

JOURNAL 
of Applied Economic Sciences



Volume XII
Issue 4 (50) Summer 2017

ISSN-L 1843 - 6110
ISSN 2393 - 5162

Editorial Board

Editor in Chief

PhD Professor Laura GAVRILĂ (formerly ȘTEFĂNESCU)

Managing Editor

PhD Associate Professor Mădălina CONSTANTINESCU

Executive Editor

PhD Professor Ion Viorel MATEI

International Relations Responsible

PhD Pompiliu CONSTANTINESCU

Proof – readers

PhD Ana-Maria TRANTESCU – *English*

Redactors

PhD Cristiana BOGDĂNOIU

PhD Sorin DINCĂ

PhD Loredana VĂCĂRESCU-HOBEANU



European Research Center of Managerial Studies in Business Administration

<http://www.cesmaa.eu>

Email: jaes_secretary@yahoo.com

Web: <http://cesmaa.eu/journals/jaes/index.php>

Editorial Advisory Board

Claudiu ALBULESCU, University of Poitiers, France, West University of Timișoara, Romania
Aleksander ARISTOVNIK, Faculty of Administration, University of Ljubljana, Slovenia
Muhammad AZAM, School of Economics, Finance & Banking, College of Business, Universiti Utara, Malaysia
Cristina BARBU, Spiru Haret University, Romania
Christoph BARMAYER, Universität Passau, Germany
Amelia BĂDICĂ, University of Craiova, Romania
Gheorghe BICĂ, Spiru Haret University, Romania
Ana BOBÎRCĂ, Academy of Economic Science, Romania
Anca Mădălina BOGDAN, Spiru Haret University, Romania
Giacomo di FOGGIA, University of Milano-Bicocca, Italy
Jean-Paul GAERTNER, l'Institut Européen d'Etudes Commerciales Supérieures, France
Shankar GARGH, Editor in Chief of Advanced in Management, India
Emil GHIȚĂ, Spiru Haret University, Romania
Dragoș ILIE, Spiru Haret University, Romania
Cornel IONESCU, Institute of National Economy, Romanian Academy
Elena DOVAL, Spiru Haret University, Romania
Camelia DRAGOMIR, Spiru Haret University, Romania
Arvi KUURA, Pärnu College, University of Tartu, Estonia
Rajmund MIRDALA, Faculty of Economics, Technical University of Košice, Slovakia
Piotr MISZTAL, Technical University of Radom, Economic Department, Poland
Simona MOISE, Spiru Haret University, Romania
Mihail Cristian NEGULESCU, Spiru Haret University, Romania
Marco NOVARESE, University of Piemonte Orientale, Italy
Rajesh PILLANIA, Management Development Institute, India
Russell PITTMAN, International Technical Assistance Economic Analysis Group Antitrust Division, USA
Kreitz RACHEL PRICE, l'Institut Européen d'Etudes Commerciales Supérieures, France
Mohammad TARIQ INTEZAR, College of Business Administration Prince Sattam bin Abdul Aziz University (PSAU), Saudi Arabia
Andy ȘTEFĂNESCU, University of Craiova, Romania
Laura UNGUREANU, Spiru Haret University, Romania
Hans-Jürgen WEIßBACH, University of Applied Sciences - Frankfurt am Main, Germany

JOURNAL

of Applied Economic Sciences

Journal of Applied Economic Sciences

Journal of Applied Economic Sciences is a young economics and interdisciplinary research journal, aimed to publish articles and papers that should contribute to the development of both the theory and practice in the field of Economic Sciences.

The journal seeks to promote the best papers and researches in management, finance, accounting, marketing, informatics, decision/making theory, mathematical modelling, expert systems, decision system support, and knowledge representation. This topic may include the fields indicated above but are not limited to these.

Journal of Applied Economic Sciences be appeals for experienced and junior researchers, who are interested in one or more of the diverse areas covered by the journal. It is currently published quarterly in 2 Issues in Spring (30th March), Summer (30th June), Fall (30th September) and Winter (30th December).

Journal of Applied Economic Sciences is indexed in SCOPUS www.scopus.com, CEEOL www.ceeol.org, EBSCO www.ebsco.com, and RePEc www.repec.org databases.

The journal will be available on-line and will be also being distributed to several universities, research institutes and libraries in Romania and abroad. To subscribe to this journal and receive the on-line/printed version, please send a request directly to jaes_secretary@yahoo.com.

Journal of Applied Economic Sciences

ISSN-L 1843 - 6110

ISSN 2393 – 5162

Table of Contents



1	Mikhail Yakovlevich VESELOVSKY, Marina Alekseevna IZMAILOVA, Aleksei Valentinovich BOGOVIZ, Yuliya Vyacheslavovna RAGULINA, Svetlana Vladislavlievna LOBOVA Fostering the Engagement of Corporate Establishments in the Innovation-Driven Development of Russia's Regions	945
2	Tamás BÁNYAI Supply Chain Optimization of Outsourced Blending Technologies	960
3	Rio Dhani LAKSANA, H. HERSUGONDO, Sugeng WAHYUDI, Harjum MUHARAM The New Decomposition Asset Growth Effect an Empirical Evidence of Indonesia	977
4	Natalya Petrovna KAZARENKOVA, Tatyana Sergeevna KOLMYKOVA Modern Growth Points of the Russian Banking Sector and Their Impact on Economic Development of the Country	985
5	Marina V. VASILJEVA The Effect of Dividend Policy on Company's Market Price per Share	995
6	Ammar JREISAT Measuring Efficiency of the Australian Real Estate Investment Trust based on Data Envelopment Analysis Approach	1008
7	Nadezhda Nickolaevna SEMENOVA, Tatiana Vladimirovna ERMOSHINA, Iirina Borisovna YULENKOVA, Sergei Valentinovich POTAPOV Enhancement of Investment Efficiency Financing based on the Mechanism of Public-Private Partnership in Russia	1015



8	Alessandro MORSELLI, Marco VENTURA Measuring Corporate Social Responsibility Disclosure and the Financial Crisis in Italy. Comparison of the Two Years Prior to the Crisis (2006) and the Two Years since the Onset of the Crisis (2010)	1025
9	Indraswati Tri Abdi REVIANE The Mediating Effect of Inflation on the Effect of Tradeliberalization and Government Spending towards Welfare	1038
10	Sarsengali ABDYMANAPOV, Aigul TOXANOVA, Alma GALIYEVA, Ainur ABILDINA, Anar AITKALIYEVA, Zhuldyz ASHIKBAYEVA Public-Private Partnership Development Specifies in Kazakhstan	1048
11	Volodymyr V. SYSOIEV Model of Multi-Criteria Selection of Traditional Suppliers	1064
12	Štefan SLÁVIK, Branislav ZAGORŠEK How Can Strategy Influence the Internal Nature of Business Model?	1080
13	Bauyrzhan M. ZHAKIPOV, Dina I. RAZAKOVA Economic Assessment of Marketing Elements of Exhibition Activities	1091
14	Nadezda JANKELOVA, Jan SIDOR Implemented Crisis Management Measurements by Selected Entrepreneurs	1103



- 15 **Aleksandr Mikhaylovich BATKOVSKIY, Elena Georgievna SEMENOVA, Valeriy Yaroslavovich TROFIMETS, Elena Nikolaevna TROFIMETS, Alena Vladimirovna FOMINA**
Modified Method for Sensitivity Analysis of Investment Projects Efficiency Criteria 1116
- 16 **György KOVÁCS**
Calculation Method and Software Development for Prime Cost Calculation in Case of Road Freight Transport Trips 1132
- 17 **Loekito Adi SOEHONO, Devanto Shasta PRATOMO**
Does Outlier Need to be Removed from Regression Analysis? Case Study in Economics Research 1141
- 18 **Tatiana Anatolyevna SALIMOVA, Nadezda Dmitrievna GOUSKOVA, Lyudmila Alexandrovra FEDOSKINA, Ivan Alexandrovich GORIN**
Competitiveness, Sustainable Development and Import Substitution Problems in the Russian Federation 1148
- 19 **Halil Dincer KAYA**
The Impact of the 2008-2009 Global Crisis on Governance: A Comparison of High-Income and Low-Income Countries 1162
- 20 **Stefanus Yufra M. TANEO, Yudi SETYANINGSIH, Ang Swat Lin LINDAWATI**
Improving Performance of Small and Medium-Sized Enterprises of Processed Food through Competitive Strategy, Industry Environment, Innovation Capability, and Macroeconomic Factors 1175



- 21 **Elena S. BALASHOVA, Elizaveta A. GROMOVA**
Economic Effect in the Framework of Lean Production 1188
- 22 **Abiola John ASALEYE, Henry OKODUA, Elizabeth Funlayo OLONI,
Joseph Olufemi OGUNJOBI**
Trade Openness and Employment: Evidence from Nigeria 1194
- 23 **Naveeda K. KATPER, Azian MADUN, Karim Bux Shah SYED, Muhammad Nawaz TUNIO**
Determinants of Debt Maturity Structure in Shariah and Non-Shariah Firms in Pakistan:
A Comparative Study 1210
- 24 **Viktoriya Valeryevna MANUYLENKO, Andrey Aleksandrovich MISHCHENKO,
Olga Borisovna BIGDAY, Tatyana Andreevna SADOVSKAYA,
Tatyana Sergeevna LISITSKAYA**
Evaluation Method for Efficiency of Financial and Innovative Activities in Commercial
Organizations Based on Stochastic Modelling 1226
- 25 **Fattah SANUSI**
The Effect of Minimum Wages, Inflation Rate, Human Resources Quality, Economic Growth
toward Productivity of Labor Force and Its Implication to Education Unemployment Rate in
South Sulawesi-Indonesia 1247

Fostering the Engagement of Corporate Establishments in the Innovation-Driven Development of Russia's Regions

Mikhail Yakovlevich VESELOVSKY
University of Technology, Korolev, Russia
consult46@bk.ru

Marina Alekseevna IZMAILOVA
Financial University under the Government of the Russian Federation, Moscow, Russia
m.a.izmailova@mail.ru

Aleksei Valentinovich BOGOVIZ
All-Russian Research Institute of the Economics of Agriculture, Moscow, Russia
Federal Research Institute of System Analysis of Accounts Chamber
of Russian Federation, Moscow, Russia
abogoviz@hse.ru

Yuliya Vyacheslavovna RAGULINA
Federal Research Institute of System Analysis of Accounts
Chamber of Russian Federation, Moscow, Russia
julra@list.ru

Svetlana Vladislavievna LOBOVA
Altai State University, Barnaul, Russia
pepbp2010@mail.ru

Suggested Citation:

Veselovsky M.Y. *et al.* 2017. Fostering the engagement of corporate establishments in the innovation-driven development of Russia's Regions. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 945-959.

Abstract

This paper addresses the need for the innovation-driven development of the Russian economy in reliance on large business and regional innovation-driven development. The authors provide a rationale for the need to develop the national and regional innovation systems and bring to light their strengths and weaknesses based on assessments by experts from around the world; conduct an analysis of innovation activity within the corporate sector, provide a description of the architectonics of innovation activity by corporate establishments amid the impact of global challenges, and stress the need to develop the nation's open innovation model and put together a wide field of communications encompassing small and medium-sized enterprises within the area of presence; conceptualize a cluster approach to boosting regional innovation activity and its feasibility in Russian reality; provide a characterization of the key preconditions for the formation of innovation clusters, their structure, objectives, and principles of operation; conduct a comparative analysis of the major types of clusters as production agglomerations and as network ecosystems and stress the promise of the innovation mechanism of clusters' operation based on the Triple Helix model; provide a description of the top priorities for Russia's cluster policy and touch upon its transformation amid the current complicated geopolitical situation and sanction restrictions; come to the conclusion about the inevitability of Russia becoming one of the world's top innovatively developed economic powerhouses and propose a set of activities aligned with the ideology of the upward-trending development scenario that are aimed at creating the optimum conditions for the engagement of all economic agents in innovation activity and filling the economy with innovation-related content.

Keywords: innovation; cluster; innovation; innovation-driven development; modernization of the economy; corporation

JEL Classification: O10; O14; O31

Introduction

Amid a globalizing economy and the simultaneous occurrence of the processes of intensifying competition among the national economies and their integration, scholars, economists, and politicians are getting increasingly focused on addressing the latest issues in scientific-technical, economic, and social progress and ways to resolve them. Without question, an effective instrument for comprehensive modernization is innovation processes across industry, the financial sphere, and the science-and-education environment. The acceleration of the pace and expansion of the scale of innovation transformations is inevitably leading to the need to give up on outmoded products and technology employed in activity, which may now be regarded as a sort of barrier in the path of the progressive development of human civilization. In a climate like this, it appears to be highly important for all subjects of economic relations to realize the significance of fostering innovation transformations and stepping up their innovation activity.

