerful tool for targeting young population that is online (Vejačka 2012). Promoting through Facebook Ads is suitable for small and medium-sized enterprises because it has the highest Click-Through Rate, and the lowest cost per click (Ray 2013). Click-Through Rate (CTR) represents a share of the number of ad clicks and the number of displayed ads (Goward 2013). On the other hand, cost per click (CPC-Cost PerClick) is the portion of the amount spent on advertising and the number of clicks on thead (Kelly 2013). Based on Table 1 it can be seen that Facebook Ads targeting is significantly better than Google AdWords.

Table 1 – A comparison of Facebook Ads and Google AdWords

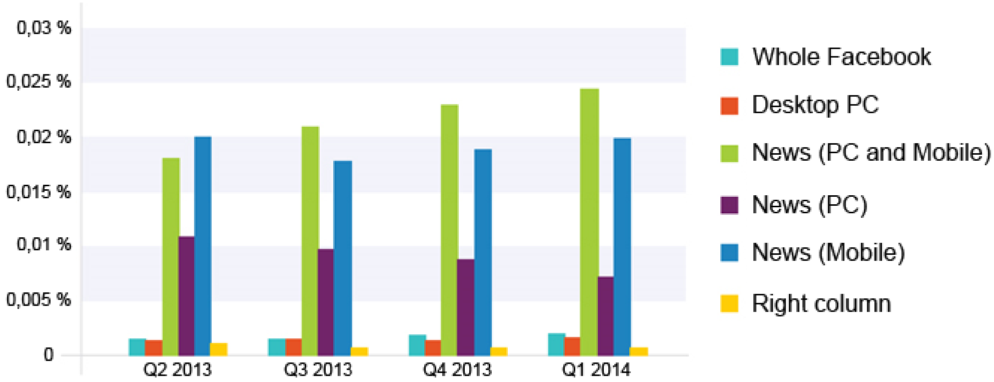
	Facebook Ads	Google Adwords
Targeting the precise interest	Yes	no
Intent (searched for)	No	yes
Location	Yes	yes
Age and sex	Yes	no
Marital status	Yes	no
Workplace	Yes	no
Education	Yes	no

Source: own elaboration based on Carter, 2013

Maquire (2013) notes that when selecting a target group the enterprise must make sure that its report will be shown to the right audience. Otherwise the enterprise wastes the number of displays on target group that is unlikely to respond to the message. To increase the relevance of messages Facebook Ads offers 3 types of targeting. The first option is targeted to the people who gave "Like" to the page and their friends (Facebook 2014). According to Bodnar and Kohen (2012) the advantage of this type is the so-called social proof - people who are already fans of the page. On the other hand, this targeting is not ideal because it is very general (Maffin 2014). Another possibility is to target people who already like advertiser's site (Facebook 2014). The third option is targeting a select target group based on specific attributes. Advertising can be targeted at very specific groups (Newlands 2011). Carter and Levy (2012), emphasize that the targeting is useful in narrowing the potential audience for the selected ads. Advertising message can be selected based on demographic data (location, age, gender, and language), interests, and behavior and by connections (Weintraub 2011). According to Kirchoff and Regen (2014) it should be noted that it is necessary to test the targeting on the selected groups of customers. The last option is that the offers of Facebook Ads are targeting people who like the advertiser's site (Facebook 2014). We can find many authors dealing with these issues, such as Celebi (2015); Dehghani and Tumerb (2015); Pereira, Salgueiro and Mateus (2014); Barreto (2013), Yaakop (2013).

The authors Alba, Stay, and Melia (2013) divide the advertising offered by Facebook Ads depending on whether ads appear in the sidebar of news, outside the sidebar of news or in the news bar when using mobile devices. Today, however, almost all forms of advertising can be displayed at a place an enterprise desires. Socialbakers survey (2014) has shown that the highest Click - Through Rate is reached by an ad that is placed in the news. This ad is displayed in the news sidebar used in the mobile phone Facebook app or in the sidebar on the right in desktop devices (Crager *et al.* 2014). Carter (2013) in this regard states that promoting page's posts is suitable for increasing brand awareness and also for attracting the audience. An enterprise may advertise text, link, photo or video. An ad displays in the news and in the sidebar on the right side (Facebook 2014). In this context Taylor (2012) states that the promotion of page's 'likes' serves to increase the number of page's fans and that a page can be displayed in the news sidebar and also in the sidebar on the right side of the page (Booth & Koberg 2012).

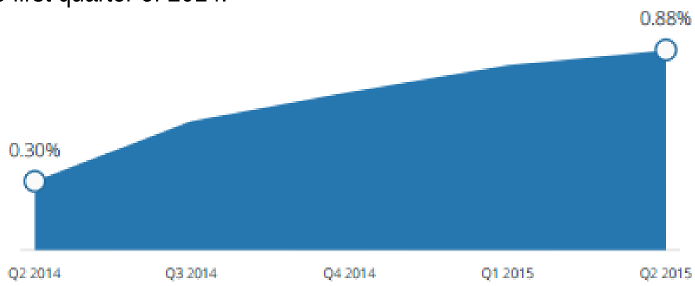
The benchmark survey of Salesforce (2013), which focused its attention on the Facebook Ads, was carried out in the period from 1st January to 31st March 2013. The analysis included a total of 25 top countries where published advertisements together recorded 114 billion displays. Salesforce (2013) states that the budget for Facebook Ads may reach $ 11 billion from the original $ 4.7 billion in 2012. The results of this survey further show that the best Click-Through Rate has a sponsored post marked with a location. The height of the Click-Through Rates stood at 3.20%. Based on our experiments we were interested in the Click-Through Rate divided by sector, specifically gastronomy and health and beauty industry. The average Click-Through Rate in the gastronomy was 0.217%, while the health and beauty sector stood at 0.433%



Source: own elaboration based on Socialbakers, 2014

Figure 1 - Comparison of the Click-Through advertising according to its location and device used

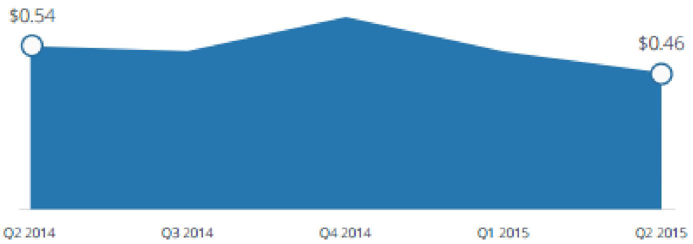
An interesting view on the issue provides another benchmark survey conducted by Socialbakers (2014) on a sample of 2,000 registered accounts in the period from April 2013 to March 2014. According to Socialbakers (2014) highlighted posts are a dominant form of advertising due to their placing in the Facebook news. Highlighted posts reached the highest Click-Through Rate in the first quarter of 2014, while their Click-Through Rate is approximately 0.008%. Individual click-through rates can be seen in Figure 1. In their research, Socialbakers (2014) investigated only restaurants. The Click-Through Rate for these ads is at around 0.40%. It should be emphasized that the volume of resources invested in promoting the contributions has increased from approx. 43% of the total expenditure ratio in the first quarter of 2013 to around 55% in the first quarter of 2014.



Source: Ninigans, 2015

Figure 2 - CTR (Click-through rate) Facebook ads Q2 2014 – Q2 2015

The research carried out by the marketing agency Nanigans (2015) presents the results of more than 300 billion ad displays in the second quarter of 2015. According to the survey the average Click-Through Rate (CTR) in Q2 2015 has recorded over the previous quarter only a small 8.00% increase to 0.88 %. As can be seen in Figure 2, the average CTR of Facebook ads during the period Q2 2014 - Q2 2015 has increased by 187%, which can be considered to be a significant event from the enterprises' point of view.



Source: Nínigans, 2015

Figure 3 - CPC (Cost per click) Facebook reklama Q2 2014 – Q2 2015

On the other hand, as shown in Figure 3, the average Cost per Click (CPC) in Q2 2015 (Nanigans 2015) decreased by 13% to $ 0.46 per click-through. For on-year comparison of Q2 2014 - Q2 2015 we can also see decreased price per click-through, namely a decrease of 16%, a difference of $ 0.08. From the perspective of the social network Facebook this state can be considered acceptable because the average CTR during the period grew faster than the decrease in CPC.

Conclusion

Also thanks to the social network Facebook the issue of social media and the social networks has in the last years caught massive worlwide attention of the academics and marketers. The constant development of technology and the Internet pushes the possibilities of applying this new medium in the field of marketing activities. This article describes the use of Facebook Ads tool in the online promotional campaigns. In the theoretical background we described the basic functioning of this form of promotion. Based on these assumptions, we conducted an experiment whose objective was to determine to what extent using Facebook Ads helps to increase audience engagement. A similar problem was also described by Salesforce surveys (2013), Socialbakers (2014) and Nanigans (2015). Our experiment has shown that the introduction of paid advertising on the social network Facebook through the platform Facebook Ads does not guarantee campaign's success. By testing the prepared hypotheses we did not find a relationship between the amount invested in promoted posts and CTR of individual ads. This result points out that in an environment of social network Facebook those with the biggest budget do not have to be the most successful. Comparing the results with the values recorded by Socialbakers (2014) it has been found that the values measured by us are several times higher than the values in the Socialbakers' report. Based on these results we concluded that many advertisers spend money on advertising that is not effective. This finding therefore proves that it is critically important to properly define your target audience and at the same time offer a content that the audience deems relevant. It can be assumed that with changing communication preferences of the target audience, in the near future online Internet environment, specifically the environment of social media, will be the necessary part of the marketing strategy.

Aknowledgment

This article is one of the partial outputs of the current research grant VEGA no. 1/0145/14 entitled "Online Reputation Management (ORM) as a Tool to Increase Competitiveness of Slovak SMEs and its Utilization in Conditions of Central European Virtual Market".

References

[1] Alba, J., Melia, R., Stay, J. (2013). *I´m on Facebook – Now what? (2nd Edition): How to Use Facebook to Achieve Business*. Cupertino: Happy About.

[2] Barreto, A.M. (2013). Do users look at banner ads on Facebook? *Journal of Research in Interactive Marketing*, 7(2), 119-139. DOI: 10.1108/JRIM-Mar-2012-0013

[3] Beck, T. (2013). *User Perception of Targeted Ads in Online Social Networks*. Norderstedt: GRIN Verlag.

[4] Bodnar, K., Kohen, J. (2012). *The B2B Social Media Book: Become a Marketing Superstar by Generating Leads with Blogging, LindedIn, Twitter, Facebook, E-Mail, and More*. New Jersey: John Wiley & Sons.

[5] Booth, D., Koberg, C. (2012). *Display Advertising: An Hour a Day*. Indianapolis: John Wiley & Sons.

[6] Carter, B., Levy, J. (2012). *Facebook Marketing: Leveraging Facebook´s Features of Your Marketing Campaigns*. Indianapolis: Que Publishing.

[7] Carter, B. (2013). *The Like Economy: How Businesses Make More Money with Facebook* (2nd Edition). Indianapolis: Que Publishing.

[8] Celebi, S.I. (2015). How do motives affect attitudes and behaviors toward internet advertising and Facebook advertising? *Computers in Human Behavior*, 51, 312–324.DOI: 10.1016/j.chb.2015.05.011

[9] Crager, J. *et al.* (2014). *Facebook All-In-One For Dummies*. New Jersey: Willey.

[10] Cvijikj, I.P., Michahelles, F. (2013). Online engagement factors on Facebook brand pages. *Social Network Analysis and Mining*, 3(4), 843-861.

[11] Dehghania, M., Tumerb, M. (2015). A research on effectiveness of Facebook advertising on enhancing purchase intention of consumers. *Computers in Human Behavior*, 49: 597–600.

[12] Dorčák, P. *et al.* (2014). Slovak virtual market in the light of analysis of possibilities of detecting on-line reputation for selected subjects. *Communications : scientific letters of the University of Žilina*, 16(4): 128-132.

[13] Fisher, E. (2015). 'You Media': audiencing as marketing in social media. *Media, Culture and Society*, 37(1): 50-67. DOI: 10.1177/0163443714549088

[14] Gavurová, B., Šoltés, M., Balloni, A.J. (2014). Ekonomický význam využívania informačno-komunikačných technológií v systéme zdravotníctva. (The economic importance of using of ICT in the health system), *Ekonomický Časopis*, 62(1): 83-104.

[15] Goward, CH. (2013). *You Should Test That: Conversion Optimization for More Leads, Sales, and Profit or The Art and Science of Improving Websites*. Indianapolis: John Wiley & Sons.

[16] Kelly, N. (2013). *How to Measure Social Media: A Step-by-Step Guide to Developing and Assessing Social Media ROI*. Indianapolis: Que Publishing.

[17] Kirchoff, K., Regen, J. (2014). Facebook Ads-Hip? Hype? Or Huh?. *Fundraising Success*, 12(2): 28-29.

[18] Kirkpatrick, D. (2011). The Facebook Effect: The Inside Story of the Company That Is Connecting The World. New York: Simon & Schuster.

[19] Maffin, T. (2014). The 6 Biggest Mistakes People make with Marketing on Facebook. *Communication World*, 31(2): 26-28.

[20] Maquire, K. (2013). Facebook Ads and Paid Strategies: Ways to Grow Your Facebook Community. *Franchising World*, 45(12): 28-30.

[21] Marshall, P., Krance, K., Meloche, T. (2014). *Ultimate Guide to Facebook Advertising: How to Access 1 Billion Potential Customers in 10 Minutes.* Irvine: Entrepreneur Press.

[22] Newlands, M. (2011). *Online Marketing: A User´s Manual*. West Sussex: Willey & Sons..

[23] Pereira, H.G., Salgueiro, M.F., Mateus, I. (2014). Say yes to Facebook and get your customers involved! Relationships in a world of social networks. *Business Horizons*, 57(6): 695–702. DOI:10.1016/j.bushor.2014.07.001

[24] Ray, R. (2013). *The Facebook Guide to Small Business Marketing*. Indianapolis: John Wiley & Sons.

[25] Scott, D.M. (2014). *The New Rules of Sales and Service: How to use agile selling, real-time customer engagement, big data, content, and storytelling to grow your business.* Hoboken: John Willey & Sons.

[26] Schleipfer, S. (2014). Facebook-Like-Buttons. *Datenschutz und Datensicherheit – DuD*, 38(5): 318-324.

[27] Šoltés, V., Gavurová, B. (2013). Application of the cross impact matrix method in problematic phases of the Balanced Scorecard system in private and public sector, *Journal of Applied Economic Sciences*. Volume VIII, 1(23): 99-119.

[28] Šoltés, V., Gavurová, B. (2015). Modification of Performance Measurement System in the intentions of Globalization Trends, *Polish Journal of Management Studies*. 11(2): 160-170.

[29] Stec, M., Filip, P.,Grzebyk, M., Pierscieniak, A. (2014). Socio-Economic Development in the EU Member States - Concept and Classification, *Inzinerine Ekonomika* (*Engineering Economics*), 25(5): 504-512, DOI: 10.5755/j01.ee.25.5.6413

[30] Taylor, G. (2012). *Advertising In a Digital Age*. North Charleston: CreateSpace Independent Publishig Platform.

[31] Turner, J., Shah, R. (2014). *How to Make Money with Social Media: An Guide to Using New and Emerging Media to Grow Your Business.* New Jersey: Upper Saddle River.

[32] Vejačka, M. (2012). Facebook Advertising and its efficiency on the Slovak market. *E+M Ekonomie a Management*, 15(1): 116-127.

[33] Weintraub, M. (2011). *Killer Facebook Ads: Master Cutting-Edge Facebook Advertising Techniques*. Indianapolis: John Wiley & Sons.

[34] Yaakop, A. (2013). Like it or not: Issue of credibility in Facebook advertising. *Asian Social Science*, 9(3): 154-163. DOI: 10.5539/ass.v9n3p154

*** Facebook. (2014). *Facebook Ads.* Retrieved May 13, 2015, from www.facebook.com/help/714656935225188/

*** Salesforce. (2013). *The Facebook Ads Benchmark Report* Retrieved May 13, 2015, from https://www.salesforcemarketingcloud.com/wp-content/uploads/2013/06/The-Facebook-Ads-Benchmark-Report.pdf

*** Socialbakers. (2014). *Social Advertising Quarterly Report*. Retrieved May 13, 2015, from http://www.socialbakers.com/resources/studies/social-advertising-quarterly-report-2

*** Nanigans. (2015). *Global Facebook Advertising Benchmark Report Q2 2015*. Retrieved May 13, 2015, from http://www.nanigans.com/resource/q2-2015-global-facebook-advertising-benchmark-report/

Journal of Applied Economic Sciences
Volume X, Issue 5 (35), Fall 2015

Does Government Expenditure Crowds Outthe Private Domestic Investment? Empirical Evidence of Indonesia

Retno FITRIANTI
Doctoral Program in Economics, Brawijaya University
Faculty of Economics and Business, Hasanuddin University, Indonesia
retno.ichsan@yahoo.com

Munawar ISMAIL
Faculty of Economics and Business, Brawijaya University, Indonesia
munawar_sml@yahoo.com

Ghozali MASKI
Faculty of Economics and Business, Brawijaya University, Indonesia
splum77@gmail.com

Devanto Shasta PRATOMO
Faculty of Economics and Business, Brawijaya University, Indonesia
devanto@ub.ac.id

Abstract:

The objective of this study is to examine the effect of government expenditure on private domestic investment in Indonesia. Based on the previous studies, there is no clear justification whether government expenditure is crowding in or crowding out the private investment. Using quarterly time series data during period 1985 to 2012, the empirical results show that government expenditure (total) is crowding out private domestic investment in both short term and long term. Specifically, government expenditure for public service is crowding out the private investment in both short term and long term. Unlike public services, the economic expenditure is crowding in the private investment in the long term. Moreover, health expenditure is crowding out the private investment in the short term while education expenditure is crowding out in the short term and crowding in in the long term.

Keywords: government expenditure, crowding out, private domestic investment, error correction model.

JEL Classification: E22.

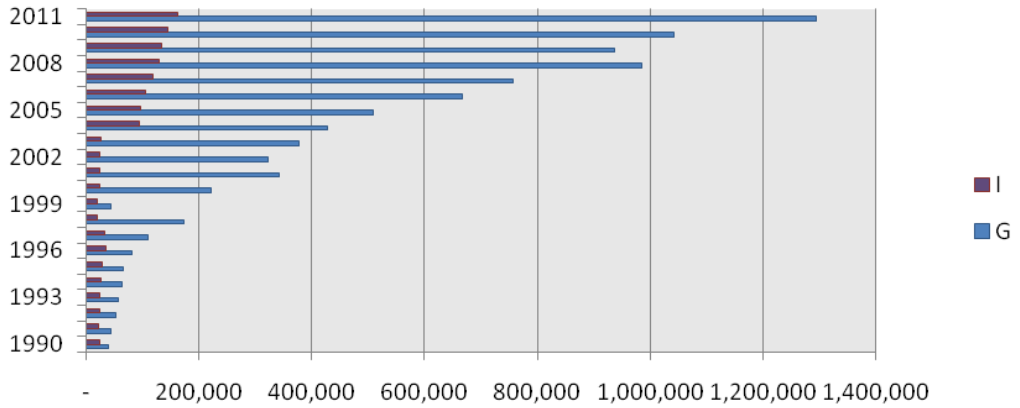
Introduction

Investment is one of themain important pillarsof the economic development. Through investment, the capital flows to the country can be usedforbusiness improvements, improve the employment opportunities, support the production process and technological transfer, as well as access tointernational marketsthrough the export products. In order to improve the investment level of the country, the fiscal expansion is necessarily needed by the government.