The purpose of this paper is to analyze the country's national and regional innovation systems and establish the role of corporate establishments in the innovation-driven development of the area of presence, as well as to explore the mechanism underpinning the operation of innovation clusters directly influencing the efficiency of innovation transformations in a climate of Russia's economic instability.

The work owes its relevance to the need to find a way out of a unique situation in which Russia has found itself on the highway to an innovation-driven economy, the cause whereof being the confluence of a set of negative factors of an internal and external nature. Thus, by the late 2014 the Russian economy started to clearly show signs of a slump. Things have only gotten worse since then, with the nation's GDP shrinking 3.7% and the price of the ruble dropping 127% at year-end 2015. Today, Russia is at the height of a severe economic recession. The aggravation of the nation's economic problems has been facilitated by a variety of factors, like dropping oil prices, economic sanctions, as well as a weakened internal market. In a climate of this kind, there is a clear awareness of the need to take urgent measures aimed at creating the conditions necessary to resolve Russia's innovation-based objectives of modernizing the domestic economy in reliance on large business and innovation-driven regional development.

Conclusion

Thus, the research study reported in this paper cogently attests to that imparting an innovation-driven nature to the Russian economy requires the large-scale implementation of scientific, technical, and technological innovations, which may be regarded as true attributes of an innovation-driven economy. This requires carrying out a set of measures, including: developing existing and creating novel hi-tech production operations aimed at turning out competitive products; shifting to non-resource-based economic development, including via the creation of hi-tech lines of business; implementing import-substitution programs with support for domestic manufacturers, boosting the efficiency of exports against the backdrop of declining imports, and stimulating increases in internal consumer demand for domestic products; boosting energy and resource efficiency and the efficiency of managing property and fostering the development of infrastructure capable of minimizing transaction costs in all sectors of the economy; creating territorial clusters where it would be possible to implement mega- and infrastructural projects; attracting internal and external investment based on well-reasoned decision-making and implementing efficient investment projects based on the principles of private-public partnerships; creating incentives for the innovation activity of enterprises, reducing the polarization of regions based on the development of the system of strategic management of regions, and boosting the potential of subsidized regions; boosting the sustainability of the financial system, putting together flexible tariff, customs, and tax policies, and fostering budgetary financial support for small and medium-sized business.

References

- [1] Bortnik, I. M. *et al.* (Eds.). 2015. *Klasternaya politika: Kontsentratsiya potentsiala dlya dostizheniya global'noi konkurentosposobnosti* [Cluster policy: Concentrating one's potential to attain global competitiveness]. Saint Petersburg, Russia: Corvus.
- [2] Etzkowitz, H., and Leydesdorff, L. 2000. The dynamics of innovation: From National Systems and "Mode 2" to a Triple Helix of university–industry–government relations. *Research Policy*, 29: 109–123.
- [3] Freeman, C., and Soete, L. 1997. *The Economics of Industrial Innovation* (3rd Edition). London, UK: Pinter Publishers.
- [4] Gokhberg, L. M., and Shadrin, A. E. 2015. *Pilotnye innovatsionnye territorial'nye klastery v Rossiiskoi Federatsii: Napravleniya realizatsii programm razvitiya* [Pilot innovation territorial clusters in the Russian Federation: Focus areas for the implementation of programs for development]. Moscow, Russia: NIU VShE.
- [5] Ivanov, V. V. 2006. Problemy formirovaniya rossiiskoi innovatsionnoi politiki [Issues in the developing Russian innovation policy]. *EKO*, 1: 46–54.
- [6] Ivanova, N. I. (Ed.). 2010. *Global'naya transformatsiya innovatsionnykh sistem* [Global transformation of information systems]. Moscow, Russia: IMEMO RAN.
- [7] Kiseleva, N. V. *et al.* 2016. Creation of clusters of small enterprises of the region. *International Journal of Economics and Financial Issues*, 6(S2): 294–297.
- [8] Krugman, P. R., and Obstfeld, M. 2008. *International Economics: Theory and Policy* (8th Edition). Upper Saddle River, NJ: Prentice Hall.
- [9] Kutsenko, E. S. 2015. Pilotnye innovatsionnye territorial'nye klastery Rossii: Model' ustoichivogo razvitiya [Russia's pilot innovation territorial clusters: A model for sustainable development]. *Foresight*, 9(1): 32–55.
- [10] Kuznetsov, E. B. *et al.* 2011. *Upravlenie issledovaniyami i razrabotkami v rossiiskikh kompaniyakh: Natsional'nyi doklad* [Management of research and development in Russian companies: A national report]. Moscow, Russia: Assotsiatsiya Menedzherov.
- [11] Machlup, F. 1979. *A History of Thought on Economic Integration*. London, UK: Macmillan.

- [12] Markusen, A. R. 1987. *Regions: The Economics and Politics of Territory*. Totowa, NJ: Rowman and Littlefield Publishers.
- [13] Mendell, S., and Ennis, D. M. 1985. Looking at innovation strategies. *Research Management*, 28(3): 33-44.
- [14] Merzlova, M. P., and Sharkova, A. V. 2013. Impact of investment climate on formation and increase of fixed capital of enterprises. *Middle East Journal of Scientific Research*, 16(4): 486–489.
- [15] Nelson, R. R. (Ed.). 1993. *National Innovation Systems: A Comparative Analysis*. London, UK: Oxford University Press.
- [16] Popkova, E. G. *et al.* 2013. Unsustainable models of regional clustering. *World Applied Sciences Journal*, 25(8): 1174–1180.
- [17] Porter, M. E. 1987, May–June. From competitive advantage to corporate strategy. *Harvard Business Review*, 65(3): 43–59.
- [18] Porter, M. E. 2011. *Konkurentnaya strategiya: Metodika analiza otraslei i konkurentov* [Competitive strategy: Techniques for analyzing industries and competitors] (I. Minervin, Trans.). Moscow, Russia: Alpina Publisher.
- [19] Schumpeter, J. A. 1995. *Teoriya ekonomicheskogo razvitiya* [The theory of economic development] (V. S. Avtonomov, Trans.). Moscow, Russia: Ekonomika.
- [20] Smorodinskaya, N. V. 2015. *Globalizirovannaya ekonomika: Ot ierarkhii k setevomu ukladu* [A globalized economy: From the hierarchy to the network]. Moscow, Russia: IE RAN.
- [21] Suslov, V. I. (Ed.). 2015. *Rossiya v zerkale mezhdunarodnykh reitingov: Informatsionno-spravochnoe izdanie* [Russia in the mirror of international rankings: An information and reference guide]. Novosibirsk, Russia: IEOPP SO RAN.
- [22] Szanto, B. 2005. *Innovatsiya kak sredstvo ekonomicheskogo razvitiya* [Innovation as a means of promoting economic development] (B. V. Sazonov, Trans.). Moscow, Russia: Progress.
- *** Higher School of Economics. 2016. *Nauka. Tekhnologii. Innovatsii. Global'nyi innovatsionnyi indeks – 2016* [Science. Technology. Innovation. The Global Innovation Index – 2016]. Available at: https://issek.hse.ru/data/2016/08/15/1117964142/NTI_N_12_15082016.pdf (accessed April 21, 2015)
- *** Russian Cluster Observatory. 2014. *Minekonomrazvitiya raspredelilo subsidii 2014 goda na podderzhku pilotnykh klasterov* [Ministry of Economic Development allocates 2014 subsidies to support pilot clusters]. Available at: <http://cluster.hse.ru/news/1574/> (accessed April 21, 2015)
- *** *Vsemirnyi ekonomicheskii forum: Reiting global'noi konkurentosposobnosti 2015–2016* [World Economic Forum: The Global Competitiveness Index 2015–2016]. 2015. Available at: <http://gtmarket.ru/news/2015/09/30/7246> (accessed April 21, 2015)

Supply Chain Optimization of Outsourced Blending Technologies

Tamás BÁNYAI

Institute of Logistics, Faculty of Mechanical Engineering and Informatics

University of Miskolc, Hungary¹

alttamas@uni-miskolc.hu

Suggested Citation:

Bányai, T. 2017. Supply chain optimization of outsourced blending technologies. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 960-976.

Abstract

Blending technologies play a significant role in manufacturing, especially in the field of chemistry. The design and operation of these technologies represent a special field of supply chain management because of the significant approach of technological and logistic aspects. The aim of this paper is to present a model framework and a mathematical model of outsourcing possibilities of manufacturing processes applying blending technologies. After a careful literature review, this paper introduces a model framework including purchasing, manufacturing and distribution functions. The proposed mathematical model describes a typical supply chain of blending technology based manufacturing including suppliers, manufacturers, outsourcing possibilities and customers. The optimization problem includes decisions focusing on procurement, supplier selection and outsourcing allocation problems. Numerical results with different datasets demonstrate how the proposed model takes technological and logistic aspects into consideration and the results of the analysis confirm that outsourcing is a valuable cost-cutting tool for blending technologies.

Keywords: outsourcing; blending technology; cost analysis; economical evaluation; manufacturing

JEL Classification: L60; L90; M11; M21

Introduction

The efficient blending of components to meet specifications has been a growing research area in recent years. In short, blending problems can be described as follows: multiple component streams with various parameters enter manufacturing plants using blending technologies where they are assumed to be perfectly blended in some desired proportion to meet the predefined specifications. The goal of this problem is to define the optimal material flow, which can be determined by procurement decisions, supplier selection and outsourcing allocation. Based on the importance of the petrochemical industry, it can be concluded that the research topic is quite relevant. The increasing importance of the petrochemical sector and the intention to find cost-cutting solutions for blending technologies was a motivation for writing this paper. Besides this introduction, the remaining parts of the paper are divided into four sections. Section 1 presents a literature review, which systematically summarizes the research background while section 2 and 3 presents the model framework and the mathematical model of outsourcing possibilities of manufacturing processes applying blending technologies. Section 4 contains the results of numerical analysis. The last section concludes the study with some policy options. Conclusions and future research directions are discussed in the last section.

Conclusion

This study developed a methodological approach for supply chain optimization of manufacturing companies using blending technologies. In this paper, firstly we review and systematically categorized the recent works presented for outsourcing optimization of supply chain. We analysed the selected articles¹ from the point of view subject area, year of publication, used keywords, citation and scientific contributions. Then, motivated from the gaps in the literature, a model framework for supply chain including outsourcing possibilities of blending technologies was proposed: the model framework makes it possible to define typical models depending on the problem and complexity of the supply chain. We proposed a mathematical model for the description of a typical supply chain of

¹ 3515 Hungary Miskolc-Egyetemvaros

blending technology based manufacturing including suppliers, manufacturers, outsourcing possibilities and customers. The optimization problem includes three decisions: volume of components to be purchased to blend them in a desired proportion to produce goods in a defined quality; selection of suppliers and outsourcing allocation. Computational results of the described model are presented with different datasets.

As the results show, outsourcing possibilities are cost-cutting tools for blending technologies, but the parameters of logistics and technology influences the efficiency. The results can be generalized, because the model can be applied for other technologies, especially in the case of assembly sector. The described method makes it possible to support managerial decisions; the operation strategy of the supply chain and the procurement contract can be influenced by the results of the above described contribution.

However, there are also directions for further research. First, although the logistic costs are considered in this paper, logistics strategies (e.g. inventory holding or routing) are not taken into consideration. In further studies, the model can be extended to a more complex model including logistic strategies. Second, this study only considered the problem as MILP and MINLP problems but in the case of increased complexity the problem can be described as an NP-hard problem. Third, the model can be tested with real data sets. This should be also considered in the future research.

Acknowledgements

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691942. This research was partially carried out in the framework of the Center of Excellence of Mechatronics and Logistics at the University of Miskolc.