According to Keynesian economists, the fiscal expansion through an increase in government expenditure led to a better infrastructure, better health and education as a result of an increase in private investment. The reason is due to the fact that the government expenditure can reduce production costs and its consequences to the private investment. In other words, according to Keynesian, private investment becomes an important channel for the effectiveness of fiscal policy in promoting economic development (Ahmed and Miller 2000, Ahmad and Qayyum 2008, Hussain, *et al.* 2009). This argument is also in linewith Narayan (2004) showing that government spendingas a driving forceforprivate investmentwhich in turn drives the economic growth of the country. The positive role of government expenditure on private domestic investment is called the crowding-in effect.

However, in practice, an increase in government expenditure is not always followed by the more intensive private investment. According to classical economists, an increase in government expenditure led to increase the interest rates and then decrease the private investment. This phenomenon is called the crowdingout effect of government expenditure. In other words, the crowding out occurs when the expansionary fiscal policy caused rising in interest rates, thereby reducing private expenditure, especially investment (Dornbusch, Stainley and Startz 2008). This process happens especially where public sector activities are financed through several loans that lead to an increase in market interest rates and the increase in the cost of capital to the private sector. As a result, an increasing in government expenditure over the cost or expense of private sector will have a negative impact on private investment (Hussain, Muhammad Akram and Lal 2009). Some other empirical studies that support the crowding-out effect of government expenditure on private investment including Pradhan, Ratha and Sarma (1990), Ganelli (2003), Voss (2002), Narayan (2004), Kustepeli (2005), Basar and Temurlenk (2007), and Ang (2009).

The objective of this study is to examine the impact of government expenditure on private investment in Indonesia during 1985 - 2012 periods. As presented in *Figure 1*, the relationship between the government expenditure and private investment in Indonesia is relatively ambiguous. Although there is a tendency of positive relationship of government expenditure on private investment in the recent year, an increase in government spending is not always followed by an increase in the private investment. The previous studies of Indonesia (*see for example* Kuncoro 2000, Hidayat 2005) showed that government expenditure has both crowding out effect on private investment and crowding in effect on private consumption, particularly in the short term.



Notes: (I) Private Investment and (G) Government Expenditure
Source: Central Statistics Board and Bank of Indonesia, 2012

Figure 1 - Private Investment and Government Expenditure in Indonesia,in billion Rupiahs (1990-2011)

This study extends the analysis by dividing the total government expenditure into four specific utilizationof expenditure including public service expenditure, economic expenditure, health expenditure and education expenditure. Beside total government expenditure, in this case, all of the specific expenditure will be estimated separately to see their effects on private investment. This classification is similar to what Wang (2005) and Laopodis (2001) did using Canadian data in the previous studies.

The outline of this paper is as follows. The second section discusses the research methodology used in this study. The third section discusses the empirical results. Finally, the fourth section concluded the findings.

Conclusions

This study has examined the effect of government expenditure on private domestic investment in Indonesia, whether government expenditure is crowding in or crowding out the private investment. Using quarterly time series data during period 1985 to 2012, the empirical results show that government expenditure (total) is crowding out private domestic investment in both short term and long term indicating a potential inefficiency of government expenditure in both short term and long term. The results support classical hypothesis about crowding out effect. The crowding out usually happens when government expenditures are financed from loans that will more likely to lead an increase in interest rates that decrease the willingness of private sector to investment.

Looking at specific components of government expenditure, public service expenditure is crowding out private domestic investment in both short term and long term. As most of the expenditure is generally for non-productive programs, such as debt interest payments program, subsidies and transfer payments programs, finance the executive and legislative, and also foreign affairs, so the impact on private investment is negative.

Unlike public service, economic expenditure is crowding in the private domestic investment for long term. In practice economic expenditure includes productive expenditure such as infrastructures which encourage increased private domestic investment. This will also implied foreffectivebudget managementthat canprovidea multipliereffecton economic growth.

Moreover, health expenditure is crowding out the private investment in the short term implying an inefficient allocation of government budget in terms of health. Meanwhile education is crowding out the private investment in short term and is crowding in for the long term. In the long term, it seems that education expenditure can stimulate a creation of qualified human resources that might attract more private investment.

References

[1] Afonso, A., Aubyn, M.S. (2009). Macroeconomic rates of return of public and private investment: crowding-in and crowding-out effects. *The Manchester School*, 77 (Supplement S1): 21-39.

[2] Ahmad, I., Qayyum, A. (2008). Effect of government expenditure and macro-economic uncertainty on private investment in services sector. Evidence from Pakistan. *European Journal of Economics, Finance and Administrative Sciences,* (11): 84-96. http://mpra.ub.uni-muenchen.de/11673/

[3] Ahmed, H., Miller, S.M. (2000). Crowding-out and crowding-in effects of the components of government expenditure. *Contemporary Economic Policy,* 18(1): 124-133. http://dx.doi.org/10.1111/j.1465-7287.2000.tb00011.x

[4] Alani, E.M.A.A. (2006). Crowding-out and crowding-in effects of government bonds market on private sector investment (Japanese Case Study). *Discussion Papers*. http://www.ide.go.jp/English/Publish/Download/Dp/074.html

[5] Ang, J.B. (2009). Private Investment and Financial Sector Policies in India and Malaysia. *World Development*, 37 (7): 1261-1273. http://dx.doi.org/10.1016/j.worlddev.2008.12.003

[6] Bailey, S.J. (2002).*Public Sector Economics: Theory, Policy and Practice*, 2nd Edition Palgrave.

[7] Basar, S., Temurlenk, M.S. (2007). Investigating crowding-out effect of government expenditure for Turkey. A Structural VAR approach. *Iktisadi Ve Idari Bilimler Dergisi*, 21(2): 95-104.

[8] Domowitz, I., Elbadawi, I. (1987). An error-correction approach to money demand, the Case of Sudan. *Journal of Development Economics,* 26: 257-275.

[9] Dornbusch, R., Stainley, F., Startz, R. (2008). *Makroekonomi*, 10th Edition. McGrow-Hill.

[10] Erden, L., Holcombe, R.G. (2005). The effects of public investment on private investment in developing economies. *Public Finance Review,* 33(5): 575-602. http://pfr.sagepub.com/content/33/5/575.abstractN2 -

[11] Furceri, D., Sousa, R.M. (2011). The impact of government expenditure on the private sector: crowding-out versus crowding-in effects. *Kyklos* 64(4): 516-533. http://dx.doi.org/10.1111/j.1467-6435.2011.00518.x

[12] Ganelli, G. (2003). Useful government expenditure, direct crowding-out and fiscal policy interdependence. *Journal of International Money and Finance,* 22(1): 87-103. http://dx.doi.org/10.1016/S0261-5606(02)00050-5

[13] Hasan, S., Othman, Z., Abd Karim, M.Z. (2011). Private and public investment in Malaysia: A panel time-series analysis. *International Journal of Economics and Financial Issues,* 1(4): 199-210. http://www.econjournals.com/index.php/ijefi/search/results

[14] Hidayat, A.T. (2005). Analisis Kepekaan Sektor Swasta Terhadap Kebijakan Fiskal Ekspansif. *Widyariset,* 8(1): 365-381. http://elib.pdii.lipi.go.id/katalog/index.php/searchkatalog/DatabyId/5982/5983.pdf

[15] Hussain, A., Muhammad, S.D., Akram, K., Lal, I. (2009). Effectiveness of Government Expenditure Crowding-In or Crowding-Out: Empirical Evidence in Case of Pakistan. *European Journal of Economics, Finance and Administrative Sciences,* 16. http://ssrn.com/abstract=1684576

[16] Insukindro. (1999). Pemilihan Model Ekonomi Empirik Dengan Pendekatan Koreksi Kesalahan. *Jurnal Ekonomi dan Bisnis Indonesia,* 14(1): 1-8.

[17] Kustepeli, Y. (2005). Effectiveness of fiscal expenditure: crowding out and/or crowding in? *YÖNET M VE EKONOM* 12(1): 185-192. http://www2.bayar.edu.tr/yonetimekonomi/dergi/pdf/C12S12005/YK.pdf

[18] Laopodis, N.T. (2001). Effects of Government Expenditure on Private Investment. *Applied Economics,* 33(12): 1563-1577. http://dx.doi.org/10.1080/00036840010011934

[19] Narayan, P.K. (2004). Do Public Investments Crowd out Private Investments? Fresh Evidence from Fiji. *Journal of Policy Modeling,* 26(6): 747-753. http://dx.doi.org/10.1016/j.jpolmod.2004.06.002

[20] Nurcholis. (2006). *Faktor-faktor yang Mempengaruhi Investasi Regional (Studi Kasus Di Indonesia Tahun 2000-2004)*. Thesis, Universitas Indonesia, Depok.

[21] Voss, G.M. (2002). Public and private investment in the United States and Canada. *Economic Modelling,* 19(4): 641-664. http://dx.doi.org/10.1016/S0264-9993(00)00074-2

[22] Wang, B. (2005). Effects of government expenditure on private investment: Canadian empirical evidence, *Empirical Economics,* 30(2): 493-504. http://link.springer.com/article/10.1007/s00181-005-0245-9

[23] Widarjono, A. (2007). *Ekonometrika Teori dan Aplikasi untuk Ekonomi dan Bisnis*, 2nd Edition. Ekonesia Fakultas Ekonomi UII Yogyakarta.

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

Study on Financing of Energy Service Companies by Creating Specialized Compensation Fund using Forms of Funding and the Provisions to Cover the Risks Involved

Andrey SERGEEVICH NECHAEV
Irkutsk National Research Technical University, Russia
zyoma92@gmail.com

Tatyana IGOREVNA ZIMINA
Irkutsk National Research Technical University, Russia

Abstract:

The main proposals from energy service companies (ESCOs) in the market are to be declared as savings of energy and money through the development and introduction of highly efficient technologies and continuous services for operation and maintenance. However, in the world one of the important components of the success and growth of the ESCO industry is the ability to organize and recruit for their projects financing from the private sector at market rates. This is an important point, to which you should pay particular attention when deciding on participation in energy service project.The principal form of energy contracts used in the world practice, presented stages of energy service contracts, identified obstacles and risks at each stage of the implementation of an energy service contract and possible reserves to cover them. The possibility of attracting financial and government organizations using different forms of financing becames more obivouslly. The main differences between energy service contracts from other types of financing energy efficiency measures.

Keywords: energy service contracts, energy service companies, specialized Compensation Fund, forms of financing, the system realization of energy service contracts, risk groups.

JEL Classification: G3, D29.

1. Introduction

Over recent years, the debate on public-private partnership has been growing actively in the Russian society. This subject attracts increasing attention both the government authorities and the business community. Attention to this type of interaction between businesses and the state is due to the ability to solve effectively the social, economic and other issues by combining the resources of these sectors. The partnership contributes to the overall development and prosperity through the implementation of projects that can not be performed by government authorities or private companies separately.

The term *public-private partnership* (PPP) is a literal translation of the English one and has been used for a long time in foreign countries: France, UK, USA, Canada, Austria, Belgium, Denmark, Australia, Israel, Ireland, Finland, Spain, Portugal, Greece, South Korea, Singapore, the Czech Republic. Abroad the public-private partnership means the very wide range of business models and relationships. In the most general sense, the term is used for any use of private resources to meet social needs. Application areas for the public-private partnerships in foreign countries are very diverse. Cooperation between the partners takes place in the various legislative frameworks, with a diverse range of tasks and competence.

The state becomes an equal share business partner supplying infrastructure services and regulating the projects implementation. Such public-private partnership becomes an alternative to the privatization of infrastructure with specific economic and social consequences.

International practice of the partnerships shows that they can be formed in a variety of sectors:

- *Transport* - construction, operation, maintenance, implementation of motion control systems and many other projects in the various transport sectors, including urban transport.
- *Housing and utility services* - services for the population; operation of utilities (water supply system, sewerage); street cleaning, waste removal and recovery.
- *Ecology* - establishment, maintenance and development of urban and country parks with the right to exploit natural resources and receive ecotourism income.
- *Real estate* - construction and operation of public buildings and public housing in exchange for the building leasehold and participation in commercial projects.
- *Public peace and safety* - ensuring traffic order and peace in public places served by private companies; parking arranging and service.

- *Telecommunications* - foundation of telecommunications infrastructure and service delivery to consumers.
- *Financial sector* - attracting private insurance companies and asset management companies to operate with compulsory social insurance and public pension provision.
- *Education* - construction and equipping of schools and other institutions by private companies receiving building leasehold and the right to develop the surroundings.

Forms of the public-private partnership have different degrees of responsibility taken by the state or the private sector over for operation and maintenance, capital expenditures and the current financing, commercial risk; in addition they differ in assets owners and term of cooperation.

In the modern literature there are many definitions of public-private partnership. The most complete definition, in my opinion, is the following: a public-private partnership is institutional and organizational alliance between government and business to implement socially important projects and programs in a wide range of industries - from manufacturing industry and R&D to service sector. (Nechaev and Prokopieva 2014)

Conclusion

As it has been shown in foreign countries which have adopted the new generation laws on energy saving and energy efficiency, such as India, to form a full-fledged and sustainable energy services market it is needed at least 3-5 years. For this time there is occurred an identification and removal of gaps and contradictions in the legislation, preparation and implementation of pilot projects, development of methodological basis, the consolidation of the professional community, that is accompanied by pushing out the weak and unskilled players. The main role in this process is played not only by the government agencies as the FGBI "REA" of the RF Ministry of Energy, but also by the associations of energy services market participants able to represent centrally the attitude of the professional community. Relevant associations and partnerships have been established in Russia already, and they have taken the responsibility for control of these services quality, development of guidelines and standard solutions. Their activation shows that the domestic market development goes under scenario met the international practice. (Gabov 2003)

However, such development is significantly hampered by the gaps and contradictions in the new laws on energy saving and energy efficiency, which in some cases block their implementation or the implementation results do not respond to the public policy goals. The main directions to improve the laws should be:

- development of additional models of the energy services contracts for state and municipal needs, including contracts combining deliveries by installments and fees on the achieved energy savings, as well as providing for the savings measurement and verification by the way of calculation methods and a limited number of times;
- detailing of various types (models) of energy service agreements (contracts) concluded in the private and public (municipal) sectors, depending on the distribution of financial risks arising for the customer and contractor providing the energy services;
- detailing of the energy agreement (contract) terms associated with the transfer of the items of property from the contractor to the customer, as well as other provisions for which legislation detailing is required;
- incentives for establishing and development of the regional and municipal energy service companies, as well as organizations with state and municipal participation (energy efficiency centers) providing methodological and information support for energy saving and energy efficiency at the regional and municipal levels;
- introduction of the "white certificates" system as a measure of government control, and stimulating the energy services market development;
- creation of instruments to encourage the development of programs on energy saving and energy efficiency and provision of energy services under the results of the energy inspections;
- establishment of withdrawals under which meeting by the main budgetary funds managers requirements to reduce budgetary allocations by the state (municipal) institutions for the purchase of energy resources does not prevent them to conclude and execute the energy service agreements (contracts);
- Indicating of cases to provide the investment tax credits and tax incentives for energy service companies. (Trubaev,Shirrime 2015)

Thus, the use of energy service contracts has good prospects in Russia. It seems particularly important to use them in the public and municipal sector; that will enable during their implementation to solve the problem to manager professionally with public buildings. Overall management contracts in housing sector also have good perspectives. Even today, a number of companies managing apartment buildings seek for implementation of such contracts, and consider the contracts implementation as their competitive advantage. (Kursova, Sevriugina, 2013)

References

[1] Bashmakov, I.A. (2009). Improving energy efficiency in the public sector organizations. *Energy Saving*, 6:16-26.

[2] Bashmakov, I.A. (2015). Suggestions for improved use of the main policy for energy efficiency in buildings. *Energy Saving*, 2: 16-23.

[3] Vakulko A.G., Zlobin A.A., Romanov G.A. (2003). Pricing problems in energy inspections. *Energy Saving*, 3: 67-70.

[4] Veriovkin, L.P. (2015). Priming of economy during the economic sanctions. *Energy: Economy, Technology, Ecology*, 3: 44-50.

[5] Gabov, A.V. (2003). Regulation of corporate management. *Economy and Finance of the Power Sector*, 1: 123-164.

[6] Gulbrandsen, T.H., Padalko, L.P., Chervinskiy, V.L. (2010). *Energy efficiency and energy management*.Minsk: BSATU.

[7] Danilova, N.I., Shchelokova, Ya.M. (2006). *Basics of energy saving*. Textbook for high schools under the general editorship of Doctor of Economics - Yekaterinburg.

[8] Karpenko, M.S., Androsov, V.L. (2015). Costing of energy inspections to optimize costs. *Energy Security and Energy Efficiency*, 2.

[9] Kashin, V.I. (2013). Energy Management at a Plant - A Necessity Dictated by the Market. EEE - Energy, Energy Saving, *Environmental Protection*, 2: 9-13.

[10] Kursova, O.A., Sevriugina, O.S (2013). Practical aspects of Implementation and Application of Professional Standards in the Russian Federation. *Taxes. Investment. Capital*, 1-3: 58-64.

[11] Nechaev, A.S., Antipin, D.A. (2012). Some Aspects of the Financing of Innovative Operation of the Enterprises in the Russian Federation. *Modern studies of social problems* (electronic scientific journal), 3(1).

[12] Nechaev, A.S., Prokopieva, A.V. (2013). Risk Management Process Algorithm in Innovative Operation. *Bulletin of Irkutsk State Technical University*, 4 (75): 196-201.

[13] Nechaev, A.S., Prokopieva, A.V. (2014). Risk Identification and Management in the Enterprise Innovative Operation. *Economic Magazine*-XXI, 5-6: 72-77.

[14] Semenov, V.G., Kovalchuk, V.V., Sergeev, S.A. (2012). Power Saving Instruments proposed for inclusion in laws and regulations: drafts and materials for the law concerning energy saving and energy efficiency.Retrieved from http://www.energosovet.ru

[15] Sivaev, S.B. (2011). *Establishment and operation of the energy service companies and performance-contracts in Russia.* Volume 1: Energy service and performance-contracts: opportunities and challenges of their implementation in Russia. World Wildlife Fund (WWF). M.

[16] Trubaev P.A, Shirrime K.J. (2015). Analysis of Energy Efficiency Indicators at Educational Institutions. Industrial Energy Sector, (3).

[17] Tulikov, A.V. (2011). How budgetary institutions have to pay for energy service companies, *Energy Saving*, 6: 36-38.

[18] Tulikov A.V. (2011). *Establishment and operation of the energy service companies and performance-contracts in Russia*. Volume 2: Draft of secondary legislation and other legal instruments governing the establishment and operation of energy service contracts and performance-contracts in Russia.World Wildlife Fund (WWF). M.