References

- [1] Abbasi, M., Hosnavi, R., and Babazadeh, R. 2014. Agile and flexible supply chain network design under uncertainty. *International Journal of Industrial Engineering: Theory Applications and Practice*, 21(4): 190-208.
- [2] Aktas, E., Agaran, B., Ulengin, F., and Onsel, S. 2011. The use of outsourcing logistics activities: The case of Turkey. *Transportation Research Part C: Emerging Technologies*, 19(5): 833-852. DOI: 10.1016/j.trc.2011.02.005
- [3] Alboiu, E. F., Rus, S., Alboiu, N. I., and Degeratu, M. 2017. Continuous flow type gas blending facility used for autonomous and system diving. *Energy Procedia*, 112: 3-10. DOI: 10.1016/j.egypro.2017.03.1054
- [4] Arabzad, S.M., Ghorbani, M., and Tavakkoli-Moghaddam, R. 2015. An evolutionary algorithm for a new multi-objective location-inventory model in a distribution network with transportation modes and third-party logistics providers. *International Journal of Production Research*, 53(4): 1038-1050. DOI: 10.1080/00207543.2014.938836
- [5] Bagajewicz, M. 2000. A review of recent design procedures for water networks in refineries and process plants. *Computers & Chemical Engineering*, 24: 2093-2113. DOI: 10.1016/S0098-1354(00)00579-2
- [6] Baligil, H. et al. 2011. A distribution network optimization problem for third party logistics service providers. *Expert Systems with Applications*, 38(10): 12730-12738. DOI: 10.1016/j.eswa.2011.04.061
- [7] Bustamante, M., and Liao, W. 2017. A self-sustaining high-strength wastewater treatment system using solar-bio-hybrid power generation. *Bioresource Technology*, 234: 415-423. DOI: 10.1016/j.biortech.2017.03.065
- [8] Caputo, G., Gallo, M., and Guizzi, G. 2009. Optimization of production plan through simulation techniques. *WSEAS Transactions on Information Science and Applications*, 6(3): 352-362.
- [9] Chen, F. 1998. Echelon reorder points, installation reorder points, and the value of centralized demand information. *Management Science*, 44(12): 221-234.
- [10] Croom, S. 2001. Restructuring supply chains through information channel innovation. *International Journal of Operations and Production Management*, 21(4): 504-515. DOI: 10.1108/01443570110381408

- [11] Dai, C., Cai, X.H., Cai, Y. P., and Huang, G. H. 2014. A simulation-based fuzzy possibilistic programming model for coal blending management with consideration of human health risk under uncertainty. *Applied Energy*, 133: 1-13. DOI: 0.1016/j.apenergy.2014.07.092
- [12] D'Amours, S., Montreuil, B., Lefrançois, P., and Soumis, F. 1999. Networked manufacturing: The impact of information sharing. *International Journal of Production Economics*, 58(1): 63-79.
- [13] Fiorini, P. C., and Jabbour, C. J. C. 2017. Information systems and sustainable supply chain management towards a more sustainable society: Where we are and where we are going. *International Journal of Information Management*, 37(4): 241-249. DOI: 10.1016/j.ijinfomgt.2016.12.004
- [14] Franca, R.B., Jones, E.C., Richards, C.N., and Carlson, J.P. 2010. Multi-objective stochastic supply chain modeling to evaluate tradeoffs between profit and quality. *International Journal of Production Economics*, 127(2): 292-299. DOI: 10.1016/j.ijpe.2009.09.005
- [15] Fu, D.Z. *et al.* 2017. A multi-fuel management model for a community-level district heating system under multiple uncertainties. *Energy*, 128: 337-356. DOI: 10.1016/j.energy.2017.04.031
- [16] Fu, Y., Lai, K.K., and Liang, L. 2016. A robust optimisation approach to the problem of supplier selection and allocation in outsourcing. *International Journal of Systems Science*, 47(4): 913-918. DOI: 10.1080/00207721.2014.907970
- [17] Gao, F., and Su. X. 2017. Online and offline information for omnichannel retailing. *Manufacturing and Service Operations Management*, 19(1): 84-98. DOI: 10.1287/msom.2016.0593
- [18] Gunasekaran, A., and Ngai, E.W.T. 2009. Modeling and analysis of build-to-order supply chains. *European Journal of Operational Research*, 195(2): 319-334. DOI: 10.1016/j.ejor.2008.03.026
- [19] Huang, S.H., and Keskar, H. 2007. Comprehensive and configurable metrics for supplier selection. *International Journal of Production Economics*, 105(2): 510-523. DOI: 10.1016/j.ijpe.2006.04.020
- [20] Ivaković, Č., Stanković, R., and Šafran, M. 2010. Optimisation of distribution network applying logistic outsourcing. *Promet - Traffic – Traffico*, 22(2): 87-94.
- [21] Kaczmar, I. 2015. Cost optimization of blend preparation with the use of the Flexsim environment. *Agricultural Engineering*, 4(156): 51-60. DOI: 10.14654/ir.2015.156.151
- [22] Kolodziej, S. P., Grossmann, I. E., Furman, K. C., and Sawaya, N. W. 2013. A discretization-based approach for the optimization of the multiperiod blend scheduling problem. *Computers & Chemical Engineering*, 53: 122-142. DOI: 10.1016/j.compchemeng.2013.01.016
- [23] Korponai, J., Tóth, Á.B., and Illés, B. 2017a. The Effect of the Safety Stock on the Occurrence Probability of the Stock Shortage. *Management and Production Engineering Review*, 8(1): 69-77. DOI: 10.1515/imper-2017-0008
- [24] Korponai, J., Tóth, Á.B., and Illés, B. 2017b. Effect of the Safety Stock on the Probability of Occurrence of the Stock Shortage. *Procedia Engineering*, 182: 335-341. DOI: 10.1016/j.proeng.2017.03.106
- [25] Kouvelis, P., and Milner, J.M. 2002. Supply chain capacity and outsourcing decisions: The dynamic interplay of demand and supply uncertainty. *IIE Transactions*, 34(8): 717-728. DOI: 10.1023/A:1014924611072
- [26] Kumral, M. 2005. Quadratic programming for the multi-variable pre-homogenization and blending problem. *The Journal of the South African Institute of Mining and Metallurgy*, 105: 317-322.
- [27] Lage, M., and Filho, G. 2010. Variations of the Kanban system: Literature review and classification. *International Journal of Production Economics*, 125(1): 13-21. DOI: 10.1016/j.ijpe.2010.01.009

- [28] Lakhal, S., Martel, A., Kettani, O., and Oral, M. 2001. On the optimization of supply chain networking decisions. *European Journal of Operational Research*, 129(2): 259-270. DOI: 10.1016/S0377-2217(00)00223-X
- [29] Li, J., Wang, M., Zhou, W., and Zhou, W. 2014. Outsourcing decision and order policy with forecast updating under capacity reservation contract. *Journal of Systems Science and Systems Engineering*, 23(1): 39-79. DOI: 10.1007/s11518-014-5231-3
- [30] Li, X., Li, Y., and Govindan, K. 2014. An incentive model for closed-loop supply chain under the EPR law. *Journal of the Operational Research Society*, 65(1): 88-96. DOI: 10.1057/jors.2012.179
- [31] Lin, Y.K., and Yeh, C.T. 2010. Optimal carrier selection based on network reliability criterion for stochastic logistics networks. *International Journal of Production Economics*, 128(2): 510-517. DOI: 10.1016/j.ijpe.2010.07.001
- [32] Lv, C. *et al.* 2016. Equilibrium strategy based coal blending method for combined carbon and PM10 emissions reductions. *Applied Energy*, 183: 1035-1052. DOI: 10.1016/j.apenergy.2016.09.028
- [33] Ouhimmou, M. *et al.* 2008. Furniture supply chain tactical planning optimization using a time decomposition approach. *European Journal of Operational Research*, 189(3): 952-970. DOI: 10.1016/j.ejor.2007.01.064
- [34] Ruiz-Torres, A.J., Lopez, F.J., Ho, J.C., and Wojciechowski, P.J. 2008. Minimizing the average tardiness: The case of outsource machines. *International Journal of Production Research*, 46(13): 3615-3640. DOI: 10.1080/00207540601158799
- [35] Sultan, A. A. M., Lou, E., and Mativenga, P. T. 2017. What should be recycled: An integrated model for product recycling desirability. *Journal of Cleaner Production*, 154: 51-60. DOI: 10.1016/j.jclepro.2017.03.201
- [36] Symonds, G.H. 1956. Linear Programming Solves Gasoline Refining and Blending Problems. *Industrial and Engineering Chemistry*, 48(3): 394-401. DOI: 10.1021/ie51398a018
- [37] Tatoutchoup, F. D. 2016. Optimal rate of paper recycling. *Forest Policy and Economics*, 73: 264-269. DOI: 10.1016/j.forpol.2016.09.022
- [38] Vidal, C.J., and Goetschalckx, M. 2001. Global supply chain model with transfer pricing and transportation cost allocation. *European Journal of Operational Research*, 129(1): 134-158. DOI: 10.1016/S0377-2217(99)00431-2
- [39] Winston, W. L. 1993. *Operations research: applications and algorithms*. Duxbury Press.
- [40] Wong, J.T. 2012. DSS for 3PL provider selection in global supply chain: Combining the multi-objective optimization model with experts' opinions. *Journal of Intelligent Manufacturing*, 23(3): 599-614. DOI: 10.1007/s10845-010-0398-z
- [41] Wu, D., Wu, D.D., Zhang, Y., and Olson, D.L. 2013. Supply chain outsourcing risk using an integrated stochastic-fuzzy optimization approach. *Information Sciences*, 235: 242-258. DOI: 10.1016/j.ins.2013.02.002
- [42] Wu, J.Z., Chien, C.F., and Gen, M. 2012. Coordinating strategic outsourcing decisions for semiconductor assembly using a bi-objective genetic algorithm. *International Journal of Production Research*, 50(1): 235-260. DOI: 10.1080/00207543.2011.571457
- [43] Yang, W., Chan, F.T.S., and Kumar, V. 2012. Optimizing replenishment policies using Genetic Algorithm for single-warehouse multi-retailer system. *Expert Systems with Applications*, 39(3): 3081-3086. DOI: 10.1016/j.eswa.2011.08.171

- [44] Yu, D. Z., Cheong, T., and Sun, D. 2017. Impact of supply chain power and drop-shipping on a manufacturer's optimal distribution channel strategy. *European Journal of Operational Research*, 259(2): 554-563. DOI: 10.1016/j.ejor.2016.11.025
- [45] Zhao, W., and Wang, Y. 2002. Coordination of joint pricing-production decisions in a supply chain. *IIE Transactions*, 34(8): 701-715. DOI: 10.1023/A:1014972527002
- [46] Zhen, L. 2014. A three-stage optimization model for production and outsourcing under China's export-oriented tax policies. *Transportation Research Part E: Logistics and Transportation Review*, 69: 1-20. DOI: 10.1016/j.tre.2014.05.014

The New Decomposition Asset Growth Effect. An Empirical Evidence of Indonesia

Rio Dhani LAKSANA

Faculty of Economics and Business, Diponegoro University, Indonesia
riodhani@undip.ac.id

H. HERSUGONDO

Faculty of Economics and Business, Stikubank University, Indonesia
gondoarum65@gmail.com

Sugeng WAHYUDI

Faculty of Economics and Business, Diponegoro University, Indonesia
sugengwahyudi@undip.ac.id

Harjum MUHARAM

Faculty of Economics and Business, Diponegoro University, Indonesia
hardjum@gmail.com

Suggested Citation:

Laksana, R.D.*et al.* 2017. The new decomposition asset growth effect. An empirical evidence of Indonesia. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 977-984.

Abstract

This paper provides new evidence for a causal effect of asset growth on stock returns by using decomposition method. The sample used in this research is non-financial manufacturing firms listed in Indonesia Stock Exchange (IDX) in the year of 2010 - 2015. The asset growth testing was done by conducting regression analysis. The paper results were indicated by using decomposition method for a causal effect of asset growth, book-to-market, and firm size on stock return. In addition, assets and liabilities decomposition known that the growth of fixed assets and retained earnings have a positive influence to return firms. The result by decomposition method asset growth has a positive effect on stock returns, or in other words, the higher the asset growth, the higher the stock return. Others, the cash growth negatively affect to stock returns at the time of the asset and operating liabilities have a negative significant effect on stock returns. The decomposition method asset growth has a positive effect on stock returns, in other words, the higher the asset growth, the higher the stock return. At last, the cash growth negatively affects to stock returns at the time of the asset and operating liabilities have a negative significant effect on stock returns.

Keywords: asset growth; decomposition method; return; size; book to market

JEL Classification: F36; G10; C12

Introduction

The value of the firms according to Fama *et al.* (2008) showed solely a function of investment opportunities in a perfectly competitive market while the presence of the growth firms in the future was indicated by the growth of opportunities. This can be seen by the opportunity to invest is owned and available for firms in the future. Badrinath and Wahal (2002) examined the variables asset growth with the firms' risk level. The firms with a high level of asset growth will increase the risk. The firms are considered to have a high risk, in case if it has a high uncertainty of the rate of return on assets (Prasetio 2010). The uncertainty return on the assets in the future will affect the accuracy of the firms to predict the revenue that will be received in the future.

Investors ensure the value of the company to determine its shares. The value of the company according to Fama *et al.* (1995) showed solely a function of investment opportunities in a perfectly competitive market while the presence of a growth company in the future is indicated by the growth of opportunities. This can be seen that the investment opportunities are owned and available to the company in the future. A number of investment opportunities in the future is reflected in the market value of the company in which, investment opportunity is a combination of assets in place and the present value of growth opportunities of the company.

Investors also make an assessment by looking at the fundamental aspects of asset growth of the firms invested. The growth of the firms' assets is expected to increase a number of assets where the firms' production will increase the production capability so that the results will increase one's corporate profits. With the increasing profitability of the firms and the effect on increasing the return, both are expected by investors (Laksana 2016).