*** Russian Energy and Energy Efficiency Market Review. Retrieved from http://marketing.rbc.ru/reviews/energy2014/chapter_4_4.shtml;

*** Business Risks in the Public-Private Partnership. (2007). National Report, Russian Managers Association.

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

On a Preference Analysis in a Group Decision Making

Jiří MAZUREK
Silesian University in Opava
School of Business Administration in Karvina, Czech Republic
mazurek@opf.slu.cz

Abstract:

The aim of the paper is to provide several quantitative measures concerning preference structure in a group decision making setting. These measures enable to assess group and individual discord, core preferences and outliers, or to find a consensus, where a consensus is defined as a preference with a minimum sum of distances to other preferences. Also, it is shown that a distance of a consensus to a median preference is upper bounded, which might reduce a search for a consensus significantly.

Keywords: consensus, decision making, distance, discord, geometric median, group decision making, group discord, preference, preference structure.

JEL classification: D71

Introduction

The aim of collective decision making is to undertake the best (optimal) solution to a given problem by a group of experts in a given field. Group decision making is present everywhere where a committee, a board, a council, etc., has to carry out a decision. It occurs in many areas of human action such as economics, politics, environmental protection, education, civil engineering, medicine, military, etc., but it is also present in everyday family lives. For a brief review of past, present and future of group decision making see e.g. Kameda *et al.* (2002).

Decision makers can express their preferences in many different ways. Given a set of feasible options (objects, alternatives, candidates, etc.), the most common preference formats include rankings of all compared options from the best to the worst, a selection of the best option only, or assigning each option its 'value' (expressed in points or marks, language variables such as 'very good', etc.).

Ranking of options or selection of the best option (without ranking the rest) is a well-known setting from the social choice theory, where individual decision makers (DMs) are called *voters*, they choose among a finite set of *candidates*, and their preferences (rankings of candidates, usually without ties) are called *votes*, *individual preference list* or *ballots*. For an introduction to the social choice theory, see e.g. (Sen 1970, Fishburn 1973, Feldman and Serrano 2006, Wulf 2006, Taylor and Pacelli 2009, Myerson 2013). A winner of an election is found with the use of many different social choice functions or procedures such as plurality voting, Condorcet's majority rule, Borda's method of marks, Copeland method, Hare system, see e.g. Taylor and Pacelli (2009). All these methods satisfy some 'reasonable' properties, such as unrestricted domain, monotonicity, independence of irrelevant alternatives, Pareto efficiency, non-dictatorship, etc., see e.g. (Arrow 1951, Fishburn 1973, Wulf 2006, Taylor and Pacelli 2009). But, as shown by Arrow (1951), none method satisfies all of them if there at least two decision makers and at least three alternatives (see also Gibbard–Satterthwaite theorem). Also, some social choice procedures are susceptible to voting paradoxes, such as Condorcet's paradox; see e.g. (Saari 2000, Felsenthal 2010).

While the literature on social choice theory focuses mainly on examination and comparison of social choice functions (procedures) under different conditions, the orientation of this paper is slightly different. It focuses on an evaluation of a structure of decision makers' preferences, and a relationship between this structure and a group consensus, because it is the structure of preferences that determines whether achieving a group consensus is possible (and whether this consensus is unique).

In this paper a consensus is defined as a preference which minimizes the sum of distances to all preferences provided by DMs. In this sense a consensus is an analogue to the *geometric median*, which is defined as a point in an n dimensional *Euclidean space*E^n, minimizing a sum of distances to a given (finite) set of pointsfrom E^n. However, in this study this concept is extended to all spaces endowed with a metric function, called *decision spaces*, such as a space of all permutations S_n of the order n, a space of pairwise comparison matrices, etc.

As mentioned before, DMs' preferences determine the result – the consensus. The aim of this paper is to provide several new measures and concepts enabling to evaluate a structure of decision makers' preferences, and to show how to use it in finding a consensus especially if the decision space is discrete (for example S_n).

The paper is organized as follows. In section 2 basic concepts and notation is introduced. In section 3 some theoretical properties are examined and section 4 provides numerical examples. Section 5 provides a brief discussion of well-defined and ill-defined problems and in section 6 some possible extensions to the proposed approach are discussed. Conclusions close the article.

Conclusions

The aim of this paper was to introduce several measures for an analysis of decision makers' preferences in a group decision making environment, which is a rather neglected issue in the literature. By the proposed measures a disagreement of each preference (each decision maker) can be assessed, so decision makers with the highest disagreement within a group can be identified, and asked to revise their opinion. Also, analysis of preferences can reveal ill-defined problems before a (futile) search for a consensus begins. Furthermore, the distance theorem (Proposition 1) bounding the maximum distance between a pivot and a consensus was introduced. The theorem facilitates search for a consensus especially for discrete spaces (for example for permutation spaces), as it reduces the searching space significantly. A simple procedure for dealing with ill-defined problems was proposed as well, though, of course, some unsolvable cases will persist.

The proposed approach can be easily extended to cases with preferences not only in the form of ordinal rankings or real numbers, but also to cases with fuzzy preferences, fuzzy numbers or linguistic variables. Also, it can be extended to a multiple criteria environment. In such a case preferences can be analyzed for each criterion separately, or for all criteria at once after an aggregation step takes place.

The future research might focus on the problem of the existence of a unique consensus. Vardi and Zhang (2000) showed that a unique consensus (unique geometric median) is achievable if all data points (in E^n) are not collinear (no three points lie on the same line), but no general result is known at present. Furthermore, as shown in Fiedor and Mazurek (2011), with growing differences among preferences (with growing entropy) a unique consensus is less likely to be achieved. The ultimate goal towards this direction might be to find general conditions (concerning a structure of preferences) under which a unique consensus exists or cannot be achieved, respectively.

Acknowledgment

The paper was supported by the Czech Grant Agency project no. 14-02424S.

References

[1] Arrow, K.J. (1951). *Social Choice and Individual Values*. New York: John Wiley & Sons, Inc.

[2] Cook, W.D. (2006). Distance-based and ad hoc consensus models in ordinal preference ranking. *European Journal of Operational Research*, 172: 369-385.

[3] Cook, W.D., Kress, M. (1985). Ordinal ranking with intensity of preference. *Management Science*, 31(1): 26-32.

[4] Feldman, A.M., Serrano, R. (2006). *Welfare Economics and Social Choice Theory*, 2ndEdition, New York: Springer.

[5] Felsenthal, D.S. (2010). Review of paradoxes afflicting various voting procedures where one out of m candidates (m≥2) must be elected. In: *Assessing Alternative Voting Procedures*, London School of Economics and Political Science, London, UK.

[6] Fiedor, J., Mazurek, J. (2011). The Evaluation of the Entropy of Decision Makers' Preferences in Ordinal Consensus Ranking Problem. In: *Proceedings of the 29th International Conference on Mathematical Methods in Economics 2011*. Professional Publishing: Prague, pp.157-162.

[7] Fishburn, P.C. (1973). *The Theory of Social Choice*. Princeton, N. J.: Princeton University Press.

[8] Haldane, J.B.S. (1948). Note on the median of a multivariate distribution. *Biometrika,* 35 (3–4): 414–417.

[9] Herrera-Viedma, E., Alonso, S., Chiclana, F., Herrera, F. (2007). A consensus model for group decision making with incomplete fuzzy preference relations, *Fuzzy Systems, IEEE Transactions,* 15 (5): 863-877.

[10] Kameda, T., Tindale, R.S., Davis, J.H. (2002). Cognitions, preferences, and social sharedness: Past, present, and future directions in group decision making. In S. L. Group Decision Making 51 Schneider & J. Shanteau (Eds.), *Emerging perspectives on judgment and decision research*. Cambridge University Press.

[11] Margolius, B.H. (2001). Permutations with Inversions, *Journal of Integer Sequences*, 4: 1-12.

[12] Mazurek, J. (2011). The Fuzzy Permutation Model for the Ordinal Ranking Problem Solution. In: *Proceedings of the 29th International Conference on Mathematical Methods in Economics 2011*(Dlouhý, M., Skočdopolová, V., Eds.). Professional Publishing, Prague, 462-467.

[13] Myerson, R.B. (2013). Fundamentals of social choice theory, *Quarterly Journal of Political Science*, 8(3): 305-337.

[14] Nurmi, H. (1999). *Voting Paradoxes and How to Deal with Them*. Berlin/Heidelberg/New York: Springer-Verlag.

[15] Orlovsky, S.A. (1978). Decision-making with a fuzzy preference relation. *Fuzzy Sets and Systems*, 1(3): 155–167. DOI: 10.1016/0165-0114(78)90001-5

[16] *Perny, P., Roubens, M. (1998). Fuzzy Preference Modeling. In R. Slowinski (ed.),* Fuzzy Sets in Decision Analysis, Operations Research and Statistics*. Boston/Dordrecht/London: Kluwer.*

[17]Saari, D.G. (2000). Mathematical structure of voting paradoxes: I. pairwise votes, *Economic Theory,* 15(1):1-53.

[18] Saaty, T.L. (2001). *Fundamentals of Decision Making and Priority Theory*. Pittsburgh, Pennsylvania: RWS Publications.

[19]*Sen, A.K. (1970). Collective Choice and Social Welfare. San Francisco, Calif.: Holden-Day.*

[20] Tavana, M., LoPinto, F., Smither, J. W. (2007). A Hybrid Distance-Based Ideal-Seeking Consensus Ranking Model, *Journal of Applied Mathematics and Decision Sciences*, 18 pages, available at: http://www.hindawi.com/journals/ads/2007/020489/abs/

[21] Taylor, A.D., Pacelli, A.M. (2009). *Mathematics and Politics, Strategy, Voting, Power and Proof*, 2ndEdition, Springer.

[22] Vardi, Y., Zhang, Cun-Hui. (2000). The multivariate L_1-median and associated data depth. *Proceedings of the National Academy of Sciences of the United States of America,* 97 (4): 1423–1426.

[23] Voxman, W. (1998). Some remarks on distances between fuzzy numbers. *Fuzzy Sets and Systems*, 10(1-3): 353-365. DOI: 10.1016/S0165-0114(97)00090-0

[24] Wulf, G. (2006). *A Primer in Social Choice Theory*. Oxford: Oxford University Press.

[25] Zeshui Xu. (2013). *Linguistic Decision Making: Theory and Methods*, Springer Science & Business Media.

[26] Zadeh, L.A. (1975). The concept of a linguistic variable and its application to approximate reasoning - I, *Information Sciences*, 8(3). 199-249.

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

The Relationship between Industry Structure and International Competitiveness: Evidence from a Small Open Economy

Aneta BOBENIČ HINTOŠOVÁ
Faculty of Business Economics with seat in Košice
University of Economics in Bratislava, Slovakia
aneta.bobenic-hintosova@euke.sk

Lucia HLIBOKÁ
Faculty of Business Economics with seat in Košice
University of Economics in Bratislava, Slovakia
lucia.demjanova@euke.sk

Abstract:

The existing empirical literature is ambiguous in findings on how the level of industrial concentration is related to the international competitiveness of the industry. This relation can have a different nature and can be explained differently depending on size and degree of openness of particular economy. In this article we examine the relationship between industry structure and international competitiveness for a panel of 10 key industrial sectors over the period from 1999 to 2014 in the Slovak Republic that is considered to be small, open and export-oriented. The results indicate that international competitiveness improves with a change towards a more concentrated industry structure.

Keywords: industry structure, Herfindahl–Hirschman Index, international competitiveness, revealed comparative advantage.

JEL Classification: F10, L11, L13.

Introduction

Studies of the industry structure – performance relationship are numerous, beginning with the pioneering work of Bain (1951) who tested the major hypothesis that the profit rates of firms in industries of high seller concentration should, on average, be larger than those of firms in industries of lower concentration, and definitely not ending with the work of Martin (2012) who examined mainstream industrial economics view in light of recent studies of the market structure and market performance relationship in specific industries. Many of the recent studies, however, recorded departure from industry and spotlight on banking sector such as Park (2012), Behname (2012), Zhang, Jiang, Qu and Wang (2013), Ferreira (2014), among others.

Whereas, in the centre of our attention is assessment of international competitiveness and its influencing factors, we were seeking for studies focusing on this issue. Already Pickering and Sheldon (1984) pointed out that more attention needs to be paid to the international trade flows as important measures of industrial performance. However, the scope of works focusing on a relationship between industry structure and international competitiveness as a measure of performance is substantially narrower, with rather contradictory findings.

Hence, the different views on the relationship between domestic industry structure and international competitiveness, as well as the lack of related empirical findings in the context of small economies, led us to analyse the general trend of industry structure evolution and its relationship to international competitiveness in conditions of major industrial sectors in the Slovak Republic at a high level of aggregation. The share of exports of goods and services from the Slovak Republic reached 92% of GDP in 2014. Thus, the Slovak economy is generally considered to be small, open and export-oriented.

Literature review

The existing empirical literature is ambiguous in findings on how the level of industrial concentration is related to the international competitiveness of the industry. Empirical studies related to the topic outlined often rely upon the theoretical framework developed by White (1974), who tried to demonstrate that there are theoretical reasons to expect a relationship that runs from the domestic market structure to foreign trade flows. Various arguments support either a positive or a negative relationship on the basis of the industrial organization theory.

On the one hand, Glejser, Jacquemin, and Petit (1980) found (on a sample of Belgian firms) that domestic concentration puts rather a brake on export rates. Similarly, Pickering and Sheldon (1984) concluded that higher or increasing levels of concentration are associated with weaker international trade performance of British industries. The results achieved by Donghwan and Bruce (1997) showed that domestic seller concentration of US food manufacturing industries has a negative influence on global market performance in the case of homogeneous goods, but has negligible effects in the case of differentiated goods. The evidence found in the study of Zhao and Zou (2002) performed in conditions of Chinese manufacturing firms suggests that industry concentration exerts a negative influence on both export propensity and export intensity. These findings are in principle in accordance with theoretical postulates of Porter (1990) who concluded that the presence of strong local rivals is a powerful stimulus to the creation and persistence of competitive advantage. According to him domestic rivalry creates pressure on companies to innovate and improve. Thus, fragmented industry structures connected with competitive pressures seems to be better drivers of international competitiveness.

On the other hand, the efficiency hypothesis (Demsetz, 1973) argues that concentrated industries are results of more efficient firms´ growing at the expenses of less efficient ones. Thus firms in highly concentrated industries shall be more likely to export than those in fragmented industries. Utton and Morgan (1983) found an association between high concentration and high exports; however, they also found a link between high concentration and slow growth in exports, especially where the influence of multinational companies was limited. Hamilton (1997) supported the view that dominance in the domestic market of New Zealand manufacturing industries is associated with superior trade performance in terms both of higher export growth and lower rates of import growth. Several similar results were detected in regard with the size of the company as one of additional structural variable characterizing industry structure besides concentration itself. Findings of a research project conducted on 7000 German manufacturing companies showed that the probability that a company will export increases with the size of the company (Wagner, 1995). Equally Šuštar (2004) in conditions of Slovenian companies found that a statistically significant dependency between the size of a company and the share of exports in the total sales of company did exist. However, he also pointed out that there are also other factors in addition to company size that influence the export intensity of companies. Interesting cross-industry study was performed by Lin and Huang (2014) who assessed the impacts of banking market structure on industrial exports and found that a more stable and concentrated banking system is important to the exports of those industries that rely more on external finance.

Since the theoretical answer to the relationship between industry structure and international competitiveness is less than clear, the answer has to come case by case. It is reasonable to assume that the relationship can have a different nature and can be explained differently depending on size and degree of openness of particular economy. As explained by Gal (2001) unique economic characteristics of small economies create a basic conflict between productive efficiency and competitive conditions. Small size sharpens the dilemma between whether an economy would be better off with higher concentration to permit more efficient scales of activity or with lower concentration for better allocated efficiency through competition.

In the absence of conclusive findings in this area of research, we examine the unique environment of small and open Slovak economy to determine which arguments are more likely to be valid in the Slovak context.

Conclusion

The paper introduced conflicting views on the relationship between domestic industry structure and international competitiveness of key industry sectors within small open economy. The results show that increasing industry concentration has positive effect on international competitiveness of industries. This seems to be valid for economies with relatively small internal market with the resulting need to enable firms to grow to relatively large size in order to realize necessary efficiency and bear the risks on international markets.

However, our findings have limitations with regard to the identification of small or statistically non-significant relationships by analysing concentrated and fragmented industries separately. We assume that the analysis of the relationship between industry structure and international competitiveness at lower levels of aggregation may bring moderately different results depending on the nature of the particular industry.

References

[1] Bain, J.S. (1951). Relation of profit rate to industry concentration: American manufacturing, 1936-1940, *Quarterly Journal of Economics,* 65(3): 293-324.

[2] Balassa, B. (1965). Trade liberalization and „revealed" comparative advantage, *Manchester School of Economic and Social Studies,* 33(2): 92-123.

[3] Behname, M. (2012). The compare of concentration and efficiency in banking industry: Evidence from the OPEC countries, *Euroasian Journal of Business and Economics,* 5(10): 15-24.

[4] Cai, J., Leung, P. (2008). Towards a more general measure of revealed comparative advantage variation, *Applied Economics Letters,* 15(9): 723-726.

[5] Das, S.P. (1982). Economies of scale, imperfect competition and the pattern of trade, *Economic Journal,* 92(367): 684-693.

[6] Demsetz, H. (1973). Industry structure, market rivalry and public policy, *Journal of Law and Economics,* 16(1): 1-9.

[7] Donghwan, K., Bruce, W.M. (1997). Domestic market structure and performance in global markets: Theory and empirical evidence from U.S. food manufacturing industries, *Review of Industrial Organization,* 12(3): 335-354.

[8] Ferreira, C. (2014). Panel granger causality between bank efficiency and market concentration in the European Union, *Research in Applied Economics,* 6(1): 107-127.

[9] Fertö, I., Hubbard, L.J. (2003). Revealed comparative advantage and competitiveness in Hungarian agri-food sectors, *World Economy,* 26(2): 247-259.

[10] Gal, M.S. (2001). Size does mater: The effects of market size on optimal competition policy, in: *University of Southern California Law Review,* 74(2): 1437-1478.

[11] Glejser, H., Jacquemin, A., Petit, J. (1980). Exports in an imperfect competition framework: An analysis of 1,446 exporters, *The Quarterly Journal of Economics,* 94(3): 507-524.

[12] Hamilton, R.T. (1997). A note on industry concentration and trade performance: New Zealand manufacturing 1985-1995, *Australian Journal of Management,* 22(1): 99-105.

[13] Laursen, K. (1998). *Revealed Comparative Advantege and the Alternatives as Measures of International Specialisation,* DRUID.

[14] Lin, P. Ch., Huang, H. Ch. (2014).Financial sector volatility, banking market structure and exports,*World Economy,* 37(10): 1388-1409.

[15] Lopez, R., Lopez, E., Lirón-España, C. (2014).Who Benefits from Industrial Concentration? Evidence from U.S. Manufacturing, *Journal of Industry, Competition & Trade*, 14(3): 303-317.

[16] Martin, S. (2012). Market structure and market performance, *Review of Industrial Organization,* 40(2): 87-108.

[17] Nawrocki, D., Carter, W. (2010). Industry competitiveness using Herfindahl and entropy concentration indices with firm market capitalization data, *Applied Economics,* 42(22): 2855-2863.

[18] Park, K.H. (2012). Bank mergers and competition in Japan, *International Journal of Banking and Finance,* 9(2): 1-25.

[19] Pickering, J.F., Sheldon, I.M. (1984). International trade performance and concentration in British industry, in: *Applied Economics,* 16(3): 421-442.

[20] Porter, M.E. (1990). The competitive advantage of nations, *Harvard Business Review,* 68(2): 73-93.

[21] Sepúlveda, J.P. (2012). On the relationship between concentration and competition: Evidence from the Chilean private pension system, in: *Applied Economics Letters,* 19(14): 1385-1389.

[22] Šuštar, B. (2004). Industrial structure and international competitiveness of post-communist Slovenia, *Post-Communist Economies,* 16(1): 73-88.

[23] Utton, M.A., Morgan, A.D. (1983).*Concentration and Foreign Trade,* Cambridge University Press.

[24] Wagner, J. (1995). Exports, firm size, and firm dynamics, *Small Business Economics,* 7(1): 9-41.

[25] White, L.J. (1974). Industrial organization and international trade: Some theoretical considerations, *American Economic Review,* 64(5): 1013-1020.

[26] Zhang, J., Jiang, Ch., Qu, B., Wang, P. (2013). Market concentration, risk-taking, and bank performance: Evidence from emerging economies, *International Review of Financial Analysis,* 30: 149-157.

[27] Zhao, H., Zou, S. (2002).The impact of industry concentration and firm location on export propensity and intensity: An empirical analysis of Chinese manufacturing firms, *Journal of International Marketing,*10(1):52-71.

*** *Horizontal Merger Guidelines. (*2010). [online] U.S. Department of Justice and the Federal Trade Commission, 2010. [cit. 2014-05-05]. Available at: http://www.justice.gov/atr/public/guidelines/hmg-2010.html \

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

The Impact of Board Structure on New Initial Public Offering Companies' Survival

Wannuda PETPAIROTE
Faculty of Management Science, Khon Kaen University
theee_nf@hotmail.com

Nongnit CHANCHARAT
Faculty of Management Science, Khon Kaen University
mnongn@kku.ac.th

Abstract:

Corporate governance beliefs generally employ the recreation of an essential role to determine business bankruptcy. Our research objective is to examine the relation between corporate governance related to the board structure and the bankruptcy of Thai IPO (Initial Public Offering) companies based on agencytheory. In this paper, we evaluate 272 companies consisting of 250 survivors and 22 non-survivors. We use the survival analysis by Cox and the proportional hazards technique to find a predictable bankruptcy pattern using our hypotheses. Our results indicate that the board size, the proportion of independent board members, the proportion of board committees, the leadership structure, the ownership concentration and the company age are statistically significant factors in decreasing the hazard of IPO bankruptcy. Otherwise, ownership concentration alone has an increasing risk effect on IPOs bankruptcy.

Keywords: corporate governance, survival analysis, board structure, agency theory

JEL Classification: G34

Introduction

Most capitalist business operations today have the main goal of earning maximum profit (Smith 1776). Therefore, amidst higher competition, the companies have been pressured by various factors; these are driving forces causing them to use any possible means to achieve their intended goals. For example, intent to change accounting numbers exists, using the flexibility of generally accepted accounting principles, customized to senior executives' desires. This is shown by AIG, which manipulated its company's financials to show earnings of more than 1.7 billion USD over its actual number by creating a plan to establish insurance companies in other countries]to which to transfer company losses (SEC News Digest, 2006). In another case in 2002, WorldCom manipulated 3.85 billion US dollars in financial data. Consequently, the company achieved 1.38 billion US dollars in net revenues in 2001 instead of suffering losses. These corporate behaviors have caused a lack of confidence in the stock market and management systems, causing a capital outflow from the USand impacting the country's overall economy. This behavior also called the lack of transparency in financial statements of other companies into question (Leahy 2009). This may not reflect the actual economic events including corporate governance violations.

Thailand had improved and transformed its systematic business operation structure into the Western model to be more appropriate, (Keong 2002, Khan 2004) after experiencing a major crisis in 1997. This crisis caused bankruptcies for nearly 50 of the listed companies on the stock exchange market because of weak business operations that had no corporate governance (Dhnadirek and Tang 2003, Limpaphayom and Connelly 2004). The concept of "corporate governance is the relationship between various parties used to make decisions in the operation and direction of the company".

Corporate governance focuses on structures for operating the business and managing the firm; this involves the relationships between a company's controlling systems and the roles of the board of directors, shareholders and stakeholders (Hong Vo and Minh Nguyen 2014). The corporate governance structure consists of three primary groups of people: shareholders, board of directors and the executive. Their roles involve groups of secondary people, including stakeholders, the audit committee and the independent committee (Monks and Minow 2008). The Stock Exchange Market of Thailand has introduced 15 principles of corporate governance to listed companies in 2006. These are comparable to the corporate governance of The Organization for Economic Co-operation and Development: OECD (The Organization for Economic Co-operation and Development, 2004), which is a model of law and practice for the governance of government and the Stock Exchange. Many researchers have noted the mixed format for proper corporate governance for developing countries. In addition to compelling high quality in the capital markets, strong corporate governance also reassures investors to believe that a company will effectively exist (Roberto *et al.* 2008).

This study focuses on investigating the relation between the board structure of IPOs, called 'Initial Public Offerings', and the likelihood of company bankruptcy. IPOs are referred to as the initial public share offering of a company. The company may require expansion funds for its budget or may want to distribute its shares to the general public. The data on the structure of the Board of IPOs are clearer and more specific than those of companies previously in the stock market. Survival analysis methods are used to analyze the impact of the board structure because of the belief that every company would want to operate in the long-term. In addition, this method is effective for the analysis and is not vague (Chancharat *et al.* 2012).

Our results indicate that the board size, the proportion of independent board members, the proportion of board committees, the leadership structure and the company age are statistically significant to decreasing the risks to an IPO's bankruptcy. Otherwise, the ownership concentration solely has an increasing risk effect of IPOs bankruptcy.This paper is structured as follows. First, we review previous studies regarding board structure and corporate governance to develop our hypotheses. Second, we present our data and methodology. Third, we present our empirical results and interpretations. Finally, we offer our discussion and conclusion for development of future research.

Discussion and conclusion

Our study examines the relevance between corporate governance and the board structure and the survival of IPOs using variables based on agency theory. We employ the survival analysis model by using the Cox proportional hazard technique to estimate 272 IPOs that exclude financial group. There are 250 surviving companies and 22 non-surviving companies. Our results, which indicate that board size, the degree of board independence, the composition of the board committees, the leadership structure, ownership shareholder and company age, are statistically significant with a decreasing hazard of IPO bankruptcy. Otherwise, ownership shareholder alone has an increasing risk effect on IPO bankruptcy.

The board size finding is consistent with the work ofHaniffa and Hudaib (2006) regarding the relation between board size and the performance of Malaysian listed companies. Because the company's performance can refer to survival situations, which companies with large board will high performance and more expert director. The study is inconsistent with a study by Fich and Stezak (2008) we showed that a small board size has lower bankruptcy risk than a company with a large board. However, a paper by Tachapichaya (2007) found that the relationship of board size and performance for an industrial group company is not affected because these companies have different characteristics. The proportion of independent board members is consistent with the work of Jiamsakul (2007) and reduces the agency problem. This is consistent with agency theory and causes a performance increase. Agency theory indicates the relation between the principal and agent such that the agent (executives) takes over duties of the principal (shareholder) as long as the agent oversees the administration consistent with achieving the highest benefits for the principals. The relationship between these two parties will be fine. However, if the objectives and benefits of the principal and agent are not consistent, a problem will occur for the agent. Having independent committees in the administration to balance the powerand examine administration operations to achieve business goals will reduce the agent problems as observed for independent variables: the composition of the board committees, the leadership structure, ownership and share holder are associated with survival with statistical significance.

Inthe future, wewill study the relevance of the proportion of independent board members and survival of the company by comparing the old rules under the Securities and Exchange Commission (SEC), which is a board with not less than three people and new rules to increase the proportion too nein three on the board. The SEC rules specify that the composition of the board committee is not less than three persons and that not less one person is a financial specialist. Our finding regarding the composition of the audit committee is consistent with the work of Beasley and Salterio (2001) which showed that an organization with an audit committee will create a reliable annual report. The result of the dual leadership structure is consistent with the work of Palmon and Wald (2002), who finds that he same position between chairperson and CEO are increases Tobin's Q for complex firms and make high cost when firms that practice separate position will a more difficult time to recruitment new CEOs (Larcker and Tayan, 2011). But the study is inconsistent with the work of Coleman (2007), who described the agent problem when the chairperson and the CEO is the same person in companies in South Africa, Ghana, Kenya and Nigeria. Our finding of ownership concentration is consistent with the work of Chitnomrath *et al.* (2011), who presented that the concentration of share holders increased the company's risk of bankruptcy in Thailand before a bankruptcy occurred during a financial crisis. Finally, the finding of company age is consistent with the work of Hensher *et al.* (2007) in terms of the relationship between age and financial failure; age refers to the company's experience. This occurs because a high company age means there is stronger experience than in a company with a low age.

For future research, we will separate the board size data into small, medium and large boards to examine the relevance of IPO survival (Chancharat *et al.*, 2012). The proportion of women on boards is an interesting variable that may have an effect on IPO survival; therefore, we will also use this variable for empirical results.

The limitations of this study were the use of the IPO sample referencing new companies listed on the stock exchange. The operating results may be unstable. However, this study focused on the committee structure to obtain a count of the board members; this has not changed from the companies that entered the stock exchange earlier. This led to a determination of the time at which the companies were listed.

Acknowledgments

We want to thank KKU-Integrated Multidisciplinary Research Cluster and National Research University Project of Khon Kaen University for the research funding (MIE-2554-Ph.D-03) and support by Khon Kaen University under Incubation Research Project.

References

[1] Abdullah, S.N. (2006). Board structure and ownership in Malaysia: the case of distressed listed companies. *Corporate Governance*, 6(5): 582- 594, DOIhttp://dx.doi.org/10.1108 /14720700610706072

[2] Al-Ajmi, J. (2009). Audit firm, corporate governance and audit quality: Evidence from Bahrain. *Advances in Accounting, incorporating Advances in International Accounting*, 25(1): 64-74, DOI http://dx.doi.org/10.1016/ j.adiac.2009.02.005

[3] Allison, P.D. (2010). *Survival Analysis using SAS. A practical guide*. NC: SAS Institute Inc.

[4] Apadore, K., Zainol, S.S.B. (2014). Determinants of Corporate Governance and Corporate Performance among Consumer Product Industry in Malaysia: A Theoretical Model. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(2):159-165, DOI http://dx.doi.org/ 10.6007/IJARAFMS/v4-i2/836

[5] Arthur, N., Garvey, G., Swan, P., Taylor, S. (1993). Agency theory and management research: A comment. *Australian Journal of Management*, 18(1): 93- 102, DOI http://dx.doi.org/10.1177/031289629101 600103

[6] Beasley, M.S., Salterio, S.E. (2001). The relationship between board characteristics and voluntary improvements in audit committee composition and experience. *Contemporary Accounting Research*, 18(4): 539- 570, DOI http://dx.doi.org/10.1506/RM1J-A0YM-3VMV-TAMV

[7] Bupakarakul, S. (2009). *The relationship between corporate governance and performance of companies listed on the Stock Exchange of Thailand*, Chaing Mai University.

[8] Chancharat, N., Chandrasekjar, K., Gary, T. (2012). Board Structure and Survival of New Economy IPO Firms. *Corporate Governance. An International Review*, 20(2): 144- 163, DOI http://dx.doi.org/10.1111/j. 14678683. 2011.00906.x

[9] Chiang, H.T., Chia, F. (2005). An Empirical Study of Corporate Governance and Corporate Performance. *Journal of American*, 6(1): 95- 101.

[10] Chitnomrath, C., Robert, E., Theo, C. (2011). Corporate governance and post-bankruptcy reorganization performance Evidence from Thailand. *Asian Review of Accounting*, 19(1): 50- 67, DOI http://dx.doi.org/10. 1108/13217341111130551

[11] Coleman, A.K. (2007). Corporate governance and shareholder value maximization.*An African Development Review*. 19(October): 350- 367, DOI http://dx.doi.org/10.1111/j.146782 68.2007.00165.x

[12] Corporate Governance. (2005). *Report on the Observance of Standards and Codes*, Thailand.

[13] Cox, D.R. (1972). Regression Models and Life-Tables. *Journal of the Royal Statistical Society*, 34(2): 187- 220, DOI http://dx.doi.org/10.1007/978-1-4612-4380-9_37

[14] Dhnadirek, R., Tang, J. (2003). Corporate governance problems in Thailand: Is ownership concentration the cause? *Asia Pacific Business Review*, 10(2):121-138, DOI http://dx.doi.org/10.1080/1360238041000 1677173

[15] Eyenubo, A.S. (2013). The impact of bigger board size on financial performance for firms: the Nigerian experience. *Journal of Research in International Business and Management*, 3(3): 85-90.

[16] Fich, E.M., Stezak, S.L. (2008). Can Corporate Governance save Distressed Firms from Bankruptcy? An Empirical Analysis. *Review of Quantitative Finance and Accounting*, 30(2): 225- 251, DOI http://dx.doi.org/ 10.1007/s11156-007-0048-5

[17] George, T.P., Karibo, B.B. (2014). Corporate governance mechanisms and financial performance of listed firms in Nigeria: A Content Analysis. *Global Journal of Contemporary Research in Accounting. Auditing and Business Ethics*, 1(2): 103- 128.

[18] Goktan, M.S., Kieschnick, R., Moussawi, R. (2006). *Corporate governance and corporate survival*, University of Texas, Dallas, Working Paper.

[19] Haniffa, R., Hudaib, M. (2006). Corporate Governance Structure and Performance of Malaysian Listed Companies. *Journal of Business Finance and Accounting*, 33(7): 1034- 1062, DOI http://dx.doi.org/10.1111/ j.1468-5957.2006.00594.x

[20] Helen, W.H., On, K.T., Momica, G.T. (2010). Internal governance mechanisms and firm performance in China. *Asia Pacific Journal Management*, 27(4):727- 749, DOI http://dx.doi. org/10.1007/s10490-009-9135-6

[21] Hensher, D.A., Jones, S.; Greene, W.H. (2007). An error component logit analysis of corporate bankruptcy and insolvency risk in Australia. *Economic Record*, 83(260): 86- 103, DOI http://dx.doi.org/ 10.1111/j.1475-4932.2007.00378.x

[22] Hermalin, B.E., Weisbach, M.S. (2000). *Boards of Directors as an Endogenously Determined*, Retrieved 9 September, 2012, from http://www.faculty.haas.berkeley.edu/hermalin/601herma.pdf

[23] Ho, S.S.M., Wong, K.S. (2001). A study of the relationship between corporate governance structure and the extent of voluntary disclosure. *Journal of International Accounting, Auditing and Taxation*, 10(2): 139- 156, DOI http://dx.doi.org/10.1016/S1061-9518(01)00041-6

[24] Hong Vo, D., Minh Nguyen, T. (2014). The Impact of Corporate Governance on Firm Performance: Empirical Study in Vietnam. *International Journal of Economics and Finance*, 6(6): 1-13, DOI http://dx.doi. org/10.5539/ ijef.v6n6p1

[25] Hutchinson, M., Gul, F. (2004). Investment opportunity set, corporate governance practices and firm performance. *Journal of Corporate Finance*, 10(1): 595- 614, DOI http://dx.doi.org/10.1016/S0929-1199(03)00022-1

[26] Jiamsakul, S. (2007). *The Performance Effects of Transparency and Disclosure and Board of Directors: The Case of SET100 Thailand*, Chulalongkorn University, Thammasat University and Nation Institute of Development Administration.

[27] Kanyakiti, P. (2010). *The relationship between good corporate governance, the responsibilities of the Board of Directors and the normal rate of return than the ordinary: a case study of a group of companies listed on the Stock Exchange of Thailand SET50*, Thammasat University.

[28] Keong, L.C. (2002). *Corporate Governance: An Asia-Pacific Critique*, Hong Kong: Sweet and Maxwell Asia.

[29] Khan, H.A. (2004). *Global Markets and Financial Crises in Asia: Toward a Theory for the 21st Century*, New York: Houndsmills.

[30] Larcker, D., Ormazabal, G., Taylor, D. (2011). The market reaction to corporate governance regulation. *Journal of Financial Economics*, 101: 431-448, DOI http://dx.doi.org/10.2469/dig.v41.n3.41

[31] Lamberto, A.P., Rath, S. (2008). *The survival of initial public offerings in Australia*, Curtin University of Technology, Working Paper.

[32] Leahy, J. (2009). *Corporate Governance: Scandal Raises Questions about Disclosure Regime Financial Time*, Retrieved 8 September 2012, from http://www.ft.com/cms/s/0/5aba2bbe-ecdf-11dd-a534-0000779fd2ac.html?nclickcheck=1

[33] Letza, S., Kirkbride, J., Moores, J., Sun, X.; Smallman, C. (2008). Corporate governance theorizing: Limits, Critics and alternatives. *International Journal of Law and Management*, 50(1): 17- 32, DOI http://dx.doi.org/10.1108/03090550810852086

[34] Limpaphayom, S., Connelly, J. (2004). *Corporate governance in Thailand*, Thailand: Thai Institute of Directors Association.

[35] Martin, H. (2005). *New Corporate Governance: Successful Board Management Tools*, Germany: Springer Berlin.

[36] Mohamed, A., Moniru, A.H., Mahmud, H., Lee, Y. (2009). Corporate Governance and Voluntary Disclosure in Corporate Annual Reports of Malaysian Listed Firms. *Journal of Applied Management Accounting Research*, 7(1): 1- 20, DOI http://dx.doi.org/10.1108/ 01140581311318940

[37] Monks, R.A.G., Minow, N. (2008). *Corporate Governance*, Chichester: Wiley.

[38] Palmon, O., Wald, J. (2002). Are two heads better than one? The impact of changes in management structure on performance by firm size. *Journal of Corporate Finance*, 8: 213-226, DOI http://dx.doi.org/10.1016/S0929-1199(01)00042-6

[39] Pannarong, S. (2010). Corporate Governance: The Application Tool to Predict the Business Failures. *RMUTP Research Journal*, 4(2): 118-129.

[40] Pupanit, J. (2010). *Corporate governance and the performance of companies listed on the Stock Exchange of Thailand*, Thammasat University.

[41] Roberto, D.P., Christos, A.G., Ivana, R., Angelo, R. (2008). The effects of board size and "busy" directors on the market value of Italian companies. *Journal of Manage Governance*, 12: 73-91, DOI http://dx.doi.org/10.1007/s10997-008-9044-y

[42] Rommer, A.D. (2005). *A comparative analysis of the determinants of financial distress in French, Italian and Spanish firms*, Copenhagen: Danmarks Nationalbank, Working paper.

[44] Shumway, T. (2001). Forecasting bankruptcy more accurately: a simple hazard model. *Journal of Business Finance and Accounting*, 74(1): 101- 124, DOI http://dx.doi.org/10.2139/ssrn.171436

[45] Smith, A. (1776). *The Wealth of Nation*, Retrieved 15 January, 2012, from www2.hn.psu.edu/faculty/jmanis/adam-smith/wealth-nations.pdf

[46] Susan, P., Gary, F.P., Howard, F.T. (2002). Corporate Governance and Corporate Failure: a survival analysis. *Corporate Governance*, 2(2): 4-12, DOI http://dx.doi.org/10.11 08/14720700210430298

[47] Tachapichaya, P. (2007). *The relationship between Corporate governance and the performance of industries companies of SET in 2005*, Thammasat University.