The terms of firm funding involving decisions made in the firm compose funding sources are used by the firm to finance the production. There are several sources of funding that can be used by firms such as long-term debt, preferred stock, and common stock. Firm's funding decisions will be influenced by the trade off between timing and risk to be gained when it uses these funding sources. Internal funding sources such as retained earnings will strengthen the financial position of the firm in the future. And part undistributed profits to the owners will be used to back up to face the risk of losses in the future as well as to increase the firm's assets.

A research by Fairfield (1994) conducted a test about the effect of growth in operating assets by looking at the presence of mispricing at accrual earnings. The firms' growth may occur due to the firms' net assets is lower than the market value. Carlson *et al.* (2004) also conducted research focused on cash flow decomposition including fixed costs, income from assets, and the opportunity to grow the firms. Cooper *et al.* (2008) used annual reports from 1968 to 2003 examined the effect of asset growth on stock returns, using cross-sectional growth in assets of funding and investment. This paper is crucial especially for the asset growth evidence in emerging market such as Indonesia. Investors, currently, used the CAPM model (Capital Asset Pricing Model) in estimating the return of a security. Capital Asset Pricing was used to determine the return of an asset at equilibrium conditions.

Fama *et al.* (1992b) examined the relationship between the beta and the average cross-sectional in the period 1963 -1990 by taking samples NYSE, AMEX and NASDAQ. The research included for the size, leverage, book-to-market equity and earnings price. When these factors are included, it found an empirical evidence that the cross-sectional variation in returns strongly associated with variable size and book-to-market equity. Fama and French with three-factor models asserted significantly that this model has a better ability than the single factor of CAPM. At last, this paper incorporates the asset growth as a risk factor that affects on stock returns by size, book to market and applies decomposition method.

Conclusion

The result of this study provides an empirical evidence and supports the theory proposed by Carlson *et al.* (2004), Pontiff *et al.* (2008) and Cooper *et al.* (2008) which stated that the growth of assets has an influence on stock returns. This research is expected to further clarification both the relationship between asset growth and stock returns using decomposition method, in which it can be used as a benchmark for investors and securities analysts in determining the risk in the investment decision. By decomposition method asset growth, it has a positive effect on stock returns, or in other words, the higher the asset growth, the higher the stock return comes. A cash growth negatively affects to stock returns at the time of the asset and operating liabilities have a significant negative effect on stock returns.

This paper based on asset growth component in terms of funding and investment. Decomposition shows the components of a strong asset growth effects to stock returns. From decomposition, the fixed asset investment growth has a positive effect on stock returns in terms of funding and retained earnings growth and growth equity positive effect on stock returns. This paper uses secondary data and samples public company with manufacturing industry in Indonesia Stock Exchange in the year of 2010 - 2015, and the influence of the type of industry that may affect was not included in the models. The result of this study provides an empirical evidence and the theory supports an asset growth. The firm who is trusted by the market will achieve a higher rate of asset growth than the firm that shows the expected lower growth rate. It also found that the main factor that explains the difference between the asset growth of these firms is the expectation of profit growth and growth equity firm, according to the investors desire to the firm in the future.

The growth of the firm assets could be a special level values for investors. Some factors toward the accuracy of information and speed information will be reflected in the price of securities. Surely, the response of asset growth can not be directly reflected on the spot, but there is a gap between the receipt of information and price reaction in receiving and processing the information. Systematic risk factors will also be reflected in the growth of the firm assets. Then, a failure to grow and develop assets will increase the burden on the company. At last, the greater the risk of failure and load the c firm, investors will tend to release the shares, causing the stock price down.

References

- [1] Anderson, C. W., and Garcia-Feijoo, L. 2006. Empirical Evidence on Capital Investment, Growth Options, and Security Returns. *The Journal of Finance*, 61: 171-194. DOI: <http://dx.doi.org/10.1111/j.1540-6261.2006.00833.x>
- [2] Badrinath, S. G., and Wahal, S. 2002. Momentum Trading by Institutions. *The Journal of Finance*, 57: 2449-2478. DOI: <http://dx.doi.org/10.1111/1540-6261.00502>
- [3] Berk, J. B., Green, R. C., and Naik, V. 1999. Optimal Investment, Growth Options, Security Returns. *The Journal of Finance*, 54: 1553-1607. DOI: <http://dx.doi.org/10.1111/0022-1082.00161>
- [4] Bolbol, A. and Omran, M. M. 2005. Investment and The Stock Market: Evidence from Arab Firm-Level Panel Data. *Emerging Markets Review*, 6(1): 85-106. DOI: <http://dx.doi.org/10.1016/j.ememar.2004.09.005>
- [5] Booth, L. 1998. What Drives Shareholder Value? *Working Papers SSRN Toronto Canada Volume 2*
- [6] Carlson, M., Fisher, A. and Giammarino, R. (2004). Corporate Investment and Asset Price Dynamics: Implications for the Cross-Section of Returns. *The Journal of Finance*, 59: 2577-2603. DOI: <http://dx.doi.org/10.1111/j.1540-6261.2004.00709.x>
- [7] Cooper, M. J., Gulen, H. and Schill, M. J. (2008). Asset Growth and the Cross-Section of Stock Returns. *The Journal of Finance*, 63: 1609-1651. DOI: <http://dx.doi.org/10.1111/j.1540-6261.2008.01370.x>
- [8] Fairfield, P. M. 1994. P/E, P/B and Present Value of Future Dividend. *Financial Analysts Journal*, 50: 23-31. DOI: <http://dx.doi.org/10.2469/faj.v50.n4.23>

- [9] Fama, E. F., and French, K. R. 1992. The Cross-Section of Expected Stock Returns. *The Journal of Finance*, 47: 427-465. DOI: <http://dx.doi.org/10.1111/j.1540-6261.1992.tb04398.x>
- [10] Fama, E. F., and French, K. R. 1995. Size and Book-to-Market Factors in Earnings and Returns. *The Journal of Finance*, 50: 131-155. DOI: <http://dx.doi.org/10.1111/j.1540-6261.1995.tb05169.x>
- [11] Fama, E. F., and French, K. R. 2008. Dissecting Anomalies. *The Journal of Finance*, 63: 1653–1678. DOI: <http://dx.doi.org/10.1111/j.1540-6261.2008.01371.x>
- [12] Hirshleifer, D., Hou, K., Teoh, S. H. and Zhang, Y. 2004. Do Investors Overvalue Firms with Bloated Balance Sheets? *Journal of Accounting and Economics*, 38(1): 297-331. DOI: <http://dx.doi.org/10.1016/j.jacceco.2004.10.002>
- [13] Jacoby, G., Fowler, D. J., and Gottesman, A. A. 2000. The Capital Asset Pricing Model and the Liquidity Effect: A Theoretical Approach. *Journal of Financial Markets*, 3(1): 69-81. DOI: [http://dx.doi.org/10.1016/S1386-4181\(99\)00013-0](http://dx.doi.org/10.1016/S1386-4181(99)00013-0)
- [14] Laksana, R. D. and Hersugondo, H. 2016. Does Economic Value Added Influence the Shareholder Value in Indonesia? *International Journal of Applied Business and Economic Research*, 14(3): 1547-1560. DOI: <http://dx.doi.org/10.13140/RG.2.2.17534.79686>
- [15] Polk, C., and Sapienza, P. 2009. The Stock Market and Corporate Investment: A Test of Catering Theory. *Review of Financial Studies*, 22: 187-217. DOI: <http://dx.doi.org/10.1093/rfs/hhn030>
- [16] Pontiff, J., and Woodgate, A. 2008. Share Issuance and Cross-Sectional Returns. *The Journal of Finance* 63: 921-945. DOI: <http://dx.doi.org/10.1111/j.1540-6261.2008.01335.x>
- [17] Prasetyo, J. E. 2008. Informasi Arus Kas dari Aktivitas Pendanaan, Investasi, Operasi dan Laba Akuntansi dengan Harga, Program Pascasarjana FEB, Universitas Gadjah Mada, Yogyakarta
- [18] Titman, S., Wei, K., and Xie, F. 2004. Capital Investments and Stock Returns. *Journal of Financial and Quantitative Analysis*, 39(4): 677-700. DOI: <http://dx.doi.org/10.1017/S0022109000003173>

Modern Growth Points of the Russian Banking Sector and Their Impact on Economic Development of the Country

Natalya Petrovna KAZARENKOVA
Southwest State University, Kursk, Russia
nfedorovich@yandex.ru

Tatyana Sergeevna KOLMYKOVA
Southwest State University, Kursk, Russia
t_kolmykova@mail.ru

Suggested Citation:

Kazarenkova, N.P., Kolmykova, T.S. 2017. Modern growth points of the Russian banking sector and their impact on economic development of the country. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 985-994.

Abstract

The article considers the importance of the banking sector in ensuring the economic growth of the country. The goal of the article is to analyze the current state and tendencies of the strategic planning in the banking activity. Its results allowed to define the basic points of the Russian banking sector growth. The scientific novelty lies in systemizing the modern strategic approaches of Russian banks to planning the activity and forming areas of the Russian banking sector development on the basis of its growth points. Conditions of the globalization of financial markets and banking business cause the necessity to transfer the Russian banking sector from the extensive development model to mainly intensive development. It will considerably increase the competitiveness of Russian banks and national banking sector, as a whole. The conducted research is based on the methods of economic and statistical analysis and economic modeling. The basic result of the research is the development of the matrix related to selecting the strategy of the commercial bank development taking into account the "growth points" and "narrow spaces". Besides, the scenario approach to selecting a specific banking strategy was offered.

Key words: banking sector; commercial bank; strategic planning; growth point; economic growth

JEL Classification: G21; O10

Introduction

In the modern context the development of the banking and real sectors of economy is stipulated by the mutual integration of production and financial processes. The impact of the banking sector on the development of the national economy is defined by the efficiency of the commercial banks development. In the context of the market economy the latter fulfill functions of financial intermediaries and stimulate the work of the mechanism related to transforming savings into investments. The guarantee of success and stability of the banking activity development is its strategic planning based on searching and efficient use of growth points and a specific commercial bank, and the national banking system as a whole (Kazarenkova *et al.* 2014).

Commercial banks make up the basis of the money and credit system. Their activity is closely related to the needs of reproduction of the real sector of economy. Being the central link of financial relations, meeting needs of producers in funds and settlements, commercial banks mediate the relations among the industry and trading, agriculture and population (Hitt *et al.* 1995). The system of commercial banks plays an important role in ensuring a stable economic development by fulfilling controlling and regulating functions imposed on credit establishment. That is why it is difficult to over-estimate the importance of the banking system stability (Brunnermeier and Markus 2009).

Meanwhile, the Russian banking system development is peculiar of the fact that it is subject to a great number of various financial crises of the global, local, and system nature. That is why the majority of national banks prefer to solve current, operative problems rather than to carry out strategic planning that anticipates the estimation of problems and perspectives of the development of the bank activity for a long-term period of time (Sherenov 2015). Taking into account the continuous and deep integration of the Russian banking system in the

global and monetary flows, the activity of commercial banks is affected by a lot of factors of uncertainty that make it difficult to forecast the banking activity, and hence to form the adequate and high quality strategy of the banking business growth. In the modern context of Russian banks functioning, it is necessary to have an essentially new approach to planning the activity, analyzing terms and conditions of its development, and estimating the achieved results (Prosalova and Smolyaninova 2015). Solving these tasks belongs to using tools of strategic planning of the banking business.

Conclusion

In the context of globalization of financial markets and the banking business, there is a necessity to provide the transfer of the Russian banking sector from the model of extensive development to mainly intensive development. It will considerably increase the competitiveness of the national banking sector (Khasyanova 2014). The formation of the efficient banking system of the country in terms of its institutional and organizational structure lies within both the state's and economic subjects' interests.

The banking system is extremely important in providing the economic development of the country. Commercial banks that make up the basis of any banking system fulfill the functions of financial intermediaries, and influence the stability and efficiency of the economy growth, and improvements of the people's lives. According to the "Strategy of the Russian Financial Market Development for the Period up to 2020", the basic goal of the development of the Russian banking sector is the "active participation in modernizing economy on the basis of the considerable increase in the level and quality of banking services rendered to organizations and population, and providing its system stability".

At the present time there are a lot of types and kinds of strategies that can be developed and implemented in the banking activity in order to develop it. When forming a banking strategy, it is necessary to take into account the specificity of developing the activity of the commercial bank and market of banking services, as well as importance to provide the bank stability and its impact on the stability of the banking system as a whole. The activity of a modern bank without using at least elements of strategic management cannot be efficient (Khrustalev *et al.* 2013).

According to the results of the conducted research, it is possible to single out the following peculiarities of strategic management in Russian banks: the mission obligatorily includes a social component of the banking activity, the external environment of the bank is almost not analyzed, and the competitive position of the bank on the market is not estimated, criteria and indicators of the estimation of the efficiency of implementing the banking strategy are not defined. After estimating the efficiency of the development strategies implementation in the banks under research on the basis of analyzing efficiency and riskiness of the banking activity, it is possible to make the conclusion about rather high quality of strategies.

Acknowledgments

The research was made as a part of grant agreement of the Russian Humanitarian Foundation No. 15-32-01389 / 15 on the "Formation of Strategy of Development of an Effective Banking and Real Sectors of the Economy Based on the Effect of Convergence" project.

References

- [1] Aganbekyan, A.G. 2013. Social and Economic Development of Russia: Finance and Credit Aspects. *Money and Credit*, 1: 4-10.
- [2] Ansoff, I. 1989. *Strategicheskoye upravleniye [Strategic Management]*. Moscow: Economy
- [3] Baykova, S.D. 2012. Russian Banking System in Modern Market Conditions. *Finance and Credit*, 34: 25-37.
- [4] Brunnermeier, M.K. 2009. Deciphering the Liquidity and Credit Crunch 2007-08. *Journal of Economic Perspectives*, 23-1: 77-100.
- [5] Dubinin, S.K. 2015. Russian Banking System – Experience during Financial Crisis. *Money and Credit*, 1: 9-12.
- [6] Eretnsenova, V.A. 2016. *Analiz vneshney storony i ee vliyaniye na vybor strategii kommercheskogo banka [Analysis of the External Side and Its Impact on Choosing the Strategy of a Commercial Bank]*. *New Science: Modern State and Ways of Development*, 5-1: 238-240.

- [7] Hitt, M.A., Ireland, R.D. and Hoskisson, R.E. 1995. *Strategic Management: Competitiveness and Globalization*. New York, Los Angeles, San Francisco: Cengage Learning, pp: 440.
- [8] Kazarenkova, N.P., and Kolmykova, T.S. 2016. International Criteria for Country's Banking System Efficiency Assessment. *Economic Annals*, XXI (157): 97-99.
- [9] Kazarenkova, N.P., Ovcharova, O.N. Ostimuk O.V. and Tretyakova, I.N. 2014. Modern Trends of Interaction of Real and Banking Sectors in Conditions of Modernization Russian Economy. *Asian Social Science*, 20: 110-117.
- [10] Khasyanova, S.Y., 2014. On Development of Banking Supervision Based on International Standards. *Money and Credit*, 10: 26-31.
- [11] Khrustalev, E.Yu., Omelchenko, A.N., and Khrustalev, O.E. 2013. Modelirovanie progressivnyh mehanizmov razvitiya bankovskogo sektora Rossii v usloviyah globalizatsii [Modelling Progressive Mechanisms of Developing Russian Banking Sector under Globalization Conditions]. *Finance and Credit*, 15: 2-11.
- [12] Kolmykova, T.S., Sitnikova, E.V. and Tretyakova, I.N. 2015. Credit Resources for the Solution to the Issue of National Economy Modernization. *Finance and Credit*, 1: 2-9.
- [13] Ovchinnikova, O.P. 2013. Evolution of the Banking System of Russia. *Finance and Credit*, 21: 19-28.
- [14] Petrova, T.I. 2014. Effektivnost institutsionalnoy struktury bankovskoy sistemy Rossiyskoy Federatsii [Efficiency of Institutional Structure of Russian Banking System]. *Finance and Credit*, 1: 57-62.
- [15] Prosalova, V.S. and Smolyaninova, E.N. 2015. Rol strategii v strategicheskom upravlenii kreditnoy organizatsiy [Role of Strategy in Strategic Managing Credit Organization]. *International Journal of Applied and Fundamental Researches*, 12-1: 141-148.
- [16] Safari, M.N. 2015. Raznitsa mezhdru marketingovymi strategiyami v raznyh vidah bankov [Difference between Marketing Strategies in Various Types of Banks]. *Journal of Economic Regulation*, 1: 120-128.
- [17] Sherenov, N.A., 2015. Strategicheskoye upravlenie kommercheskimi bankami v Rossii na sovremennom etape razvitiya otrasli [Strategic Management of Commercial Banks in Russia at the Modern Stage of Sector Development]. *Innovations and Investments*, 6: 41-43.
- [18] Shumkova, K.G. 2014. Tendentsii razvitiya bankovskoy sistemy Rossii: ugrozy i vozmozhnosti [Tendencies of Developing the Russian Banking System: Threats and Opportunities]. *Finance and Credit*, 14: 11-20.
- [19] Thompson, A.A. and Strickland, A.J. 2013. *Strategicheskoye menedjment: kontseptsii i situatsii dlia analiza* [Strategic Management: Concepts and Situations for Analysis]. Moscow: Williams.
- [20] Vedev, A.L. 2012. *Prognoz razvitiya finansovyh rynkov RF do 2020* [Forecasting the Development of Russian Financial Markets up to 2020]. Moscow: Gaidar Institute Press.

The Effect of Dividend Policy on Company's Market Price per Share

Marina V. VASILJEVA

Publishing House "Scientific review" (Nauchnoe Obozrenie), Moscow, Russian Federation

Marinavv2010@mail.ru

Suggested Citation:

Vasiljeva, M. 2017. The effect of dividend policy on company's market price per share. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 995-1007.

Abstract

The study aims to determine the nature of the effect produced by dividend policy on the market price per share as a factor of company's efficiency. In this regard, the study develops the concept of direct functional effect of the dividend policy on the market price of the company's stock. The principal advantage of this approach is represented by the possibility to determine the intensity of change and the elasticity of the market price per share affected by the dynamics of dividend payout ratio given the institutional environment and the industry the issuer belongs to. It also helps determine the influence and provides arguments for establishing the modern type of companies' dividend policies under the conditions of both developing and developed stock markets. This approach establishes directly proportionate meaningful effect produced by the company's dividend policy on the market price of its shares and makes the basis for improving theoretical foundations of dividend policy management systems in joint stock companies.

Keywords: dividend policy; market value; market price per share; dividend payout ratio; earnings; capital structure

JEL Classification: G32; L59; C49

Introduction

Dividend policy is one of the key factors of redistributing companies' profits and, consequently, of the financial security of their businesses. Dividend policy is understood as a component element of the company's general financial policy optimizing the proportions between consumed and capitalized profits in order to boost the company's market value. Inasmuch as the principal objective of dividend policy is to establish the required proportionality between the current utilization of the profit and its future growth ensured by sufficient investments, this policy can help maximize the market value of a company and secure its strategic development. Traditionally, dividend policy and the effect it produces on the market price of the company's shares represent one of the most controversial aspects of business activity leading to the heated disputes among financiers and scientists. Should the companies pay out the dividends and, if they should, how much of their profits should these dividends make? How would the investors react to dividend announcements? Up to now, there have been agitated discussions on the significance of the dividend policy for the companies' businesses, on whether they should pay out dividends, on whether the payouts affect the market value of the company and the welfare of the shareholders (Brawn and Sevič 2015, Lee and Mauck 2016).

Conclusion

Dividend policy directly and proportionally affects the company's market price per share. The power of the effect depends on the maturity of institutional environment and on the industry to which the issuer of the share belongs:

- under the developed stock market conditions, the effect produced by the level of dividend payments on market price per share is more significant than it is under the conditions of the emerging stock market.
- across the industries under the developed stock market conditions, the strongest effects of dividend payments on market price per share are observed in such sectors as Industrials, Healthcare & Pharmaceuticals and Consumer Products. Under the conditions of the emerging stock market, the market price per share is largely affected by dividend policy in Telecommunications.
- the elasticity of the market price per share relative to dividend policy also depends on the level of development of institutional environment and on the industry to which the issuer of the share belongs.
- under the conditions of the developed stock market, the market price per share is characterized by the elasticity that tends to grow sustainably. The insensitivity (non-elasticity) of the market price per share affected by the changed dividend payout rates has been discovered in the countries with developing stock markets; and the trend was on the rise.
- in such industries of global economy as Basic Materials, Consumer Products and Financials in the countries with developed stock markets the market price per share remained insensitive when affected by the changed levels of dividend payouts per share;
- under the conditions of the elasticity of the market price per share relative to the levels of dividend payouts, perspective dividend policy focused on continuous growth of dividends was found to be a key factor of successful interaction. If the market price per share is insensitive, then the desired effect can be ensured by implementing conservative dividend policy and by systemic regularity of dividend payouts to the investors.

References

- [1] Aggarwal, R., and Kyaw, N. 2010. Capital structure, dividend policy, and multinationality: Theory versus empirical evidence. *International Review of Financial Analysis*, 19(2): 140-150. DOI: [10.1016/j.irfa.2010.01.001](https://doi.org/10.1016/j.irfa.2010.01.001)
- [2] Akyildirim, E., Güneya, I.E., Rochet, J.-C., and Soner, H.M. 2014. Optimal dividend policy with random interest rates. *Journal of Mathematical Economics*, 51: 93-101. DOI: [10.1016/j.jmateco.2014.01.005](https://doi.org/10.1016/j.jmateco.2014.01.005)
- [3] Al-Malkawi, H.N., Bhatti, M., and Magableh, S. 2014. On the dividend smoothing, signaling and the global financial crisis. *Economic Modelling*, 42: 159-165. DOI: [10.1016/j.econmod.2014.06.007](https://doi.org/10.1016/j.econmod.2014.06.007)
- [4] Andres, C., Doumet, M., Fernau, E., and Theissen, E. 2015. The Lintner model revisited: Dividends versus total payouts. *Journal of Banking & Finance*, 55: 56-69. DOI: [10.1016/j.jbankfin.2015.01.005](https://doi.org/10.1016/j.jbankfin.2015.01.005)
- [5] Batabyal, S., and Robinson, R. 2016. Capital Change and Stability when Dividends Convey Signals. *The Quarterly Review of Economics and Finance*. DOI: [10.1016/j.qref.2016.08.009](https://doi.org/10.1016/j.qref.2016.08.009)
- [6] Batrakova, L.G. 2013. *Theory of Statistics*. Moscow: KioRus. [in Russian]
- [7] Bäuerle, N., and Jaśkiewicz, A. 2015. Risk-sensitive dividend problems. *European Journal of Operational Research*, 242 (1): 161-171. DOI: [10.1016/j.ejor.2014.10.046](https://doi.org/10.1016/j.ejor.2014.10.046)
- [8] Brandmeir, K., Grimm, M., Heise, M., and Holzhausen, A. 2015. *Allianz Global Wealth Report 2015*. Economic Research. Allianz SE.
- [9] Brawn, D., and Sević, A. 2015. Net payout return: An alternative to the traditional returns approach based on dividends and share repurchases. *Finance Research Letters*, 13: 66-73. DOI: [10.1016/j.frl.2015.03.002](https://doi.org/10.1016/j.frl.2015.03.002)