[51] Turetsky, H.F.; McEwen, R.A. (2001). An empirical investigation of firm longevity: A model of the extant predictors of financial distress. *Review of Quantitative Finance and Accounting*, 16(4): 323- 343, DOI http://dx.doi.org/10.1023/A:1011291425075

[52] Vafeas, N. (1999). Board Meeting Frequency and Firm Performance. *Journal of Financial Economics*, 53(1): 113-142, DOI http://dx.doi.org/10.1016/S0304-405X(99)00018-5

[53] Vafeas, N. (2005). Audit committees, boards and the quality of reported earnings. *Contemporary Accounting Research*, 22(4): 1093-1122, DOI http://dx.doi.org/10.1506/ 1QYN-2RFQ-FKYX-XP84

[54] Xie, B., Davidson, W.N., DaDalt, P.J. (2003). Earning Management and corporate governance: the Roles of the board and the audit committee. *Journal of corporate Financial*, 9(3):295-316, DOI http://dx.doi.org/10.2139/ssrn.304195

[55] Zhenglin, G.; Bernstein, T.P. (2004). The impact of elections on the village structure of power: the relations between the village committees and the party branches. *Journal of Contemporary China*, 13(39): 257- 275, DOI http://dx.doi.org/10.1080/10670560420002 11898

*** SEC News Digest. (2006). *SEC Charges AIG with Securities Fraud*, Retrieved 8 September, 2012, from http://www.sec.gov/news/digest/dig020906.txt

*** The Organization for Economic Co-operation and Development. (2004). *Principles of corporate governance*, Paris.

*** The stock exchange of Thailand. (1999). *Best practices of the Audit Committee*, Thailand.

*** The stock exchange of Thailand. (2012). *The Statistics of trading value of SET 100*, Retrieved 10 September, 2012, from http://www.set.or.th

Innovations in the Company – Ensuring the Quality of Economic Growth

Evgeny NOVIKOV
Lomonosov Moscow State University, Moscow, Russian Federation
slider_torn@hotmail.com

Abstract:

The aim of the present article is to reveal the peculiarities of assessing the impact of innovations on the cost of the company capital. According to scientific and methodological approaches presented in this article, the innovation process is represented by the complex events that can be decomposed into factors as a result of the analysis of the principal characteristics and forms of innovation. This approach allows using the available statistical tools to identify the most important factors affecting the growth of the company value. The company valuation is carried out on the basis of assessment of the impact of factors on the innovation process as a result of which the company value may increase. On one hand, this allows to provide a set of key financial indicators characterizing the results of the innovation process and, on the other hand, correctly assess the future economic benefits of the company as a result of innovations.

Keywords: innovations, innovation cost factors, economic growth, peculiarities of the innovation assessment, terminal value, and innovation value.

JEL Classification: Q55, O32, F43.

Introduction

The identifying feature of the innovation economy is the presence of a significant number of companies, the market value of which is several times higher than the book value of the assets in some cases. This is due to the intellectual capital of the company, the ability to use the surrounding events in own interests, to effectively combine the available resources. Thus the initiation of the innovation process in the company is carried out in order to ensure the quality of economic growth in the future, which cannot be achieved at the expense of minor improvements, copying and pseudo-innovation. Innovation cannot be copied, which involves the creation of a unique structure of the business operation and, from an economic point of view, the formation of modified forms of financial relations in the process of implementing innovations due to the influence of a new set of factors which are manifested in practice both in the explicit and latent forms. The financial mechanism is intended to assess the prospects for the initiation of the innovation process and provide economic assessment of the methods used to ensure the effectiveness of the implementation of innovations.

Within the framework of the International Valuation Standards (IVS 2013) there are three approaches (income, comparative, cost approaches) and their use is regulated by the following three conditions: the presence of reliable information about future income and expenses of the assessment object, reliable information on prices and characteristics of the similar objects, the possibility of replacing by the exact copy based on the beneficial properties of the object taking into account the capital depreciation. In view of the logical contradiction between possessing unique properties and lack of information on innovations, within the scientific approaches we offer methods for assessing the object that involves making reasonable forecast of key financial indicators of business operation. In addition to the forecast, there is a problem of standardization of a set of financial indicators of the business activity for assessing the results of the innovation process. Ensuring long-term trends of increasing the economic growth for a long period of the company activities seems difficult to achieve for its owners, shareholders and management team. In conditions when the company aims to achieve sustainable and irreducible growth rate, by means of monotone business improvement (strengthening the role of scientific and technical progress, reorganization, introduction of a new improved system of management processes, the use of a new type of raw materials, the use of "non-standard" marketing strategy, etc.), it becomes impossible to correctly assess the innovation in the legitimate field and from the scientific perspective to identify the key indicators of the company operation, which act as a confirmation of the validity of decisions in order to maximize the value and use the financial resources for initiating and further development of the innovation process in the discussion between the owners and the executive body of the legal entity (management and leadership) of the company.

1.1. The level of the topic scientific development

It should be summarized that there is an information field relative to existing approaches to estimating the cost of capital on the basis of key performance indicators and with the subsequent decomposition of these indicators to the elements in order to determine the factors affecting the performance of the company. In this regard, we relied on the works of the following authors: Rutgayzer (2008), Pratt (2000), Griffit (2000), Gregori (2003), Sharp (2001), Damodaran (2008), Kooler (2005, 2010), Kouplend (2005), Gordon (1959), Shumpeter (2008), Drucker (1985, 2007), Taker (2006), Howkins (2007), Hargadon (2007), Mensh (1975), Twiss (1989), Bass (1969), Valdaytsev (2013). In this case, the selected factors are not united under a single logical framework (innovation), the selection of factors depends on the used assessment model (Kouplend, *et al.*, 2005; Koller, *et al.*, 2005), Volkov (2008)) and thus the set of factors affecting the value of the company as a result of innovation is insufficient. Definition of innovation factors and the development of the adapted model for the selection of key factors influencing the financial results after the initiation of the innovation process are of immediate interest.

The works of Damodaran (2008) provide and describe a number of approaches to the company valuation, but the works which provide approaches to the assessment of startup companies in lack of information content with respect to the estimated object are considered especially interesting from the point of view of the innovation. In these works it was also suggested to divide periods of active and stable economic growth. We also looked through an interesting dissertation research – the work of Dubrovin V.V. "Valuation of high-tech companies at various stages of development" (2009), in which the author offered the model of valuation of high-tech companies unified for all stages of the life cycle on the basis of the modified approach to evaluating options. Although this methodological approach is problematic regarding the selection of the factors influencing the innovation process in the organization.

In matters of the selection and assessment of factors we should note the research of Rappaport (1998), who described the seven drivers of the company value. The scientific views on the features of the selection of the main factors affecting the company value were provided in the works of Sheremet (2006), Valdaytsev (2013 *et al.*), Volkov (2008), Kouplend (2005 *et al.*).

Conclusion

Using the proposed scientific and methodological approaches to the assessment of innovative factors for practical purposes is based on assessing the impact of a set of factors on the results of the innovation process, therefore, due to the set of indicators and their semantic content the use of a mathematical model is limited and can be used for the innovation process only. The issie on the use of a different set of factors in the model is still open, we assume that it is possible to use of the proposed mathematical model for alternative specifics of the company being assessed.

From the viewpoint of the company owners, mentioned methodological approaches for assessment of innovative factors allow to identify key factors and assess the quality of the growth of the company value resulting from the operation of the innovation system in the company. These events allow to control the quality of the use of financial resources from the perspective of the development of innovations in the company. These proposals on assessment of innovative factors are discussed between the company management and the owner in order to ensure the company's competitive advantages in the future by improving the functioning of financial mechanisms directly involved in the innovation process.

From the point of view of investors, assessment of innovative factors allows to assess the impact of innovations on the change in the company value in the future. At the same time investors, using the results of the assessment, will be able to make correct conclusions on activities that ensure the quality of growth in the company value, as a part of the innovation process.

Under the proposed approach it has been found that the use of the linear regression model is possible. Nowadays it is not possible to use non-linear models within the proposed approaches, but there are preconditions allowing to assert that this technique can improve the informativeness of the assessment results.

References

[1] Bass, F. (1969). A new product growth model for consumer durables. *Management Science*, 15(5), 215-227.

[2] Bhat, H., Kumar, N. (2010). On the derivation of the Bayesian Information Criterion. Retrieved March 20, 2015, from http://nscs00.ucmerced.edu/~nkumar4/BhatKumarBIC.pdf

[3] Burnham, K., Anderson, D. (2002). *Model Selection and Multimodel Inference: A Practical Information-Theoretic Approach*. Springer-Verlag.

[4] Drucker, P. (1985). The discipline of innovation. *Harvard Business Review*, 95-102. Retrieved May 3, 2015, from https://noppa.lut.fi/noppa/opintojakso/cs30a7400/materiaali/the_discipline_of_innovation.pdf

[5] Gordon, M. (1959). Dividends, Earnings, and Stock Prices Author(s). *The Review of Economics and Statistics*, Part 1, 2(41): 99-105.

[6] Graham, B., Dodd, D. (2008). Security Analysis. Principles and Technique by Investment Fund Manager and Lecturer in Finance Columbia University. Sixth Edition.

[7] Hermanson, R., Edwards, J., Salmonson, R. (1987). *Accounting Principles*, Volume II.

[8] Hirotugu, A. (1974). A new look at the statistical model identification. *IEEE Transactions on Automatic Control*, 19(6): 716 -723.

[9] Howkins, J. (2007). *Creative Economy: How People Make Money From Ideas*. New Edition. New York: Penguin.

[10] Kooler, T., Goedhart, M., Wessels, D. (2005). *Valuation: Measuring and Managing the Value of Companies*.

[11] Rappaport, A. (1998). *Creating shareholder value: a guide for managers and investors*, 2nd Edition the NY free press copyright. ISBN 0-684-84456-7.

[12] Stewart III, G. (1999). *The Quest for Value: A Guide for Senior Managers*. Harper Collins Publishers.

[13] Valdaytsev, S., Molchanov, N., Petsoldt, K. (2013). *Small innovative entrepreneurship: a tutorial*. Moscow: Prospekt.

[14] Volkov, D. (2008). *Theory of the value-based management: financial and accounting aspects*. St. Petersburg: St. Petersburg State University Graduate School of Management.

[15] Gregory, A. (2003). *Strategic valuation of the companies: a practical guide*, translated from English by Lopatnikov L.I., edited by Rutgaizer V.M. Moscow: Quinto-Consulting.

[16] Damodaran, A. (2008). *Investment Valuation: Tools and methods of valuation of any assets*, translated from English, 5th ed. Moscow: Al'pina Business Books.

[17] Drucker, P. (2007). *Business and innovations*, translated by Golovinsky K.S. Moscow: Williams.

[18] Dubrovin, V. (2009). *Valuation of high-tech companies at various stages of development*. PhD thesis, Moscow State University named after Lomonosov M.V.

[19] Zavlina, P., Kazantseva, A., Mindelly, L. (1997). *Innovation Management. Tutorial*. St. Petersburg: Science.

[20] Copeland, T., Kooler, T., Murrin, D. (2005). *Company value: Assessment and Management*, 3rd Edition. Moscow: Business Olympus.

[21] Mensch, G. (1975). *Technological pat: Innovations overcome depression*.

[22] Nixon, F. (1990). *Role of the company's management to ensure quality and reliability*, translated from English. Moscow: Publishing House of Standards.

[23] Rutgaizer, V. (2008). *Valuation*, 2nd Edition. Moscow: Maroseyka.

[24] Santo, B. (1990). *Innovation as a tool for economic development*. Moscow: Progress.

[25] Tucker, R. (2006). *Innovations as a growth formula: New Future of leading companies*, translated from English by Ankudinov A. Moscow: Olympus business.

[26] Twiss, B. (1989). *Management of scientific and technological innovations*. Moscow: Economics.

[27] Fishman, D., Pratt, Sh., Griffith, K., Wilson, K. (2000). *Guidelines for estimating business value*. Moscow: JSC "Quinto-Consulting".

[28] Hargadon, E. (2007). *Innovation Management. Experience of leading companies*, translated by Svirid A. Williams.

[29] Sharp, W., Alexander, G., Bailey, J. (2001). *Investment.*

[30] Sheremet, A. (2006). *The complex analysis of economic activities*. Moscow: INFRA – M.

[31] Schumpeter, Y. (2008). *Theory of Economic Development. Direct Publishing*. Reproduced from the publication, Moscow: Progress (1982).

[32] Schumpeter, Y. (1942). *Capitalism, Socialism and Democracy*. Retrieved May 3, 2015, from http://schumpeter.ru/contents.php?book=kapital

*** International Valuation Standards. (2013). *Framework and Requirements* (IVS 2013).

*** International Valuation Standards, 8th Edition. (2007, July 31). The authentic Russian translation of the English version from the printed original, issued by the International Valuation Standards Committee (IVS 2007).

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

Skill`s Management - The Decision on the Turning Point from School to Entrepreneurship

Gabriela KOĽVEKOVÁ
Technical University of Košice
Faculty of Economics, Department of Economic Theories
gabriela.kolvekova@tuke.sk

Erika LIPTÁKOVÁ
Technical University of Košice
Faculty of Economics, Department of Applied Mathematics and Informatics
erika.liptakova@tuke.sk

Abstract:

The examination of the skills` details was based on a set of questionnaires that were trying to point out the importance of skills especially for the marginal entrepreneurs, who may found themselves on the crossroad. The introduction towards the survey, sampling and method of factor analysis and PCA was introduced briefly. The methods were introduced in order to employ the methods for achieving the four factors out of the 20 skills examined in total. Skills were classified into the factor groups and named. These details were set in the framework of the entrepreneurial skills "DNA" that are applicable preferably in the region, where the survey was carried out. The framework allows us to claim some recommendations for the students and teachers and other stakeholders involved in the process of entering the regional labour market. The turning point or the crossroads are mostly with some signs, the one uncovered was labeled as independency factor.

Keywords: regional development, management, principal component analysis.

JEL Classification: J53, R23

Introduction

Most of us have the dream of the dream job. Often it is related to freedom of decision, which than overlaps or leads to one possible option of achieving that dream, which is becoming an entrepreneur. Similar intentions have been found when talking to students as potential entrepreneurs along our career at university. They prefer independence to employment loyalty and conformity until they have to choose between security and uncertainty. These discussions among students about their future employment or self-employment (Blanchflower & Oswald 1998) have led to a question of the distribution of skills such as: self-confidence, stress tolerance and the like. Similar study was done for several European countries (Stefanescu, On 2012) using Principal Component Analysis (PCA) method. This method shall be applied in this paper in order to achieve the following contributions: (1) Examine details of the skills selected in a set of questionnaires that were trying to match the tertiary education skills. This is the starting point of the paper – section 1. Those skills could be the key aspect that leads to decision of taking up the entrepreneurial route and be self-employed after finishing school. (2) The introduction towards the survey, sampling and method of PCA and factor analysis was introduced briefly. The methods used were shortly discussed in section 2, for instance in line with the authors (Veinand, Godefroy, Adam, & Delarue 2011) or While preparing data for PCA and Factor analysis (FA) as described above, we have been considering the ordinal data and its traits (Bartholomew 2002, Magidson and Vermunt 2004). (3) This details were set in the framework of the region that some authors consider to play "a critical role in innovative entrepreneurship" (Vaz, Nijkamp 2009). The framework, presented in section 2, allows us to claim some recommendations for the students and teachers and other stakeholders involved in the process of entering the regional labour market. The turning point or the crossroads are mostly with some signs that are discussed in section 3.

Conclusion

The marginal entrepreneurs and entrepreneurs were examined in terms of opinion about their skills. Both groups are managing themselves in their struggle for the dream job. Often it is regarded as a job, where you are independent. This was found to be true and at the same time it was measured by the unobservable variables to what extent you ought to be independent, because it includes several factors (IF1-IF10). The ten factors account for the meaning of independence in real life of an entrepreneur. It is also included in the management of skills, where you can concentrate at some skills each at a time or overall as a factor. The financial factors (FF1-FF5) are self-evident as crucial for the entrepreneurship. Communicational factors (CF1-CF4) are considered for self-evident too, but often neglected in the personal development. Even in other occupations, a professional starts working with a "lump sum" (because skills can be turned into money) of his (hers) set of skills after the graduation (Kaňková 2010). Later (s)he founds him(her)self in the routine, which may bring some positive as well as negative aspects for the job performance. This is way the skills management is important for the career during the life-time (Horváthová 2011).

The overall an analysis found the possible characteristics for skills that were gauging how much do you diverge from "goal of the dream job" at the turning point towards business or entrepreneurship. The four artificial (unobservable) variables could be used as predictors with the regression analysis, but the scale of the paper is rather limited thus it remains as an intention for further paper, which can also focus on the interrelating factors (IRF1, IF10, CF4) However, in essence this is what was accomplished by factor analysis, which applies to the region covered by the survey.

The crossroad many of us have been through, finding the right position or your own way in life, the turning point to entrepreneurship does not have to take place from school necessarily. The time for the turning point may come later or sooner in your life. But it would be most probably influenced by some of the factors mentioned in the paper.

Acknowledgement

VEGA 1/0454/15 „Redefining of the regional development – the shift towards resilient regions".

References

[1] Blanchflower, D.G., Oswald, A.J. (1998). What makes an entrepreneur?, *Journal of Labor Economics*, 16(1): 26-60. DOI:10.1086/209881

[2] Cardon, M.S., Gregoire, D.A., Stevens, C.E., Patel, P.C. (2013). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, 28(3): 373-396. DOI:10.1016/j.jbusvent.2012.03.003

[3] Field, A.P. (2009). *Discovering statistics using SPSS: and sex and drugs and rock 'n' roll* (third edition). London: Sage publications.

[4] Horváthová, P. (2011). Talent management. (1st Edition, p. 252). Praha: Wolters Kluwer ČR.

[5] Hebák, P., Hustopecký, J., Jarošová, E., Pecáková, I. (2007a). *Vícerozměrné statistické metody 1*. Praha. Informatorium ISBN 978-80-7333-056-9.

[6] Hebák, P., Hustopecký, J., Jarošová, E., Pecáková, I. (2007b). *Vícerozměrné statistické metody 3*. Praha. Informatorium ISBN 978-80-7333-001-9.

[7] Chen, K., Kou, G., Shang, J., Chen, Y. (2015). Visualizing market structure through online product reviews: Integrate topic modeling, TOPSIS, and multi-dimensional scaling approaches. *Electronic Commerce Research and Applications*, 14(1): 58-74. DOI:10.1016/j.elerap.2014.11.004

[8] Kaňková, E. (2010). Diplom a jeho hodnota. *Media4u Magazine*, 7(4): 1-7. DOI: Media4u Magazine.

[9] Magidson, J., Vermunt, J.K. (2004). Comparing latent class factor analysis with the traditional approach in data mining.*Statistical Data Mining and Knowledge Discovery*, 373-383, https://www.Statistical innovations.com/wp-content/uploads/Magidson2003.pdf

[10] Meloun, M., Militký, J., Hill, M. (2005). *Počítačová analýza vícerozměrných dat v příkladech*. Academia. Praha. ISBN 80-200-1335-0.

[11] Pilková, A. a kol., (2012). *Podnikanie na Slovensku: vysoká aktivita, nízke rozvojové ašpirácie. GEM Slovensko 2011*. Univerzita Komenského v Bratislave, Fakulta Manažmentu. ISBN 978-80-223-2823-4

[12] Stefanescu, D., On, A. (2012). Entrepreneurship and sustainable development in European countries before and during the international crisis. 8th International Strategic Management Conference, 58, 889-898. doi:10.1016/j.sbspro.2012.09.1067

[13] Vaz, T.N., Nijkamp, P. (2009). Knowledge and innovation: The strings between global and local dimensions of sustainable growth. *Entrepreneurship and Regional Development*, 21(4): 441-455. DOI: 10.1080/08985620903020094

[14] Veinand, B., Godefroy, C., Adam, C., Delarue, J. (2011). Highlight of important product characteristics for consumers. Comparison of three sensory descriptive methods performed by consumers.*Food Quality and Preference*, 22(5): 474-485. DOI:10.1016/j.foodqual.2011.02.011

[15] Zhu, M., Ghodsi, A. (2006). Automatic dimensionality selection from the scree plot via the use of profile likelihood*. Computational Statistics & Data Analysis*, 51(2): 918-930. DOI:10.1016/j.csda.2005.09.010

*** Global Entrepreneurship Monitor - GEM. (2015). *Global Entrepreneurship Research Association*, London Business School. Retrieved June 8, 2015, from http://www.gemconsortium.org/

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

Consumer Acceptance of Contactless Payments in Slovakia

Martin VEJAČKA
Faculty of Economics, Technical University of Košice, Košice, Slovakia
martin.vejacka@tuke.sk

Abstract:

The contactless payments are novel technology in the fields of electronic banking, electronic finance and electronic payment systems. Contactless payments are electronic payments using radio-frequency identification (RFID) or near field communication (NFC) provided by various devices at point-of-sale terminal with contactless payments allowed. The most providers indicate contactless transactions being approximately twice as fast as cash or standard payments by credit or debit card. Multiple studies worldwide investigate the acceptance of various electronic banking technologies among customers based on various factors and attributes. The most of the studies investigate consumer acceptance of any electronic banking technology by using of the Technology Acceptance Model. This study uses technology acceptance model with adjustments for investigation of the contactless payments acceptance in conditions of Slovak market. The data for model testing was gathered by questionnaire survey conducted among potential Slovak contactless payments users. The hypotheses based on the developed of model were tested using the factor analysis of gathered data. The results of analysis indicated positive effect of perceived usefulness, perceived ease of use and perceived security on consumer acceptance of contactless payments. The amount of information about contactless payments and perceived enjoyment were not identified as statistically significant factors of contactless payments acceptance.

Keywords: contactless payments, acceptance, technology acceptance model, RFID, NFC.

JEL Classification: G29, L86

Introduction

Information and communication technologies (ICT) are rapidly developing, bringing innovations also in areas that operated for decades or even centuries in the same way. ICT revolutionized banking and mainly transactions by introducing various forms of electronic banking. Development of ICT used in electronic banking area brought us the possibility to replace coins, bank notes, bank checks or embossed cards in combination with imprinters with electronic payments systems. The latest innovation in area of retail consumer payments is called contactless payment.

Contactless payments are electronic payments using radio-frequency identification (RFID) or near field communication (NFC) provided by various devices. Payment cards, smart cards, pay stickers, key fobs, smartphones or some other mobile devices and are some examples of the devices which might provide contactless payments. Contactless payment systems include embedded chip and antenna that allow performing of payment by inclosing payment device in short range of point-of-sale (POS) terminal adapted for contactless payments.

The most suppliers adduced that contactless transactions are approximately twice as fast as cash or standard payments by credit or debit card. This is so because no PIN or handwritten signature verification is generally needed. On the other hand, contactless payments are the most often limited. Furthermore, consumers can block any further contactless transactions in very short time period to prevent occurrence of any fraudulent activities. The limits of contactless payments are around 20 € to 30€ (or equal amount in local currency), making them ideal for retail users. Therefore mainly fast-food chains, gas stations and retail stores, where lots of small payments are performed, adopted contactless payments as first.

Firstly (around year 2008) contactless payments were introduced into praxis via cards, stickers and fobs using RFID chips. Slightly later (early 2010) also contactless payments via NFC technology in mobile devices were inducted in everyday life. Major card companies (MasterCard, Visa) also supported this extension of contactless payments into area of smartphones and other mobile devices. In mobile contactless payments, secure SIM cards are used to store encrypted personal information. Contactless payments use the same framework as normal card transactions. Payment limit on single transactions protects users from more extensive PIN-less transactions abuse in time shortly after theft of card until owner blocks it. In addition to that, some contactless cards can only be used without PIN for a number of times before insertion of PIN is required. In some cases, certain financial amount of transactions without PIN required during period of time is allowed until PIN verification is asked by the system. Furthermore, fraud guarantees in the case of contactless payments are the same as of standard payments. Another precaution is that first payment with newly issued card is not allowed to perform without PIN authorization in order to detect if contactless card was delivered to the intended card holder.

Contactless payments bring question as all novel electronic banking technologies, how fast and successfully will they be accepted and used by consumers.

Literature review

Contactless payments are specific part of electronic banking or electronic finance and electronic commerce. Researchers were investigating various areas related to contactless payments such as whole field of electronic banking or electronic payments. First group of researchers investigated trust in electronic banking and electronic finance adoption. Hawkins and Sato (2004) indicated that all technical and non-technical aspects oftrust in electronic finance must be addressedby financial services' providersto promote their acceptance. Dráb (2011) adduced that trust building is key issue in electronic commerce environment. Bálint *et al.* (2011) identified that electronic identity as important prerequisite of e-finance acceptance by consumers. Simpson (2002) indicated that financial and payment services providers should create and enforce reliable security policy and procedures to promote trust in their services. Available information on electronic payments influences consumers in decision to adopt technology of electronic finance (Claessens *et al.*, 2002).

Another group of studies is dedicated to investigation of the consumer acceptance of various technologies. The most considered studies were devoted to customer adoption of electronic banking (in some of forms). The most of these studies are based on the Technology Acceptance Model (TAM) developed by Davis (1989) on basic factors of perceived usefulness, perceived ease of use and awareness of given technology. Pavlou (2013) confirmed TAM as reliable instrument with very good measurement properties and empirical soundness. TAM also allows explanation of a substantial proportion of the variance in usage intentions (Venkatesh and Davis, 2000).

In later studies TAM was further extended by other specific aspects of given technology investigated. Pikkarainen *et al.* (2004) detected web information on electronic banking service being also significant factor affecting its acceptance. Cheng *et al.* (2006) used Technology Acceptance Model for investigation of internet banking adoption indicating that TAM robustly predicted consumers' adoption of internet banking. Teo *et al.* (1999) extended TAM also with perceived enjoyment as factor of motivation to use information system. Suh and Han (2002) detected significant impact of security on acceptance of internet banking. Results of Qureshi *et al.* (2008) showed highly significant effects of perceived usefulness and perceived security of online banking and payments on customers'transition from traditional banking to online banking. Geetha and Malarvizhi (2011) found that increasing level of security increases also acceptance of electronic banking services. In contrast, Pikkarainen *et al.* (2004) did not detect significant effect of security on the e-banking services adoption. Also results of Widjana and Rachmat (2011) did not show influence of security on acceptance.

Alsajjan and Dennis (2006) found a significant impact of trust on users' willingness to use electronic payments and sensitive information related to these payments. In later study (Alsajjan and Dennis 2010) they detected perception of electronic transactions as easy and safe is crucial for internet banking and electronic payment adoption. The influence of privacy and security on electronic banking adoption and was investigated also by Grabner-Kräuter and Faullant (2008). They confirmed influence of privacy on risk perception and customer attitudes towards electronic banking. Banks in general should build up their innovative reputation. Obtaining positive word of mouth will enhance the positive their perception by potential customers and improves the trustworthiness of given banks.

Dahlberg *et al.* (2003) investigated acceptance of mobile payments and detected perceived ease of use, perceived usefulness and trust as its significant factors. Zmijewska *et al.* (2004) classified mobile payments systems and investigated factors of security, simplicity and costs. Schierz *et al.* (2010) detected perceived compatibility as very significant factor of mobile payments adoption.

New users when adopting contactless payments seek their speed and usefulness. On the other hand, they might fear of possible security issues of contactless payments use. All these factors might influence decisions of potential users to contactless payments. Kočišová (2014) found that the use of credit cards has significant impact on banks efficiency. Cards with contactless payment capabilities were not investigated in Slovakia specifically, although they might increase the efficiency of payment process and therefore also bank processes. The question of acceptation of contactless payments not only in form of card payment but also in form of mobile device payment in Slovak conditions will be investigated in this article. The Slovak contactless payments' market is rapidly developing during recent years. According to major card companies (MasterCard, VISA Europe) Slovakia is among top countries in contactless cards and terminals penetration in Europe. At the end of 2014, over 65 percent of payment cards in Slovakia allowed contactless payments (Visa Europe, 2015). Banks in Slovakia also distribute other mobile devices like key fobs and payment stickers among their clients increasing their possibilities to pay using contactless payment systems. Moreover, card companies (Barnett 2012) indicate that consumers are spending more because of the ease of small transactions with contactless cards at rate about 30%.

In the case of NFC contactless mobile payments penetration in Slovakia is much lower. Only two major banks in Slovakia provide such payments to its clients. Contactless payments using mobile phones occur in small scale, but numbers of payments are increasing permanently with rise of new mobile phones with NFC options integrated. While the investigation of Slovak electronic banking acceptation regarding internet banking and mobile (smart) banking e-banking was conducted (Vejačka 2014), the investigation of acceptation of contactless payments in particular is still missing. Our investigation will be aimed at consumer acceptation of contactless payments in Slovak conditions.

Conclusion

This study investigated consumer acceptance of contactless payments in Slovakia. The Technology Acceptance Model (TAM) was used and adjusted to propose model of acceptance in accord with other studies aimed at acceptance of various forms of electronic banking. The proposed model of contactless payments acceptance consisted from two TAM variables - perceived usefulness and perceived ease of use, and three extending variables referring to perceived security, perceived enjoyment and amount of information on contactless payments. These new variables were incorporated in to model according to study of Pikkarainen *et al.* (2004).

Proposed model of contactless payments acceptance was then tested on data gathered by questionnaire survey with 183 Slovak consumers attending. Following factor analysis detected all five proposed factors of acceptance namely perceived usefulness, perceived ease of use, perceived enjoyment, perceived security and amount of information Moreover regression and correlation analysis was performed to verify significance of these factors. Results indicated that perceived usefulness, perceived ease of use and perceived security have positive effect on consumer acceptance of contactless payments. Our results correspond with other studies using TAM, e.g. Davis *et al.* (1989). Perceived enjoyment and amount of information about contactless payments have not statistically significant effect on their acceptance. This corresponds with studies investigating electronic banking acceptance (e.g. Pikkarainen *et al.* (2004), Geetha and Malarvizhi (2011)) where contactless payments can be classified. Effect of perceived security on acceptance was statistically significant. This result corresponds to results of Roboff and Charles (1998), Sathye (1999), Hamlet and Strube (2000), Polatoglu and Ekin (2001), Black *et al.* (2002) or Howcroft *et al.* (2002).

This study contributes to the field of technology acceptance studies. It shows local preferences of customers in using contactless payments. Further it identifies perceived usefulness, perceived ease of use and perceived security as statistically significant factor of consumer acceptance of contactless payments in Slovak market. However our study is limited in validity, while our sample of respondents was relatively smaller and less representative than in many other studies. In future consumer acceptance of contactless payments might be tested by extended or adjusted technology acceptance model to investigate any other potential factors influencing their acceptance.

References

[1] Alsajjan, B.A., Dennis, C. (2006).*The Impact of Trust on Acceptance of Online Banking*, in: *European Association of Education and Research in Commercial Distribution*, Brunel University, West London, United Kingdom, [Online] Available at: http://v-scheiner.brunel.ac.uk/bitstream/2438/738/1/trust20impact20on20online20banking20acceptance20conceptual20framework20-full20paper.pdf

[2] Alsajjan, B. and Dennis, C. (2010). Internet banking acceptance model: Cross-market examination, *Journal of Business Research*, *Advances in Internet Consumer Behavior & Marketing Strategy*, 63(9–10): 957–963.

[3] Bálint, T., Bucko, J., Esser, M. (2011). *Electronic identity, risks of its abuse and its importance for the development of e-commerce*, Paper presented at conference: 9th International Conference on Hradec Economic Days 2011 - Economic Development and Management of Regions Location: Univ Hradec Kralove, Hradec Králové, Czech republic, February 1.-2. 2011, Conference proceedings Volume 1, Gaudeamus, pp. 24 - 27.

[4] Barnett, M. (2012). New MasterCard Advisors Study on Contactless Payments Shows Almost 30% Lift in Total Spend Within First Year of Adoption, newsroom.mastercard.com, New York, [Online] Available at: http://newsroom.mastercard.com/press-releases/new-mastercard-advisors-study-on-contactless-payments-shows-almost-30-lift-in-total-spend-within-first-year-of-adoption/

[5] Black, N.J., Lockett, A., Winklhofer, H., McKechnie, S. (2002). Modelling consumer choice of distribution channels: an illustration from financial services, *International Journal of Bank Marketing,* 20(4): 161-173, http://dx.doi.org/10.1108/02652320210432945

[6] Cheng, E.T.C., Lam, D.Y.C., Yeung, A.C.L. (2006).Adoption of internet banking: An empirical study in Hong Kong,*Decision Support Systems*, 42(3): 1558–1572, http://dx.doi.org/10.1016/j.dss.2006.01.002

[7] Claessens, S., Glaessner, T., Klingebiel, D. (2002). Electronic Finance: Reshaping the Financial Landscape around the World, *Journal of Financial Services Research,* 22: 29 – 61.

[8] Dahlberg, T., Mallat, N., Öörni, A. (2003).*Consumer acceptance of mobile payment solutions*, In G.M. Giaglis (ed.), mBusiness 2003 – The Second International Conference on Mobile Business, Vienna, pp. 211–218.

[9] Davis, F.D. (1989).Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3): 319–336, http://dx.doi.org/10.2307/249008

[10] Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989).User acceptance of computer technology: a comparison of two theoretical models, *Management Science*, 35(8): 982-1003, http://dx.doi.org/10.1287/mnsc.35.8.982

[11] Dráb, R. (2011).Economical Aspects of Reputation Mechanisms on Electronic Markets, *IDIMT-2011: Interdisciplinarity in Complex Systems*: 19th Interdisciplinary Information Management Talks, Linz: Johannes Kepler Universität, pp. 329-340.

[12] Geetha, K.T., Malarvizhi, V. (2011).Acceptance of E-Banking among Customers (An Empirical Investigation in India), *Journal of Management and Science*, Non Olympic Times, 2(1): 1-9.

[13] Grabner-Kräuter, S., Faullant, R. (2008).Consumer acceptance of internet banking: the influence of internet trust, *International Journal of Bank Marketing*, 26(7): 483 – 504. http://dx.doi.org/10.1108/02652320810913855.

[14] Hamlet, C., Strube, M. (2000).Community banks go online, *ABA Banking Journal's 2000 White Paper/Banking on the Internet,* Issue March, pp.61-65.

[15] Hawkins, J. and Sato, S. (2004).Electronic Finance: an overview of the issues, *Communications of the ACM*, ACM.org, BIS workshop, Basel, 49(7).

[16] Howcroft, B., Hamilton, R., Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom, *The International Journal of Bank Marketing,* 20(3): 111- 121. http://dx.doi.org/10.1108/02652320210424205.

[17] Kočišová, K. (2014). The use of credit cards and bank efficiency, (in Slovak), *E+M Ekonomie a Managament*, 17(1): 121 – 139.http://dx.doi.org/10.15240/tul/001/2014-1-010

[18] Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., Pahnila, S. (2004).Consumer acceptance of online banking: an extension of the technology acceptance model, *Internet Research,* ABI/INFORM Global, 14(3): 224-235.http://dx.doi.org/10.1108/10662240410542652

[19] Polatoglu, V.N., Ekin, S. (2001). An empirical investigation of the Turkish consumers' acceptance of Internet banking services, *International Journal of Bank Marketing,* 19(4): 156-165.http://dx.doi.org/10.1108/02652320110392527.

[20] Qureshi, T.M., Zafar, M.K., Khan, M.B. (2008).Customer Acceptance of Online Banking in Developing Economies,*Journal of Internet Banking and Commerce*, 13(1): 1-9.

[21] Roboff, G., Charles, C. (1998). Privacy of financial information in cyberspace: banks addressing what consumers want*, Journal of Retail Banking Services,* Volume XX, 3: 51-56.

[22] Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation, *International Journal of Bank Marketing*, 17(7): 324-334.http://dx.doi.org/10.1108/02652329910305689

[23] Schierz, P.G., Schilke, O., Wirtz, B.W. (2010). Understaning consumer acceptance of mobile payment services: An empirical analysis, *Electronic Commerce Research and Applications*, 9: 209–216.

[24] Simpson, J. (2002). The impact of the Internet in banking: observations and from developed and emerging markets, *Telematics and Informatics*, 19: 315–330. http://dx.doi.org/10.1016/S0736-5853(01)00019-3.

[25] Suh, B., Han, I. (2002). Effect of trust on customer acceptance of Internet banking, *Electronic Commerce Research and Applications*, 1: 247–263.http://dx.doi.org/10.1016/S1567-4223(02)00017-0

[26] Teo, T.S.H., Lim, V.K.G., Lai, R.Y.C. (1999).Intrinsic and extrinsic motivation in Internet usage*, Omega International Journal of Management Science,* 27: 25–37.http://dx.doi.org/10.1016/S0305-0483(98)00028-0

[27] Vejačka, M. (2004).Customer acceptance of electronic banking: Evidence from Slovakia, *Journal of Applied Economic Sciences*. Volume IX, 3: 514-522.

[28] Venkatesh, V., Davis, F.D. (2000).Theoretical extension of the technology acceptance model: four longitudinal field studies, *Management Science,* 46(2): 186-204. http://dx.doi.org/10.1287/mnsc.46.2.186.11926

[29] Widjana, M.A., Rachmat, B. (2011). Factors Determining Acceptance Level of Internet Banking Implementation, *Journal of Economics, Business and Accountancy*, 14(2): 161–174.

[30] Zmijewska, A., Lawrence, E., Steele, R. (2004).*Towards understanding of factors influencing user acceptance of mobile payment system*, Paper Presented at the IADIS International Conference WWW/Internet, Madrid.

*** Visa Europe (2015). *1 billion Visa contactless purchases made in last year*, Visa Europe newsroom, [Online] Available at: https://www.visaeurope.com/newsroom/news/1-billion-visa-contactless-purchases-made-in-last-year

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

The Assessment of Customers' Values formed by Different Kinds of Retailers

Irina MATVEEVNA ROMANOVA
Far Eastern Federal University, Vladivostok, Russia
romanova.im@dvfu.ru

Elena VIKTOROVNA NOSKOVA
Far Eastern Federal University, Vladivostok, Russia
noskova.ev@dvfu.ru

Abstract:

The paper notes that different kinds of retailers prefer value approach today. This research is aimed at detecting gaps between expected and derivable customers' values formed by different kinds of retailers (hypermarket, supermarket, corner shops, etc.) in cities with population under 1 million people. In this research, the authors created a method to evaluate customers' values formed by different kinds of retailers. Besides, the authors found and counted the main factors that form customers' benefits; the main types of customers' expenditures including material and non-material (time, physical and psychological efforts). The results of the research help retailers to develop marketing programs.