- [10] Caliskan, D., and Doukas, J. 2015. CEO risk preferences and dividend policy decisions. *Journal of Corporate Finance*, 35: 18-42. DOI: [10.1016/j.jcorpfin.2015.08.007](https://doi.org/10.1016/j.jcorpfin.2015.08.007)
- [11] Chang, K., Kang, E., and Li, Y. 2016. Effect of institutional ownership on dividends: An agency-theory-based analysis. *Journal of Business Research*, 69(7): 2551-2559. DOI: [10.1016/j.jbusres.2015.10.088](https://doi.org/10.1016/j.jbusres.2015.10.088)
- [12] Damodaran, A. 2013. *Investment valuation. Tools and techniques for determining the value of any asset*. Moscow: Alpina Publisher. [in Russian]
- [13] David, T., and Ginglinger, E. 2016. When cutting dividends is not bad news: The case of optional stock dividends. *Journal of Corporate Finance*, 40: 174-191. DOI: [10.1016/j.jcorpfin.2016.07.008](https://doi.org/10.1016/j.jcorpfin.2016.07.008)
- [14] Fairchild, R., Guney, Y., and Thanatawee, Y. 2014. Corporate dividend policy in Thailand: Theory and evidence. *International Review of Financial Analysis*, 31: 129-151. DOI: [10.1016/j.irfa.2013.10.006](https://doi.org/10.1016/j.irfa.2013.10.006)
- [15] Florackis, C., Kanas, A., and Kostakis, A. 2015. Dividend policy, managerial ownership and debt financing: A non-parametric perspective. *European Journal of Operational Research*, 241(3): 783-795. DOI: [10.1016/j.ejor.2014.08.031](https://doi.org/10.1016/j.ejor.2014.08.031)
- [16] Floyd, E., Li, N., and Skinner, D.J. 2015. Payout policy through the financial crisis: The growth of repurchases and the resilience of dividends. *Journal of Financial Economics*, 118(2): 299-316. DOI: [10.1016/j.jfineco.2015.08.002](https://doi.org/10.1016/j.jfineco.2015.08.002)
- [17] Gonzalez, M., Molina, C.A., Pablo, E., and Rosso, J.W. 2016. The effect of ownership concentration and composition on dividends: Evidence from Latin America. *Emerging Markets Review*, 30: 1-18. DOI: [10.1016/j.ememar.2016.08.018](https://doi.org/10.1016/j.ememar.2016.08.018)
- [18] Karpavičius, S. 2014. Dividends: Relevance, rigidity, and signaling. *Journal of Corporate Finance*, 25, 289-312. DOI: [10.1016/j.jcorpfin.2013.12.014](https://doi.org/10.1016/j.jcorpfin.2013.12.014)
- [19] Kaźmierska-Jóźwiak, B. 2015. Determinants of Dividend Policy: Evidence from Polish Listed Companies. *Procedia Economics and Finance*, 23: 473-477. DOI: [10.1016/S2212-5671\(15\)00490-6](https://doi.org/10.1016/S2212-5671(15)00490-6)
- [20] Lee, B.S., and Mauck, N. 2016. Dividend initiations, increases and idiosyncratic volatility. *Journal of Corporate Finance*, 40: 47-60. DOI: [10.1016/j.jcorpfin.2016.07.005](https://doi.org/10.1016/j.jcorpfin.2016.07.005)
- [21] Modigliani, F. and Miller, M.H. 1963. Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53: 433-443. Available at: <https://www2.bc.edu/thomas-chemmanur/phdfincorp/MF891%20papers/MM1963.pdf>
- [22] Modigliani, F., and Miller, M.H. 1958. The Cost of Capital, Corporation Finance and the Theory of Investment. *American Economic Review*, 261-297. Available at: http://lib.cufe.edu.cn/upload_files/other/3_20140507105115_01.pdf
- [23] Mori, N., and Ikeda, N. 2015. Majority support of shareholders, monitoring incentive, and dividend policy. *Journal of Corporate Finance*, 30: 1-10. DOI: [10.1016/j.jcorpfin.2014.10.015](https://doi.org/10.1016/j.jcorpfin.2014.10.015)
- [24] Ro, S. 2014. Credit suisse: This Is What the World Stock Market Will Look Like in 2030. Available at: <http://www.businessinsider.co.id/credit-suisse-global-equity-market-2030-2014-7/#.VhmCesFwSKI>.
- [25] Tao, Q., Nan, R., and Li, H. 2016. Information content of unexpected dividends under a semi-mandatory dividend policy: An empirical study of China. *The North American Journal of Economics and Finance*, 37: 297-318. DOI: [10.1016/j.najef.2016.05.00](https://doi.org/10.1016/j.najef.2016.05.00)
- [26] Zhou, Z., Xiao, H., and Deng, Y. 2015. Markov-dependent risk model with multi-layer dividend strategy. *Applied Mathematics and Computation*, 252: 273-286. DOI: [10.4236/jmf.2016.62022](https://doi.org/10.4236/jmf.2016.62022)
- *** Bloomberg. 2015. Available at: <http://www.wtcphila.org/uploads>

- *** Financial Markets. 2015. McKinsey Global Institute. Available at: <http://www.mckinsey.com/>
- *** Henderson Global Investors. 2016. Henderson Global Dividend Index. Available at: https://az768132.vo.msecnd.net/documents/58045_2016_09_07_11_11_30_577.gzip.pdf
- *** Morgan Stanley Capital International. 2016. Available at: <https://www.msci.com/web/msci>
- *** PwC. 2015. Global Top 100 Companies by market capitalization. Available at: www.pwc.com.
- *** The Statistics Portal. 2015. Available at: <http://www.statista.com>.
- *** Trading Economics. 2016. Available at: <http://ru.tradingeconomics.com/>.

Measuring Efficiency of the Australian Real Estate Investment Trust based on Data Envelopment Analysis Approach

Ammar JREISAT

Department of Banking and Finance, College of Business
AI Ain University of Science and Technology, UAE

ammar.jreisat@aau.ac.ae

Suggested Citation:

Jreisat, A. 2017. Measuring efficiency of the Australian real estate investment trust based on data envelopment analysis approach. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50):1009-1015.

Abstract

The paper examined the technical, pure technical and scale efficiency in Australian Real Estate Investment Trust (AREITs) to determine best practice for operations to enhance the performance of REITs. Ten Australian REITs from 2004 to 2011 are examined in terms of input and output variables in the efficiency measurement using the non-parametric approach to benchmark and determine which of the REITs are efficient. Input orientation Variable Return to Scale Data Envelopment Analysis (VRS-DEA model) is used for the entire sample using the DEAP version 2.1. Three inputs are utilized which are operating expenses, administrative expenses, and interest expenses. Meanwhile, outputs used are total assets, enterprise value. As results, of all 10 Australian REITs involved in this study, it shows that the average efficiency score 72%, which means the REITs could minimize the cost to decrease inefficiency by 28%. The result reveal that all the Australian REIT shown high efficiency score in the year from 2004 till 2007 and then the efficiency score decline dramatically until year 2011 which appeared clearly due to the global financial crises. These preliminary findings highlight the pre and post era of the Global Financial Crisis (GFC), which will examine the effects of GFC on the efficiency for Australian REITs.

Keywords: data envelopment analysis; efficiency; Real Estate Investment Trust (REITs); technical efficiency

JEL Classification: D22; D24; G21; G01; C14

Introduction

Real Estate Investment Trust (REITs) growing on a large scale in the United States, Europe and the Middle East, therefore, small investors can easily obtain shares through investment in real estate investment funds without having to buy commercial real estate investment funds. Real estate assets produce income and owned by the REITs includes, offices and shopping centers, apartments, hotels, resorts and building companies, self-storage facilities, warehouses, mortgages or loans. Australia Real Estate Investment Trusts (AREIT) one of the largest sectors on the Australian Stock Exchange. The total market capitalisation of the sector rivals the banks and resource stocks.

There are 47 Australian Real Estate Investment Trust (Listed Property Trusts). For most investors it is unfeasible to own commercial assets by itself or it would not be efficient from a portfolio diversification perspective. REITs allows individual investors to gain exposure to direct real estate assets in their portfolio. While Australian investors love invest in property. REITs is one of the most accessible means for individual investors to gain exposure to Commercial Real Estate. It is also tax efficient. REIT Distributions does not have franking credits because the income is not taxed if it's paid out to investors. The primary objective of this research is to undertake in-depth evaluation and examination of the efficiency of the AREITs, for a balanced panel data which covers 10 companies operating in Australia for the period 2004-2011, by estimating a non-parametric approach Data Envelopment Analysis. The remaining of the paper is structured as follows. The next section will discuss the previous studies of efficiency in REITs. This is followed by Section 3, where we provide a brief review on data and research methodology. Section 4, provides the results and discussion of the efficiency of Australian REITs. The study concludes in Section 5.

Conclusion

In conclusion, it should be noted that the partnership between the state and business in most cases positively affects the economic growth and leads to the structural changes in productive activities; it promotes innovative projects and state-of-the-art technologies. This interaction makes it possible to engage extra funds into infrastructure projects, into industrial sector, healthcare, education, public utility, telecommunications, etc. The institution of public-private partnership ensures the development of productive, social and innovative infrastructure taking into account the interests of business and engaging the business: it improves the efficiency of the employed state property and state funds, it encourages the private sector to develop entrepreneurial activities in the areas that possess the highest potential for economic growth. The authors of this study believe that the establishment and the implementation of partnership between state and business should be the dominants of the innovative growth of Russia resulting in improved investment activity and better performance of the investment sector of the economy decreasing the unnecessary costs in the budgets at all levels while implementing socially important investment projects and programs. Undoubtedly, to solve the issue of modernizing Russian economy, higher efficiency of the investments based on public-private partnership mechanisms would be prerequisite.

References

- [1] Ameyaw, E. E., and Chan, A. P.C. 2013. Identifying public-private partnership (PPP) risks in managing water supply projects in Ghana. *Journal of Facilities Management*, 11(2): 152–182 DOI:/10.1108/14725961311314651.
- [2] Armstrong, J. 2012. Illusion in Regression Analysis. *International Journal of Forecasting (forthcoming)*, 28(3): 689-694. DOI: 10.1016/j.ijforecast.2012.02.001.
- [3] Chou, J-S., Tserng, H.P., Lin C., and Yeh C-P. 2012. Critical Factors and Risk Allocation for PPP Policy: Comparison between HSR and General Infrastructure Projects. *Transport Policy*, 22: 36-48. DOI:/10.1016/j.tranpol.2012.05.009.
- [4] Delmon, J. 2011. *Public-Private Partnership Projects in Infrastructure: An Essential Guide for Policy Makers*. Cambridge University Press.
- [5] Deng, Z., Song, S., and Chen, Y. 2016. Private participation in infrastructure project and its impact on the project cost. *China Economic Review*, 39: 63-76. DOI: 10.1016/j.chieco.2016.04.004.
- [6] Draper, N., and Smith, G. 1998. *Applied Regression Analysis. Multiple Regression*. 3rd Edition. P. 736.
- [7] Fedorova, Ye. A, Gurina, V. A, and Dovzhenko, S.Ye. 2013. Identification of the factors that affect the public-private partnership development in the Russian Federation. *Audit and Financial Analysis*, 2. 412-421.
- [8] Hilvert, C., and Swindell, D. 2013. Collaborative service delivery: what every local government manager should know. *State and Local Government Review*, 45(4): 240–254. DOI: 10.1177/0160323X13513908.
- [9] Keynes, J. M. 1926. *The end of laissez-faire*. London: Hogarth Press. Available at: <https://www.panarchy.org/Keynes/laissezfaire.1926.html>.
- [10] Kireyev, A.V., Sokolov, I.A., Tishchenko, T.V., and Khudko, Ye.V. *Public-private partnership as a tool for supporting innovations*. Moscow, Delo, 2012. P. 512.
- [11] Klijn, E.-H., and Teisman, G. R. 2000. Governing Public-Private Partnerships: Analyzing and Managing the Processes and Institutional Characteristics of Public-Private Partnerships. *Public-Private Partnerships: Theory and Practice in International Perspective* / Ed. by S. P. Osborne. London: Routledge, 2000. P. 84–102.

- [12] Kormishkina, L. A., Kormishkin, E.D., Semenova, N.N., and Koloskov D.A. 2015. Favorable Macro Environment: Formula of Investment Activity Growth under the Economic Paradigm Shifted. *Mediterranean Journal of Social Sciences*, 6(4): 163-172. DOI: 10.5901/mjss.2015.v6n4s4p
- [13] Kormishkina, L.A., Kormishkin, E.D., and Koloskov D.A. 2016. Multiplier and accelerator effects of investments in the Russian economy (Facts, trends and prospects). *Indian Journal of Science and Technology*, 9 (29): 115-129. DOI: 10.17485/ijst/2016/v9i29/99443.
- [14] Kosinova, N.N, and Savchenko D.A. 2013. Applying public-private partnership mechanism to implement the industrial policy of the region. *Regional Economy: Theory and Practice*, 38: 47-51.
- [15] Maier, T. 2015. *An 8-point plan for closing the infrastructure gap*. Available at: <https://www.weforum.org/agenda/2015/09/an-8-point-plan-for-closing-the-infrastructure-gap/>.
- [16] Manko, N. 2012. Innovation projects: applying the public-private partnership models. *Problems of Management Theory and Practice*, 6: 50-58.
- [17] Nikitayeva, A.Yu. 2013. Public-private partnership in innovative development of industrial sector: trends and implementation tools at regional level. *Regional Economy: Theory and Practice*, 34: 9-15.
- [18] Nizhegorodtsev, R.M, Nikitenko, S.M, and Goosen Ye.V. 2012. *Public-private partnership in innovations: world practices and perspectives of Russia*. Kemerovo, Sibirskaya publishing group LLC. P. 482.
- [19] Oshima, K. 2016. Public-Private Partnerships, Dividing Operational Stage, and Optimal Governance Structures. *Public Organization Review*. 16(4): 443-459. DOI:10.1007/s11115-015-0321-3
- [20] Robert-Jan, Sm. 2013. Boosting Industrial Competitiveness through Public-Private Partnerships in the Field of Research and Innovation EU-level. *The European Files*. 26: 10-12
- [21] Schomaker Rahel, M. 2017. Public-Private Governance Regimes in the Global Sphere. *Public Organization Review*, 17(1): 121-138. DOI:10.1007/s11115-015-0333-z
- [22] Senchagov, V.K. 2011. *Modernization of financial sphere in Russia: monograph*. Moscow, Saint-Petersburg, Nestor-Istoriya. P. 304.
- [23] Singewar, M, and Deshmukh, S.S. 2016. Analysis of Critical Success factors for effective implementation of Public Private Partnership in Real Estate and Infrastructural Development a Compendium Case Study. *Imperial Journal of Interdisciplinary Research*, 2(8): 204-2011.
- [24] Smith, E.M., and Thomasson A. 2016. The Use of the Partnering Concept for Public–Private Collaboration: How Well does it Really Work? *Public Organization Review*, 1-16. DOI: 10.1007 / s11115-016-0368-9
- [25] *Study: Public-private partnership development in Russia over 2015–2016. Rating of the regions in terms of PPP development*. Association “PPP Development Center”, Ministry of Economic Development of the Russian Federation. Moscow, “PPP Development Center” Association, 2016. 36.
- [26] Van Haam, H., and Koppenjan J. 2001. Building Public-Private Partnerships: Assessing and Managing Risks in Port Development. *Public Management Review*, 3(4): 593-616.
- [27] Varnavskiy, V.G. 2009. *Public-private partnership*. Moscow, IMEMO RAS, 1: 312.
- [28] Weiss, B. 1985. *Public-private partnerships: financing a common wealth*. Washington D.C. Government Finance Research Center.
- [29] Yemelyanov, Yu. S. 2013. *Public-private partnership: innovations and investments. World and domestic practices*. Moscow, Librokom.