Keywords: customers' values; profit; expenditures; customers' value coefficient.

JEL Classification: L8, G3.

Introduction

Since the beginning of the 21st century, the value approach became of first priority in business economics. Customers' value is put into the basis of new business models. The value approach allows supplying not a "pure product" but a customers' value in which the product itself is only a part of value.

At present, the theory of customers' value has no distinct limits of notion "customers' value". Researchers give this term various definitions based on the psychology and behavior of customers. Such scientists as Rokeach (1974), Cullen (2005), Sheth (1991) and Menger (1992) define customers' value as the maximum benefit one can get by owning some product. Another approach to the definition of customers' value can be traced in the papers of Slywotzky (1995) and Parasuraman (1997). In the opinion of these researchers, customers' value is expressed in the highest price a customer is ready to pay for a certain product. If one company does not have the necessary product, a customer switches over to another company. The authors think that such researchers as Slater (1997), Zeithaml (1988), Lapierre (2000), Busacca (2008), Morrisson (2010) and Yuldasheva (2012) consider customers' value from different points of view. They take into account both consumers' benefits and his expenditures. It is no accident that this approach became the most useful in the theory of consumer value. This approach considers customers' value as the ratio of benefits that a customer gets from a certain product to the expenditures needed to purchase this product. It should be noted that expenditures include not only the price of a product but also psychological, temporal and other expenditures. It means that customers' value is regarded as a category providing the unity of quality and price of a product or service. The authors of this paper adhere to the same approach to the definition of customers' value.

The questions of quantitative evaluation of customers' value including benefits and expenditures remain debatable in today's theory of customers' value. A number of researchers subdivide customers' benefits into functional and emotional (Monroe 2002). Noel Capon and James M. Hulbert distinguish functional, psychological and economic benefits (Capon, Hulbert 2001). Functional benefits reflect customers' basic expectations. The psychological benefits satisfy customers' need for status, respect, security and his belonging to some group. The economic benefits characterize the financial aspects of purchasing (prices, crediting, etc.). The classification of benefits is accompanied by a classification of customers' expenditures. According to the theory of marketing, customer hopes for a number of benefits, while the expected value of these benefits exceeds their cost (Lovelock, Wirtz 2011). Customers' expenditures are divided into material expenditures and non-material expenditures (temporal and physical expenditures – tiredness and discomfort; psychological expenditures – mental work, negative feelings and emotions, etc.; and unpleasant sensations).

The performed analysis of theory and methods of customers' value assessment showed that the methods for the survey and quantitative evaluation of customers' values are poorly studied. There are no common approaches for measuring the elements of customers' benefits and expenditures. Besides, these questions are not analyzed in respect to different kinds of retailers though some aspect is elucidated in the papers of some scientists. (Jayasankaraprasad and Kathyayani 2014, Seock and Lin 2011, Brosdahl and Carpenter 2012, Omar and Musa 2011, To *et al.* 2013) The present paper tries to solve the problems mentioned above.

Conclusion

In the present research the authors developed a method to assess customers' value formed by different kinds of retailers (hypermarket, supermarket and corner shop) in cities with population under 1 million people. Also, the authors suggested a group classification of benefits formed by different kinds of retailers, listed factors within groups and found the algorithm for their assessment:

- functional benefits (the range of goods; the quality of goods; the presence of in-house products; location; shop floor layout; schedule; navigation system; wide passageways between shelves; the presence of cash machines and bag lockers; the presence of parking area; the presence of toilets; front design; merchandising; service rate at a cash desk);
- material benefits (price level and discount cards);
- emotional benefits (the presence of unique products; different brands; handy and clean trolleys; pleasant smell and soft music; reputation and benevolence of personnel).

The authors suggested a classification of customers' expenditures and found the algorithm of their assessment: financial costs, temporal expenditures (for getting to the shop and for staying in the shop), physical expenditures (tiredness and discomfort) from purchasing in a certain shop, psychological expenditures (mental work and negative emotions) and unpleasant sensations during the purchase.

The authors studied customers' value formed by different kinds of retailers, obtained quantitative assessments of customers' value coefficient and detected the gaps between expected and real expenditures, benefits and customers' value. It is noteworthy that different kinds of retailers show a low expected level of customers' benefits (3.27–3.7 pts out of 5). In our opinion, this situation can be explained by the poor development of enterprises of such kinds. This influences consumer perception and causes low assessments. It was ascertained that the smallest gaps between expected and derivable benefits are in emotional benefits, while the largest gaps are in material benefits. In general, the smallest gaps between customers' values formed by different kinds of retailers are detected in hypermarket.

Acknowledgement

The results were achieved within the framework of the government assignment of the Russian Ministry of Education and Science in the sphere of scientific research during the research assignment No. 26.1478.2014/K- *The structural transformation of the Russian Economy through the integration into the industrial markets of Asia-Pacific Region.*

References

[1] Brosdahl, D.J.C., Carpenter, J.M. (2012). US male generational cohorts: Retail format preferences, desired retail attributes, satisfaction and loyalty. *Journal of Retailing and Consumer Services*, 19(6): 545-52.

[2] Busacca, B., Costabile, M., Ancarani, F. (2008). Customer value metrics. Emerald: Superior Value for Customers, *Advances in Business Marketing and Purchases*, 14: 149-204.

[3] Capon, N., Hulbert, J. (2001). Marketing Management in the 21st Century. Paperback.

[4] Jayasankaraprasad, C., Kathyayan, G. (2014). Cross-format shopping motives and shopper typologies for grocery shopping: A multivariate approach. International Review of Retail, *Distribution and Consumer Research*, 24(1): 79-115.

[5] Lapierre, J. (2000). Customer-Perceived Value in Industrial Contexts. *The Journal of Business & Industrial Marketing*, 15: 122-145.

[6] Lovelock, C., Wirtz, J. (2011). *Services Marketing: People, Technology, Strategy*. Upper Saddle River. New Jersey: Prentice Hall.

[7] Monroe, K.B. (2002). *Pricing: Making Profitable Decisions*, New York: McGraw-Hill.

[8] Morrisson, O., Huppertz, J.W. (2010). External equity, loyalty program membership, and service recovery. *Journal of Services Marketing*, 24(3): 244-54.

[9] Omar, N.A., Musa, R. (2011). Measuring service quality in retail loyalty programmes (LPSQual). Implications for retailers' retention strategies. *International Journal of Retail and Distribution Management*, 39(10): 759-84.

[10] Parasuraman, A. (1997). Reflections on Gaining Competitive Advantage through Customer Value. *Journal of the Academy of Marketing Science*, 25(2): 154-161.

[11] Rokeach, M. (1974). The Nature of Human Values. New York: *Political Science Quarterly*, 89(2): 399-401.

[12] Seock, Y., Lin, C. (2011). Cultural influence on loyalty tendency and evaluation of retail store attributes: An analysis of Taiwanese and American consumers. *International Journal of Retail and Distribution Management,* 39(2), 94-113.

[13] Sheth, J., Newman, B., Gross, B. (1991). Why We Buy What We Buy: A Theory of Consumption Values. *Journal of Business Research*, 22: 159-170.

[14] Slater, S.F. (1997). Developing a customer value-based theory of the firm. *The Academy of Marketing Science*, 25(2): 162-167.

[15] Slywotzky, A. (1995). Value Migration: How to Think Several Moves Ahead of the Competition (Management of Innovation and Change) Harvard Business Press.

[16] To, W.M., Tam, J.F.Y., Cheung, M.F.Y. (2013). Explore how Chinese consumers evaluate retail service quality and satisfaction. *Service Business*, 7(1): 121-142.

[17] Zeithaml, V.A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means end Model and Synthesis of Evidence. *Journal of Marketing*, 52(3): 2–22.

[18] Cullen, P., Newman, E. (2005). *Retailing: organization and management*. SPb.: Peter.

[19] Menger, K., Böhm-Bawerk, E., Wieser, F. (1992). *The Austrian school of political economy*. M.: Economics.

[20] Yuldasheva, O.U. (2012). *Marketing management in the customer value chain: the textbook*. SPb., Publishing house SPbGEU.

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

Exchange Rate Pass-Through in the Euro Area

Rajmund MIRDALA
Faculty of Economics, Technical University of Kosice, Slovakia
rajmund.mirdala@tuke.sk

Abstract:

Time-varying exchange rate pass-through effects to domestic prices under fixed euro exchange rate perspective represent one of the most challenging implications of the common currency. The problem is even more crucial when examining crisis related redistributive effects associated with relative price changes. The degree of the exchange rate pass-through to domestic prices reveals its role as the external price shocks absorber especially in the situation when the leading path of exchange rates is less vulnerable to the changes in the foreign prices. Adjustments in domestic prices followed by exchange rate shifts induced by sudden external price shocks are associated with changes in the relative competitiveness among member countries of the currency area. In the paper we examine exchange rate pass-through to domestic prices in the Euro Area member countries to examine crucial implications of the nominal exchange rate rigidity. Our results indicate that absorption capabilities of nominal effective exchange rates clearly differ in individual countries. As a result, an increased exposure of domestic prices to the external price shocks in some countries represents a substantial trade-off of the nominal exchange rate stability.

Keywords: exchange rate pass-through, inflation, Euro Area, VAR, impulse-response function.

JEL Classification: C32, E31, F41.

Introduction

Exchange rate pass-through to domestic prices represents one of the most discussed topics in the recent literature dealing with a wide area of effects associated with exchange rate flexibility. The establishment of the Euro Area and introduction of the euro represent a crucial milestone in the ongoing discussions highlighting positive and negative implications of the nominal exchange rate rigidity. On the other hand, we suggest that it is still convenient to analyze the wide spectrum of effects related to the abortion of the relative flexibility of the national exchange rates after the euro adoption (Barhoumi 2006).

Among many of impulses that the exchange rate transmits from the external environment to the domestic market we highlight price related effects associated with sudden changes in the foreign prices and related responsiveness of the domestic price indexes. The degree of the exchange rate pass-through to domestic prices reveals its role as the external price shocks absorber especially in the situation when the leading path of exchange rates is less vulnerable to the changes in the foreign nominal variables (Campa, Goldberg and González-Mínguez, 2005).

In the paper we analyze the exchange rate pass-through to domestic prices in the Euro Area member countries. Our motivation follows an idea (Bussière 2013) of asymmetric exchange rate pass-through to domestic prices across internal price chain. Our methodology consists of two partial stages. In the first stage we examine the responsiveness of nominal effective exchange rates to the exogenous price shock to observe the dynamics (volatility) in the exchange rate leading path followed by the unexpected exogenous oil price shock. By doing so we investigate a capability of exchange rates to transmit or absorb the external inflation pressure to domestic prices (Corsetti, Dedola and Leduc 2008). In the second stage we investigate effects of the unexpected exchange rate shift to the domestic price indexes (import prices, producer prices, consumer prices) to examine its distribution across the internal pricing chain (Choudhri, Faruqee and Hakura 2005). Our results contribute to understand the key features of the exchange rate transmission of the inflation pressures initiated by external price shifts and related responses of the domestic price indexes. We employ a vector autoregression (VAR) model. True shocks are identified by the Cholesky decomposition of innovations. From estimated VAR model we compute (1) responses of exchange rates in each individual country to the positive one standard deviation oil price shock and (2) responses of import prices, producer prices and consumer prices to the positive one standard deviation exchange rate shock. To provide more rigorous insight into the problem of the exchange rate pass-through to domestic prices in we estimate models for each particular country employing monthly data for two subsequent periods 2000-2007 (pre-crisis period) and 2000-2014 (extended period). This approach should be helpful to examine country specific features of the transmission of external inflation pressures to the domestic prices. We suggest that comparison of results for models with different time periods is crucial to understand spurious effects of the economic crisis in both exchange rate responsiveness to the external price shocks as well as associated pass-through pass-through effects to domestic price measures.

Exchange rate pass-through in the Euro Area

Euro Area member countries are still suffering from lagging recession. While internal devaluation in countries with nominal exchange rate anchor may improve price competitiveness and boost both internal and external demand, risk of deflationary pressures substantially reduce vital growth incentives (Hetzel 2015). Moreover, ECB by inflating its monetary base fueled by another wave of quantitative easing does not primarily follow idea of economic recovery (Christensen and Gillan 2015). Low interest rate environment may be followed by euro depreciation improving competitiveness of European producers on the foreign markets. However, as the most of transactions on the EU single market are conducted in euro among its member countries, Euro Area seeks common reasonable automatic mechanisms that would help to improve its internal competitiveness (Peersman 2011).

There are still many opened issues according to the suitability of the common monetary policy in the Euro Area provided a relative heterogeneity of the single market (Micossi 2015). Time-varying exchange rate pass-through effects to domestic prices under fixed euro exchange rate perspective represent one of the most challenging implications of the common currency (Bussière 2013). The problem is even more crucial when examining crisis related redistributive effects associated with relative price changes. The degree of the exchange rate pass-through to domestic prices reveals its role as the external price shocks absorber especially in the situation when the leading path of exchange rates is less vulnerable to the changes in the foreign nominal variables (Campa, Goldberg and González-Mínguez 2005). Resulted adjustments in domestic prices followed by exchange rate shifts induced by sudden external price shocks are associated with changes in the relative competitiveness among member countries of the currency area (Team of the Working Group on Econometric Modelling of the ESCB, 2012). Moreover, distribution of the exogenous price shock across the internal pricing chain may be biased by country specific conditions and cross-country distortionary effects induced by the recent economic crisis.

Fixed exchange rate environment represented by credible nominal anchor (i.e. sound foreign currency of a country with a low and stable inflation) or common currency in the currency union provides very efficient tool in fighting high inflation while helping to stabilize inflation expectations (Calvo and Reinhart 2002). As a result, countries with fixed exchange rate benefit from disinflationary periods provided that a decision to adopt fixed exchange rate originated from high inflation pressures in the past. On the other hand, countries in the common currency area obviously experience intensified price level convergence due to higher price transparency that may result in the increased inflation rates over the medium-term period. However, stable inflation expectations anchored by fixed exchange rate and common monetary policy following explicit inflation target obviously induces price stability (Wehinger 2000). On the other hand, increased volatility of exchange rate of the common currency may cause domestic price level to adjust accordingly in the short period, though persisting inflation or disinflation pressures are not expected. It is especially due to positive effects of stable inflation expectations that (we suggest) do not seem to be affected for longer period of time.

Quite specific seems to be a situation in countries with common currency that serves as a local or global currency widely used in foreign transactions. Price effects of increased volatility in such a common currency may be reduced provided that a large number of trading partners are also participating on the common currency. Even when the large portion of mutual foreign transactions in member countries of the common currency area are immune to the exchange rate volatility, remaining transactions are still exposed to the unexpected shifts in the common currency exchange rate against other currencies (Hahn 2003). On the other hand, sudden shifts in the real exchange rate are not exclusively caused by the nominal exchange rate volatility. Increased intensity of price adjustments associated with crisis related effects on real output are usually followed by accelerated deviations of real exchange rates from their equilibrium leading path especially in the short period. This scenario is even more biased provided that crisis period induced diverse effects on the price level dynamics in the heterogeneous group of countries (Choudhri and Hakura 2012).

Conclusion

Investigation of the first stage in the exchange rate pass-through revealed reduced absorption capabilities of NEER in large economies (Germany, Spain, France, Italy), countries of Benelux (except for Belgium) and Portugal in comparison with the rest of countries from the Euro Area. Reduced exchange rate responsiveness to the external price shocks increases the transmission of the price effect to the domestic prices.

While the examination of the first stage in the exchange rate pass-through during the pre-crisis period generally confirmed higher absorption capabilities of NEER in countries from the past Eastern bloc (due to more dynamic responsiveness of producer prices to the exchange rate shock), reduced absorption capabilities of NEER in Portugal, Italy and Spain indicates increased vulnerability of less performing periphery members of the Euro Area to the external price shocks. Moreover, reduced absorption capabilities of NEER in all countries during the crisis period just highlighted higher exposure of all Euro Area members operating under common currency to the external price shocks. Most of the countries from the core of the Euro Area experienced more dynamic NEER response to the oil price shock. As a result, fixed exchange rate operated more as the external price shock absorber reducing effect of so called imported inflation (or deflation) in these countries.

Second stage of the exchange rate pass-through revealed interesting differences in the absorption capabilities of NEER among the Eurozone member countries. Exchange rate shock was followed by immediate decrease in import prices (within first three months) in all countries but Latvia and Lithuania. As a result, initial effect of the exchange rate shock (followed by oil price shock that appreciated NEER) was adequately transmitted to the import prices. Import prices, as the first element in the internal price chain, initiated impulse that will spread across remaining two price indexes (producer prices and import prices). Crises period generally increased short-term responsiveness of import prices to the exchange rate shock except for Baltic countries, Slovakia and Slovenia. However, our results for producer prices and consumer prices did not confirm the idea of the transmission of the exchange rate absorption capabilities across the internal price chain.

Higher responsiveness of producer prices in the new Eurozone member countries from the past Eastern bloc (together with Cyprus and Greece) indicates better transmission of the asymmetric effect of the external price shock from exchange rate (appreciation) to producer prices (decrease) in the short-run period. As a result, higher flexibility of the exchange rate pass-through in these countries reduces their vulnerability to the exogenous price shocks. At the same time, less dynamic response of producer prices in the most of the Eurozone member countries increase their exposure to the unexpected external price shocks. Crisis period clearly reduced absorption capabilities of NEER in PIGS countries, Cyprus, Ireland and Malta due to reduced responsiveness of their producer prices to the unexpected exchange rate shock. As a result, these countries experienced increased vulnerability to external price shocks due to reduced absorption capabilities of their NEER while absorption capabilities of NEER in the core countries generally improved and thus reduced their vulnerability to the external price shocks.

Summary of the response patterns to the unexpected positive NEER shock for the last component in the internal price chain, consumer prices, revealed mixed results. Most of the countries experienced lagged and moderate decrease in consumer prices followed by the exchange rate shock. However, combination of low NEER exposure to oil price shock and reduced responsiveness of consumer prices to the NEER shock mostly in less performing economies of the Euro Area intensifies the transmission of the external inflation pressures to domestic prices. As a result, negative external price shocks in the time of crises may operate as a vehicle of imported deflation and contribute to the domestic demand driven deflationary pressures in bad times. On the other hand, most of the remaining countries experiencing more dynamic NEER response to the oil price shock that together with increased responsiveness of consumer prices to the NEER shock reduced the effect of the exchange rate pass-through to domestic prices. Crisis period reduced vulnerability of both NEER and consumer prices to above mentioned unexpected structural shocks. As a result, exchange rate pass-through to domestic prices was intensified due to crisis related effects reducing external price related absorption capabilities of NEER in the most of the Euro Area member countries.

Finally, analysis of the transmission of the price impulse initiated by the external price shock across the internal price chain revealed interesting implications of the heterogeneity problem in the Euro Area. In most of the Euro Area periphery and less performing countries we examined the pattern of small dynamics in import prices, higher dynamics in producer prices and even higher responsiveness of consumer prices followed by the positive NEER shock. Some sort of overreaction in the internal price chain indicates competitiveness issues in the less performing group of Euro Area member countries. However, while the crisis period mostly reduced the effect of overreaction across the internal price chain (except for the response patterns in import prices), reduced vulnerability of producer prices and consumer prices to the unexpected positive NEER shock clearly reduced absorption capabilities of the exchange rates mostly in the weaker part of the Euro Area resulting in their higher vulnerability to the external price shocks. At the same time, increased differences in response patterns between a) import prices (overreaction) and b) producer prices (reduced responsiveness) and consumer prices (reduced responsiveness) indicates distortionary effects of the crisis period on the price transmission mechanism across internal price chain.

Acknowledgement

This paper was written in connection with scientific project VEGA no. 1/0892/13 and VEGA no. 1/0994/15. Financial support from this Ministry of Education's scheme is also gratefully acknowledged.

References

[1] Anderton, R. (2003). Extra-Euro Area Manufacturing Import Prices and Exchange Rate Pass-Through, [ECB Working Paper, no. 219], Frankfurt am Main, European Central Bank, 31 p.

[2] Bacchetta, P., Van Wincoop, E. (2002). Why Do Consumer Prices React Less than Import Prices to Exchange Rates? [NBER Working Paper, no. 9352], Cambridge, National Bureau of Economic Research, 26 p.

[3] Barhoumi, K. (2006). Differences in Long Run Exchange Rate Pass-Through into Import Prices in Developing Countries: An Empirical Investigation, *Economic Modelling*, 23: 926-951.

[4] Bergin, P.R., Feenstra, R.C. (2007). Pass-through of Exchange Rates and Competition between Floaters, [NBER Working Paper, no. 13620], Cambridge, National Bureau of Economic Research, 45 p.

[5] Betts, C., Devereux, M. (2000). Exchange Rate Dynamics in a Model of Pricing-to-Market, *Journal of International Economics*, 50(1): 215-44

[6] Burstein, A., Eichenbaum, M., Rebelo, S. (2007). Modeling Exchange Rate Pass-Through after Large Devaluations, *Journal of Monetary Economics*, 54(2): 346-368

[7] Bussière, M. (2013). Exchange Rate Pass-through to Trade Prices: The Role of Nonlinearities and Asymmetries, *Oxford Bulletin of Economics and Statistics*, 75(5): 731–758.

[8] Bussière, M., Peltonen, T. (2008). Exchange Rate Pass-Through in the Global Economy-The Role of Emerging Market Economies, [ECB Working Paper, no. 951], Frankfurt am Main, European Central Bank, 46 p.

[9] Ca' Zorzi, M., Hahn, E., Sánchez, M. (2007). Exchange Rate Pass-Through in Emerging Markets, [ECB Working Paper, no. 739], Frankfurt am Main, European Central Bank, 31 p.

[10] Calvo, G., Reinhart, C. (2002). Fear of Floating, *Quarterly Journal of Economics*, 117(2): 379-408.

[11] Campa, J.M., Goldberg, L.S. (2005). Exchange Rate Pass-Through to Import Prices, *Review of Economics and Statistics*, 87(4): 679-690

[12] Campa, J.M., Goldberg, L.S., González-Mínguez, J.M. (2005). Exchange Rate Pass-Through to Import Prices in Euro Area, [NBER Working Paper, no. 11632], Cambridge, National Bureau of Economic Research, 49 p.

[13] Cook, D., Devereux, M.B. (2014). Exchange Rate Flexibility under Zero Level Bound, [FRB of Dallas, Working Paper no. 198], Dallas, Federal Reserve Bank of Dallas, 52 p.

[14] Corsetti, G., Dedola, L., Leduc, S. (2008). High Exchange-Rate Volatility and Low Pass-Through in Business Cycle Models, *Journal of Monetary Economics*, 55: 1113-28.

[15] Cortinhas, C. (2007). Exchange Rate Pass-Through in ASEAN: Implications for the prospects of Monetary Integration in the Region, [NIPE Working Paper, no. 2.], Minho, Universidade do Minho, 31 p.

[16] Choudhri, E.U., Faruqee, H., Hakura, D.S. (2005). Explaining the Exchange Rate Pass-Through in Different Prices, *Journal of International Economics*, 65, 349-374.

[17] Choudhri, E.U., Hakura, D.S. (2012). The Exchange Rate Pass-Through to Import and Export Prices: The Role of Nominal Rigidities and Currency Choice, [IMF Working Paper, No. 226/2012], Washington D.C.,

International Monetary Fund, 34 p.

[18] Christensen, J.H.E., Gillan, J.M. (2015). Does Quantitative Easing Affect Market Liquidity?, [FRB of San Francisco, Working Paper no. 26], San Francisco, Federal Reserve Bank of San Francisco, 55 p.

[19] De Bandt, O., Banerjee, A., Kozluk, T. (2007). Measuring Long Run Exchange Rate Pass-Through, Economics: The Open-Access, *Open-Assessment E-Journal*, 2, 36 p.

[20] Devereux, M.B., Engel, C. (2002). Exchange Rate Pass-Through, Exchange Rate Volatility, and Exchange Rate Disconnect, *Journal of Monetary Economics*, 49: 913-940.

[21] Devereux, M.B., Engel, C., Storgaard, P. (2004). Endogenous Pass-Through when Nominal Prices are set in Advance, *Journal of International Economics*, 63: 263-291.

[22] Dornbusch, R. (1987). Exchange Rates and Prices, *American Economic Review*, 77: 93-106.

[23] Engel, C. (2000). Local-currency Pricing and the Choice of Exchange-rate Regime, *European Economic Review*, 44: 1449-1472.

[24] Faust, J., Rogers, J. (2003). Monetary Policy's Role in Exchange Rate Behavior, *Journal of Monetary Economics*, 50(7): 1403-24.

[25] Gagnon, J.E., Ihrig, J. (2004). Monetary Policy and Exchange Rate Pass-Through, *International Journal of Finance and Economics*, 9: 315-338.

[26] Gaulier, G., Lahrèche-Révil, A., Méjean, I. (2008) Exchange Rate Pass-through at the Product Level, *Canadian Journal of Economics*, 41(2): 425-449.

[27] Ghosh, A., Wolf, H. (2001). Imperfect Exchange Rate Pass-Through: Strategic Pricing and Menu Costs, [CESifo, Working Paper No. 436] Munich, CESifo, 27 p.

[28] Goldberg, P., Knetter, M. (1997). Goods Prices and Exchange Rates: What Have We Learned?, *Journal of Economic Literature*, 35: 1243-72.

[29] Gust, C., Leduc, S. Vigfusson, R. (2010). Trade Integration, Competition, and the Decline in Exchange Rate Pass-Through, *Journal of Monetary Economics*, 57: 309-324.

[30] Hajek J., Horvath R. (2015). Exchange Rate Pass-Through in an Emerging Market: The Case of the Czech Republic, [IES Working Paper, no. 8/2015], Prague, Institute of Economic Studies, 25 p.

[31] Hahn, E. (2003). Pass-Through of External Shocks to Euro Area Inflation, [ECB Working Paper, no. 243], Frankfurt am Main, European Central Bank, 57 p.

[32] Hetzel, R.L. (2015). Should Greece Remain in the Eurozone?, [FRB of Richmond, Working Paper no. 15-04R], Richmond, Federal Reserve Bank of Richmond, 30 p.

[33] Kardasz, S.W., Stollery, K.R. (2001). Exchange Rate Pass-Through and Its Determinants in Canadian Manufacturing Industries, *The Canadian Journal of Economics*, 34(3): 719-738.

[34] Kenny, G., Mcgettigan, D. (1998). Exchange Rates and Import Prices for a Small Open Economy: The Case of Ireland, *Applied Economics*, 30(9): 1147-1155.

[35] Klein, M. (1990). Macroeconomic Aspects of Exchange Rate Pass-Through, *Journal of International Money and Finance*, 9(4): 376-87.

[36] Lian, A., Wang, J. (2012). Exchange Rate Pass-through: Evidence Based on the Vector-Autoregression with Sign Restrictions, *Open Economies Review*, 23(2): 359-380.

[37] Mccarthy J. (2007). Pass-through of Exchange Rates and Import Prices to Domestic Inflation in Some Industrialized Economies, *Eastern Economic Journal*, 33(4): 511-537.

[38] Menon, J. (1995). Exchange Rate Pass-Through, *Journal of Economic Surveys*, 9(2): 197-231.

[39] Mirdala, R. (2013). Exchange Rate Pass-through to Domestic Prices under Different Exchange Rate Regimes, *Journal of Applied Economic Sciences*, 8(4): 466-489.

[40] Micossi, S. (2015). The Monetary Policy of the European Central Bank (2002-2015), [CEPS Special Report, no. 109], Brussels, Centre for European Policy Studies, 37 p.

[41] Obstfeld, M., Rogoff, K. (1995). Exchange Rate Dynamics Redux, *Journal of Political Economy*, 103, 624-60

[42] Parsley, D C., Popper, H.A. (1998). Exchange Rates, Domestic Prices, and Central Bank Actions: Recent U.S. Experience, *Southern Economic Journal*, 64(4): 957-972.

[43] Peersman, G. (2011). Macroeconomic Effects of Unconventional Monetary Policy in the Euro Area, [ECB Working Paper, no. 1397], Frankfurt am Main, European Central Bank, 33 p.

[44] Shambaugh, J. (2008). A New Look at Pass-Through, *Journal of International Money and Finance*, 27(4): 560-591.

[45] Smets, F., Wouters, R. (2002). Openness, Imperfect Exchange Rate Pass-Through and Monetary Policy, *Journal of Monetary Economics,* 49(5): 947-81.

[46] Takatoshi, I., Sasaki, Y.N., Kiyotaka, S. (2005). Pass-Through of Exchange Rate Changes and Macroeconomic Shocks to Domestic Inflation in East Asian Countries, [RIETI Discussion Paper Series 05-E-020], 55 p.

[47] Takatoshi, I., Kiyotaka, S. (2006). Exchange Rate Changes and Inflation in Post-Crisis Asian Economies, [NBER Working Paper, no. 12395], Cambridge, National Bureau of Economic Research, 49 p.

[48] Takhtamanova, Y.F. (2008). Understanding Changes in Exchange Rate Pass-Through, [Federal Reserve Bank of San Francisco Working Paper, no. 13.], San Francisco, 40 p.

[49] Taylor, J.B. (2000). Low Inflation, Pass-Through, and the Pricing Power of Firms, *European Economic Review*, 44, 1389-1408.

[50] Toshitaka, S. (2006). Time-Varying Exchange Rate Pass-Through: Experiences of Some Industrial Countries, [BIS Working Paper, no. 202], Basel, Bank for International Settlements, 34 p.

[51] Wehinger, G.D. (2000). Causes of Inflation in Europe, the United States and Japan: Some Lessons for Maintaining Price Stability in the EMU from a Structural VAR Approach, *Empirica*, 27, 83-107.

[52] Yang, J.W. (1997). Exchange Rate Pass-Through in US Manufacturing Industries, *The Review of Economics and Statistics*, 79(1): 95-104.

*** TEAM OF THE WORKING GROUP ON ECONOMETRIC MODELLING OF THE ESCB (2012) Competitiveness and External Imbalances within The Euro Area, [ECB Working Paper, no. 139], Frankfurt am Main, European Central Bank, 74 p.

Journal of Applied Economic Sciences
Volume X, Issue 5(35), Fall 2015

Optimization Models of Rolling Planning for Project Portfolio in Organizations Taking Into Account Risk and Corporate Social Responsibility

Lev SOLOMONOVICH MAZELIS
Vladivostok State University of Economics and Service[1], Russia

Konstantin SERGEEVICH SOLODUKHIN
Vladivostok State University of Economics and Service, Russia
k.solodukhin@mail.ru

Abstract:

Modified multiperiod optimization models to support decision-making about the choice of the project portfolio under the program of strategic development of the organization are suggested. Corporate social responsibility of the organization is shown at setting goals, taking into account the interests of all stakeholders. Risks are accounted in the framework of portfolio investment theory of H. Markowitz using the scenario approach. The specific function of general utility, whose arguments are the levels to achieve the strategic objectives of the organization as a result of the project for the periods given the importance of the objectives and values of reduced costs for the project, is used as a target function. It is expected that the utility of the project will depend on how growth in levels to achieve the strategic objectives by periods occurs, while different growth rate of their level is preferred for different purposes. It is also expected that different structures of investing resources differ by preference for periods, due to which additional resource limitations for each time period are introduced in the model. The main difference between the proposed models is the ability to review the composition of the previously selected project portfolio at each step depending on the already achieved results and changes in internal and external conditions.

Keywords: program of strategic development of the organization, project portfolio, corporate social responsibility, utility function, scenario approach.

JEL Classification: O22, M15.

Introduction

The main instrument for implementing the strategy of any organization is an investment program consisting of a specific set of projects for the reconstruction and development (strategic measures), the result of which is to achieve (more or less) the strategic objectives of the organization. At the formation of the strategic development program within the constraints of available resources, a manager (decision maker, DM) is faced with the necessity of preliminary selection of projects. By choosing a certain set of projects, the DM in fact chooses a way to achieve the objectives.

Assessment of possible consequences (including social) and emerging risks must be no less important than resource constraints at the selection of projects. The approach taking into account the need for corporate social responsibility in the development of strategic plans (Maltseva 2009a), including the strategic cards of objectives (Maltseva 2009b, Solodukhin 2009), allows to consider the levels of achievement of the objectives achieved by the implementation of projects as utilities of these projects. As a result, there is no need for artificial introduction of indicators that reflect social importance of the projects. This takes into account the responsibility of the organization to its stakeholders.

The study (Mazelis & Solodukhi 2012) offered one-period models of optimization of the project portfolio under the investment development program, taking into account corporate social responsibility of the organization that adhered to stakeholder management as a discrete institutional alternative (on the example of a university).

The study (Mazelis & Solodukhin 2013) generalized one-period models for the case of several time periods, taking into account the fact that for the various strategic objectives, the speed of achievement has a different value to the organization. Thus, some of the objectives may require unconditional achievement by a certain date. Some strategic objectives "favor" the rapid growth of their level of achievement, while other objectives may prefer more moderate growth. On the other hand, resource cost and the difficulty of access to them in different periods can vary.

The study (Mazelis & Solodukhin 2014) demonstrated the use of the proposed multiperiod models (on the example of a university). In particular, it was shown that the risk limitation may lead to the fact that the portfolio does not include projects whose budgets allow this (given the limitations on the overall cost).

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[1]Vladivostok State University of Economics and Service, Gogolya Street, 41, Vladivostok, 690014, Russia

This article is devoted to the modification of these models in two directions. Firstly, the revision of the composition of the previously selected project portfolio is allowed at each step, depending on the already achieved results and changes in internal and external conditions. Secondly, additional resource limitations for each time period are introduced.

Conclusion

The proposed modified multiperiod optimization models allow the rolling planning of the portfolio, taking into account the risks in the framework of the strategic development of the organization. Corporate social responsibility of the organization is shown at setting goals, taking into account the interests of all stakeholders. The main difference between the proposed models is the ability to revise the composition of the previously selected project portfolio at each step, depending on the already achieved results and changes in internal and external conditions. Another important difference is the introduction of additional resource constraints for each time period.

The following areas for further research in this area can be allocated. Firstly, it is intended to develop a model to optimize the distribution of the total budget of the organization development program by periods. Secondly, the procedure of redeployment of resources between projects can be offered, in which some projects are not excluded from the portfolio at the changes in internal and external conditions (and, consequently, at the reduction in their utilities), but their funding is reduced. Freeing up resources could increase funding for other projects of the portfolio, or new projects can be incorporated in the development program.

Acknowledgment

The study was supported by the Russian Ministry of Education and Science (under the state assignment for the project No. 993).

References

[1] Andreychikov, A.V., Andreichikova, O.N. (2000). Analysis, Synthesis, Planning Decisions in the Economy. Moscow: Finance and Statistics.

[2] Barry, D. (1987). The Relationship of Strategic Goals and Planning Processes to Organizational Performance (Unpublished Doctoral Dissertation). University of Maryland.

[3] Clarkson, M.E. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. Academy of Management Review, 20(1): 92 –118. DOI: 10.2307/258888.

[4] Garina, M.I. (2012) Multiplicative Convolution Application to Attributes Having both Negative and Positive Utility Values. *SPIIRAS Proceedings,* 3:176-188.

[5] Gurkov, I.B. (2007). Intergrated Metrics of Strategy Process — an Attempt of Theoretical Synthesis and Empirical Validation. *Russian Management Journal,* 5(2): 3-28.

[6] Jensen, M.C. (2001). Value Maximization, Stakeholder Theory, and the Corporate Objective Function. *Journal of Applied Corporate Finance*, 14(3): 8-21. DOI: 10.1111/j.1745-6622.2001.tb00434.x

[7] Keeney, R.L. (1974). Multiplicative utility functions. *Operations Research*, 22(1): 22–34. DOI: 10.1287/opre.22.1.22

[8] Keeney, R.L., Raiffa, H. (1993). Decisions with Multiple Objectives–Preferences and Value Tradeoffs. Cambridge & New York: Cambridge University Press. DOI: 10.1002/bs.3830390206

[9] Lugovoy, R.A., Mazelis, L.S., Solodukhin, K.S. (2012a). A Conceptual Model of Value Apportioning Among Organization's Stakeholders. *Management Review: An International Journal*, 1: 4-16.

[10] Lugovoy, R.A., Solodukhin, K.S., Chen, A.Y. (2012b). Models for Supporting Strategic Decision Making in College. *University Management: Practice and Analysis,* 4: 26-34.

[11] Maltseva, G.I. (Eds.). (2009a). On route to the Socially Responsible University. Vladivostok: the VSUES Publishing House.

[12] Maltseva, G.I. (2009b). The Role of Universities in Fashioning a Socially Responsible Society. The territory of new opportunities. *The Vladivostok State University of Economics and Service Bulletin*, 1: 9-21.

[13] Markowitz, H.M. (1952). Portfolio Selection. *Journal of Finances,* 7(1): 77-91. DOI:10.1111/j.1540-6261.1952.tb01525.x

[14] Mazelis, L.S., Solodukhin, K.S. (2012). The University Projects Portfolio Optimization Models Involving Risks and Corporate Social Responsibility. *University Management: Practice and Analysis*, 4: 53-56.

[15] Mazelis, L.S., Solodukhin, K.S. (2013). Multi-Period Models for Optimizing an Institution's Project Portfolio Inclusive of Risks and Corporate Social Responsibility. *Middle-East Journal of Scientific Research*, 17(10): 1457-1461. DOI: 10.5829/idosi.mejsr.2013.17.10.12320

[16] Mazelis, L.S., Solodukhin, K.S. (2014). Multi-Period Models for Optimizing a University's Project Portfolio Inclusive of Risks and Corporate Social Responsibility. *University Management: Practice and Analysis*, 6: 49-56.

[17] Morozov, V.O. (2013). The Formalization of the Relationship between the Level of Achievement of Strategic Objectives and Values of Its Indicators Based On the Alternating Utility Function. *Modern Problems of Science and Education,* 6. Retrieved from www.science-education.ru/113-11179. DOI:10.17513/spno.2013.6

[18] Sharpe, W.F. (2000). Portfolio Theory and Capital Markets. New York: McGraw-Hill. DOI: 10.2307/2978700

[19] Solodukhin, K.S. (2009). The Set-up of the System of Balanced Indicators in a Stakeholder Company. *Controlling*, 2: 64-69.

JOURNAL of Applied Economic Sciences

ISSN 2393 – 5162 ISSN - L 1843-6110