- [30] Yescombe, E. R. 2013. *Public-Private Partnerships: Principles of Policy and Finance*, 2nd Edition, Elsevier Science, Oxford.
- [31] Yuryeva, T. V. 2016. Public-private partnership based on project approach. *Modern Management Techniques*, 4(64). Available at: <http://sovman.ru/article/6406/>.
- [32] Zaharioaie, M. 2012. Appropriate Financial Instruments for Public-Private Partnership in European Union. *Procedia Economics and Finance*, 3: 800-805. DOI: /10.1016/S2212-5671(12)00233-X
- *** *Closing the Infrastructure Gap: The Role of Public-Private Partnerships. Deloitte Research Study*. 2006. P. 40. Available at: http://www.cnrs.fr/aquitaine/IMG/pdf/closing_the_infrastructure_gap.pdf.
- *** European Investment Bank (2004). *The EIB's role in Public-Private Partnerships*. Available at: http://www.eib.org/attachments/thematic/eib_ppp_en.pdf.
- *** *Unified Information System of public-private partnership in the RF*. Available at: <http://www.pppi.ru>

Measuring Corporate Social Responsibility Disclosure and the Financial Crisis in Italy. Comparison of the Two Years Prior to the Crisis (2006) and the Two Years since the Onset of the Crisis (2010)

Alessandro MORSELLI

Department of Law and Economics
University of Rome Unitelma Sapienza, Italy
alessandro.morselli@unitelmasapienza.it

Marco VENTURA

Department of Law and Economics
University of Rome Unitelma Sapienza, Italy
marco.ventura18@virgilio.it

Suggested Citation:

Morselli, A., Ventura, M. 2017. Measuring Corporate Social Responsibility disclosure and the financial crisis in Italy. Comparison of the two years prior to the crisis (2006) and the two years since the onset of the crisis (2010). *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1025-1037.

Abstract

This study is aimed at searching for a tool capable of measuring the performance of CSR disclosure of companies in 2006 (pre-crisis) and 2010 (crisis). All this in order to verify whether: H0: CSR disclosure does not change during a time of financial crisis; H1: CSR disclosure changes significantly during periods of financial crisis.

The object of study concerns the content of the sustainability report drawn up in accordance with GRI criteria by companies listed on the FTSE-MIB that have been using this standard at least since 2006. If we take a look at previous studies, which follow the logic of content analysis, we identify and find keywords (environmental and social ones derived from the GRI framework) in the sustainability report. In order to be considered valid, the keywords must meet a set of predetermined rules. These on a whole configure a scoring system. The scores reported are used to verify the hypothesis of the study, to determine to what extent CSR disclosure has suffered, like all the other indicators, of the financial and economic crisis.

Keywords: corporate social responsibility; content analysis; GRE; social responsibility report; disclosure

JEL Classification: M14; M41; M42

Introduction

Corporate Social Responsibility (CSR) is a current topic that is much debated in academic circles. Scholars are faced with two types of issues, primarily the lack of a commonly accepted definition of CSR and secondly the issue of being able to measure it. This study agrees with the definition of CSR by Edward Freeman and the stakeholder theory that in literature is "opposed" to shareholder theory.

To measure the performance of CSR disclosure, our study starts from the GRI standard most in use today, at least in the sample considered, and from the sustainability and social responsibility reports and financial statements, and applies the tool of content analysis.

Previous studies regarding the measurement of CSR performance in a context of crisis have translated the judgment on the level of application of the GRI standard (expressed by a letter) into a numerical system. This study, while recognising the validity and value of previous studies and following the approach based on content analysis, examines what companies claim to do (through the analysis of "social" responsibility reports). The choice of the content analysis tool, as well as being supported by academic articles that preceded this study, is supported by the fact that the economic, social and environmental information contained in the sustainability report is not always present and/or comparable in time and space. This problem is overcome by analysing the

single word that framed in a default rule system ensures that our study has the required objectivity and comparability over time and space.

Everything is analysed in context before the crisis (2006) and during the crisis (2010). The economic crisis offers a unique opportunity, allowing us to make comparisons between the current situation and the one prior to the crisis. The context of this study is the financial and economic crisis that started in 2008 in the U.S.A. following the subprime mortgage bubble burst (Morselli 2011). This crisis, unlike the previous ones, calls into question the entire global economic system, forcing governments and businesses to identify a new path of development. A path where values, trust and corporate social responsibility become essential.

The choice of linking CSR performance and the economic crisis is not accidental, because it is believed that the crisis of 2008 is not only economic but also, and especially, concerns the values that underlie the whole economic system.

The study is aimed at verifying the hypothesis supported by the data analysis of the sample corresponding to the requirements identified. The data is analysed using open source R statistical software and statistical tests (Shapiro-Wilk, T Test and where the T test cannot be used, using the Wilcoxon Rank Sum and Signed Rank Tests), which are highly recurrent in literature, precisely as a means to verify the assumptions previously postulated.

Conclusions

The cause of the crisis we are experiencing is not only due to economic and social aspects, but, above all, to issues related to values.

Although the recession that started in Italy in 2008 is still not over, we can say that society did not give much importance to the warning signs of the crisis of values that we are experiencing (see among all the Enron case). Values have been set aside because absolute priority was given to profits without thinking of anything else but how to increase them.

The rediscovery of the key importance of values in the economic relations and the rebuilding of trust between stakeholders in social relations are the only tool that will allow us, albeit in the long term, to rebuild a better society that is economically and socially sustainable, to which future generations will be able to give their contribution.

This is the logic behind our study, which was presented and with which we want to highlight that companies, because they are businesses formed and governed by men, are bearers not only well-being and development, but also of values. Values are therefore central and are reflected in all actions and decisions that the company and its governance take daily. The values of which they are bearers find representation in sustainability reports, which explains why we analysed them.

In a context of crisis, businesses are led to reduce CSR activities immediately, and the analysis conducted here also shows how the disclosure of CSR changes significantly when comparing 2006 (pre-crisis year) with 2010 (year of crisis).

The result shown here is one of many truths, as there are cases of companies mentioned in this study that even in a context of crisis continued to invest in CSR and in the values that it represents. When looking at the available figures, these firms have suffered from the financial and economic crisis of 2006 less than their competitors (see primarily Whole Foods Market). This study can be further developed by updating the research data, extending the period of analysis and analysing the data from other countries.

Reference

- [1] Birth, G., Illia, L., Lurati, F., and Zamparini, A. 2008. Communicating CSR: practices among Switzerland's top 300 companies. *Corporate Communications: An International Journal*, 13(2): 182-196.
- [2] Branco, M. C., and Rodrigues, L. L. 2008. Factors Influencing Social Responsibility Disclosure by Portuguese Companies. *Journal of Business Ethics*, 83(4): 685-701.
- [3] Branco, M.C., and Lima, Rodrigues L. 2007. Positioning Stakeholder Theory within the Debate on Corporate social responsibility. *Electronic Journal of Business Ethics and Organization Studies*, 12 (1): 5-15
- [4] Calderon, Huerta M. R. 2012. Examining CSR Reporting and Economic Crisis a Study of GRI Reporting Companies. *Asian Economic and Financial Review*, 2(1): 30-39.
- [5] Charitoudi, G., Giannarakis, G., and Lazarides, T. G. 2011. Corporate Social Responsibility Performance in Periods of Financial Crisis European. *Journal of Scientific Research*, 63(3): 447-455.
- [6] Dragomir, V.D. 2010. Environmentally sensitive disclosures and financial performance in a European setting. *Journal of Accounting & Organizational Change*, 6(3): 359-388.
- [7] Everaert, P. et al. 2009. *Discovering patterns in corporate social responsibility (CSR) reporting: A transparent framework based on the Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines* Universiteit Gent, Working Paper, January, 2009/557.
- [8] Fernández-Feijóo Souto, B. 2009. Crisis and Corporate Social Responsibility: Threat or opportunity? *International Journal of Economic Sciences and Applied Research*, 2(1): 36-50.

- [9] Gamerschlag, R., Möller, K., and Verbeeten, F. 2011. Determinants of voluntary CSR disclosure: empirical evidence from Germany. *Review of Managerial Science*, 5(2-3): 223-262.
- [10] Giannarakis, G., and Theotokas, I. 2011. The Effect of Financial Crisis in Corporate Social Responsibility Performance. *International Journal of Marketing Studies*, 3(1): 2-10.
- [11] Guthrie, J., and Farneti, F. 2008. GRI sustainability reporting by Australian public sector organizations. *Public Money & Management*, 28(6): 361-366.
- [12] Haniffa, R. M., and Cooke, T. E. 2005. The impact of culture and governance on corporate social reporting. *Journal of Accounting and Public Policy*, 24(5): 391-430.
- [13] Heldberg C.J., Von Malmborg, F. 2003. The global reporting initiative and corporate sustainability reporting in Swedish companies. *Corporate Social Responsibility and Environmental Management*, 10: 153-164.
- [14] Holder-Webb L., Cohen, J.R., Nath, L., and Wood, D. 2009. The Supply of Corporate Social Responsibility Disclosures among US Firms. *Journal of Business Ethics*, 84(4): 497-527.
- [15] Karaibrahimoglu, Y. Z. 2010. Corporate social responsibility in times of financial Crisis. *African Journal of Business Management*, 4(4): 382-389.
- [16] Main, N., Hespenheide, E. 2012. Integrated Reporting: The New Big Picture. *Deloitte Review*, 10: 124-137.
- [17] Morselli, A. 2011. *L'instabilità del capitalismo contemporaneo e i suoi effetti sul sistema economico-sociale globale*, (CSE), Malatesta Editrice, Apricena.
- [18] Njoroge, J. 2009. Effects of the global financial crisis on corporate social responsibility in multinational companies in Kenya. *Covalence Intern Analyst Papers*, available at: www.covalence.ch/docs/Kenya-Crisis.pdf accessed on 30 December, 2009.
- [19] Oeyono, J., Samy, M., and Bampton, R. 2011. An Examination of corporate social responsibility and financial performance A study of the top 50 Indonesian Listed Corporations. *Journal of Global Responsibility*, 2(1): 100-112.
- [20] Roberts, D. H., and Koeplin, J. P. 2007. Sustainability Reporting Practices In Portugal: Greenwashing Or Triple Bottom Line? *International Business & Economics Research Journal*, 6(9): 29-40.
- [21] Sunder, S. 1997. Accounting and the Firm: A Contract Theory. *Indian Account. Rev.*, 1(1): 1-19.
- [22] Sutantoputra, A. W. 2009. Social disclosure rating system for assessing firms' CSR reports. *Corporate Communications: An International Journal*, 14(1): 34-48.
- *** <http://www.autogrill.com/sustainability/sustainability.aspx?iis=1>
- *** <http://www.autostrade.it/sostenibilita/rapporti-sostenibilita.html?initPos=4>
- *** <http://www.borsaitaliana.it/notizie/finanza-etica/rating-etico/primo-piano/rating-esg.htm>
- *** <http://www.buzziunicem.it/online/it/Home/Sostenibilita/artCatPubblicazioni.19.1.50.6.html>
- *** http://www.enel.com/it-IT/sustainability/our_responsibility/Sustainability_report/
- *** http://www.eni.com/it_IT/sostenibilita/reporting-di-sostenibilita/archivio-dei-bilanci-reporting/archivio-dei-bilanci.shtml
- *** http://www.feb.ugent.be/nl/Ondz/wp/Papers/wp_09_557.pdf
- *** http://www.fiatspa.com/it-IT/investor_relations/sustainability/Pages/default.aspx
- *** <http://www.general.com/Generali-Group/Sustainability/sustainability-report/archive/>

- *** <http://www.kpmg.com/PT/pt/IssuesAndInsights/Documents/corporate-responsibility2011.pdf>
- *** <http://www.mps.it/I+Nostri+Valori/Bilanci+e+Relazioni/>
- *** <http://www.pirelli.com/corporate/it/site/toolbox/archive/2012.html>
- *** <http://www.r-project.org/>
- *** <http://www.saipem.com/site/it/Home/Sostenibilita/Reporting/cardCatBilanciocumentedocumenti.2058.1.100.6.1.html>
- *** http://www.snam.it/it/sostenibilita/strumenti_documenti/documenti-sostenibilita/
- *** http://www.st.com/internet/com/about_st/company_reports_st.jsp
- *** <http://www.telecomitalia.com/tit/it/sustainability/sustainability-report/sustainability-reports.html>
- *** http://www.terna.it/default/Home/sostenibilita2/sost_pubblidoc.aspx
- *** <http://www.ubibanca.it/pagine/Bilancio-Sociale-IT-6.aspx>
- *** http://www.wholefoodsmarket.com/sites/default/files/media/Global/Company%20Info/PDFs/2011_10K.pdf
- *** <https://www.unicreditgroup.eu/it/sustainability/reporting---metrics.html>
- *** www.istat.it/it/files/2011/02/Molteni.ppt

The Mediating Effect of Inflation on the Effect of Tradeliberalization and Government Spending towards Welfare

Indraswati Tri Abdi REVIANE

Department of Economic, Faculty of Economic and Business

University of Hasanuddin, Makassar, Indonesia

indraswati.unhas.jp@gmail.com

Suggested Citation:

Reviane, I.T.A. 2017. The mediating effect of inflation on the effect of tradeliberalization and government spending towards welfare. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1038-1047.

Abstract:

The purpose of this study is to find the effect of trade liberalization and government spending on welfare, both directly and indirectly, through the mediation of the inflation rate. The research method used in this research is the Library Research, as a form of research that utilizes the available literature in the form of books, journals, data and other empirical studies. These materials can be obtained from the library directly or Internet. The data used in this research is secondary data from multiple data sources, such as the International Financial Statistics of the IMF, World Bank, Bank Indonesia report, Central Bureau of Statistics (BPS) and other sources. All of the data used in this study are the annual data for each research variable from 1986 to 2015. The result show that there is significant influence between the variables Liberalism trade and government spending to the inflation rate. Similar results were found on the influence of trade liberalism and the level of inflation on welfare having significant influence. But unlike the effect of government spending on welfare who has no direct influence. However, it was found that the rate of inflation mediating variables influence trade liberalism and government spending on welfare.

Keywords: trade liberalization; government spending; welfare; inflation

JEL Classification: B4; D6; E2; E5; E6; I3; N3

Introduction

In the globalization era, today, there are many issues related to the trade liberalization dominate the commodity trading in international market, as occurred in Indonesia. It is occurred to face the trade and investment liberalization in 2020 for the developing countries and in 2010 for the developed countries. In general, the trading sector has a considerable contribution in the economy of every country, especially for Indonesia, it is the second largest sector, after the household consumption, towards the Gross Domestic Product (GDP). Nonetheless, in general, the developing countries, including Indonesia, admit that the policy in trade restriction using tariff is not only to protect the domestic import substitution industry but also to increase the government revenue. It is worried that the domestic import substitution industry is not able to compete with the similar industry in International market due to the relatively low competitiveness. The low competitiveness can be due to the relatively low efficiency and productivity.

Furthermore, in recent years, the trade liberalization is increasingly promoted as one of the best mechanisms to reduce the poverty rate in the world that is recently increasing (Weisbrot, Rosnick and Baker 2002). Therefore, the effect of trade liberalization on the domestic exchange rate, tax revenue and future welfare is a very important issue in practice. Accordingly, this research tries to observe and analyze these relations, especially in Indonesia, with a purpose to find the effect of trade liberalization and government spending on welfare, both directly and indirectly, through the mediation of the inflation rate.

1. Literature review

According to Salvatore (2004) in Nongsina and Hutabarat (2007), the theoretical backgrounds of international trade that become the background of the trade liberalization are, among others, comparative advantage theory and factor endowments theory. David Ricardo makes perfection on the absolute advantage theory by Adam Smith by expressing the comparative advantage theory. The comparative advantage theory states that under the

conditions of free trade, even if one of the countries is absolutely less efficient than other countries in producing both goods, while another country, in fact, has an absolute advantage in producing both goods, but these two countries are still possible to conduct trade and gains from trade can still be received by both parties.

The first country (absolute disadvantage country) should specialize in producing and exporting commodities which have the least absolute disadvantage (these commodities are called as the comparative advantage) and imports the commodities which have the most absolute disadvantage (these commodities as the comparative disadvantage). Conversely, the second country (absolute advantage country) will specialize in producing and exporting of the commodities which have the most absolute advantage (these commodities are called as the comparative advantage) and importing the commodities which have least absolute advantage (these commodities are called as the comparative disadvantage).

Therefore, according to Salvatore, in the international trade, this Ricardian model illustrates that the benefits of the trade would promote international specialties. Each country will shift its resources from the inefficient sector or industry to the relatively more efficient sector or industry. The Ricardian Model also emphasizes that it is not only all of the participating countries that will benefit from this trade, but all individuals will be better because, according to Ricardian, international trade does not affect the distribution of income.

Many economists believe that the international trade theory (*Ricardian theory and Heckscher-Ohlin model*) has failed to provide a complete definition concerning the structure of world trade (Chacholiades 1978). In general, it said that the data of world trade consists of several empirical rules that seem to be inconsistent with the traditional trade theory, that rises a variety of alternative theories.

The things that cause the inconsistency are, first, the fact shows that more than half of the world trade occurs between countries that have similarities in the factor of abundant production in their respective countries (*trade among similar economies*). Second, most of the world trade, especially for the trade between the developed countries, have the exchange of the relatively similar goods or is also called as inter-industry trade. Third, the current world trade indicates an increasingly liberal way.

Boediono (2001) states that there are five benefits of the opening of trade liberalization. First, the market access will be broader, so that it allows to gain efficiency since trade liberalization tends to create new production centers as the locations for interrelated and mutually supporting industrial activities, so that the production costs can be reduced. Second, the business climate has become more competitive, thereby reducing the activities which are 'rent seeking' and encouraging employers to increase productivity and efficiency, not how to expect to get facilities from the government. Third, the more liberal trade and investment flows facilitate the technology transfer process to increase productivity and efficiency. Fourth, the more liberal trade provides the correct price signal, so that it increases the efficiency of investment. Fifth, the more liberal trade increases consumers' welfare because it opens several new options. However, in order to run the trade liberalization smoothly, a competitive market needs a support of legislation governing the fair competition and prohibiting the monopolistic practices.

The result of a comparative study estimates the acquisition of benefits between the scenarios of trade liberalization process. Feridhanusetyawan and Pangestu (2003) states that the implementation of liberalization commitments through the Uruguay Round (WTO) that is followed by the unilateral liberalization policy, internally, would be beneficial for Indonesia compared with the implementation of the Uruguay Round as a single implementation. Meanwhile, the establishment of AFTA is estimated only to provide relatively small additional benefit for Indonesia or other ASEAN member countries, since the ASEAN region and market are also relatively small. In addition, the trade of ASEAN countries is more conducted with the non-ASEAN countries, whereas the tariff reduction agreement applies only to the ASEAN member countries. Consequently, the tariff reduction through AFTA agreement becomes ineffective.

Conclusions

Based on the results of analysis show that there is significant influence between the variables Liberalism trade and government spending to the inflation rate. Similar results were found on the influence of trade liberalism and the level of inflation on welfare having significant influence. But unlike the effect of government spending on welfare who has no direct influence. However, it was found that the rate of inflation mediating variables influence trade liberalism and government spending on welfare.

In connection with the positive impact of trade liberalization on domestic inflation, the government should take the domestic price stabilization policy in order to have no impact on economic growth decreases. The rising level of domestic inflation as a result of trade liberalization is because the concentration of the domestic market by way of several industry mergers so that the greater economies of scale. On the one hand this can lead to a policy of price levels and profit margins are increasing and on the other hand can reduce costs through economies of scale these factors. For further research with the topic of trade liberalization can use the *cross-section* data with data panel in order to review and compare the effect of trade liberalization in each country or each region in Indonesia. It is also expected that the future researcher can add some other relevant variables, such as the impact of liberalization on the environment.

References

- [1] Acharya, S., and Solomon, C. 2008. Trade liberalisation and household welfare in Nepal. *Journal of Policy Modeling*, 30(6): 1057-1060.
- [2] Amang, B., and Sawit, M.H. 1997. Global Trade and its Implications on National Food Security (In Indonesian Perdagangan Global dan Implikasinya pada Ketahanan Pangan Nasional). *Agro Economics*, Year XXVII, 2: 1-14. Perhepi. Jakarta.
- [3] Boediono. 2001. International Economics (In Indonesian Ekonomi Internasional). BPFE Universitas Gajahmada.
- [4] Chacholiades, M. 1978. International Trade Theory and Policy. McGraw-Hill.
- [5] Davis, D.R. 1996. Trade Liberalization and Income Distribution, Harvard Institute for International Development, NBER Working Paper 5693.
- [6] Feridhanusetyawan, T. dan M. Pangestu. 2003. Indonesian Trade Liberalization: Estimating the Gains. *Bulletin of Indonesian Economic Studies*, 39 (1): 51-74.
- [7] Ilham, N. 2003. Impact of Economic Liberalization on Trade and Welfare Countries in the World (In Indonesian Dampak Liberalisasi Ekonomi terhadap Perdagangan dan Kesejahteraan Negara-Negara di Dunia). *Journal of Economics and Development*, XI (2), LIPI. Jakarta.
- [8] Kariyasa, K. 2003. Impact of Import Tariff and Performance Base Price Policy and Its Implication Rice Indonesia Competitiveness in the World Market (In Indonesian Dampak Tarif Impor dan Kinerja Kebijakan Harga Dasar serta Implikasinya Terhadap Daya Saing Beras Indonesia di Pasar Dunia). Research and Development Center Social Economics of Agriculture (Puslitbang Sosial Ekonomi Pertanian), Bogor.
- [9] Nongsina, F. S., Hutabarat, P. M. 2007. Effect of Trade Liberalization Policy on the Growth Rate of Export-Import Indonesia (In Indonesian Pengaruh Kebijakan LiberalisasiPerdagangan terhadap Laju Pertumbuhan Ekspor-Impor Indonesia). Parallel session IB: Trade I (Policy). Wisma Makara, Kampus UI- Depok.
- [10] Rodrik, D. 1995. *The Rush to Free Trade in the Developing World: Why so Late? Why Now? Will It Last?* NBER Working Paper No.3947, Boston, Mass.: NBER.
- [11] Tovar, J. A. 2004. The Welfare Effects of Trade Liberalization and Exchange Rate Pass through: Evidence from The Car Industry in Colombia. University of California, Berkeley.

- [12] Tybout, J. R. 1992. Linking Trade and Productivity. *The World Bank Economic Review*, 6:189-211.
- [13] Weisbrot, M., Rosnick, D., and Baker, D. 2002. The Relative Impact of Trade Liberalization on Developing Countries. *Investigacion Economica*. 62(244): 15 – 55.
- [14] Yang, Y. Y., and Hwang, M. 2001. The Pricing Behavior of Korean Manufactured Goods during Trade Liberalization, *Journal of Policy Modeling*, 23(4): 357-369.
- [15] Yang, Y. Y., and Hwang, H. 1999. Effects of Trade Liberalization on Domestic Prices: The Evidence from Korea, Working Papers 1983-1995.

Public-Private Partnership Development Specifies in Kazakhstan

Sarsengali ABDYMANAPOV
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
mailbox@kuef.kz

Aigul TOXANOVA²
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
aigul.toxanova@yandex.ru

Alma GALIYEVA
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
Alma-galieva@mail.ru

Ainur ABILDINA
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
aalimbaeva@mail.ru

Anar AITKALIYEVA
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
gulden.baybusinova.92@mail.ru

Zhuldyz ASHIKBAYEVA
Kazakh University of Economics
Finance and International Trade, Astana, Kazakhstan
zhuldyz08@gmail.com

Suggested Citation:

Abdymanapov, S., *et al.* 2017. Public-Private partnership development specifies in Kazakhstan. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1048-1063.

Abstract

The relevance of the study is determined by a need to implement new forms of cooperation between the state and the private sector, viz. public-private partnership mechanisms (hereinafter referred to as PPP) due to the limited the state financial capacity to carry out long-term projects in modern conditions. The purpose of this research is to study special aspects of mutually beneficial and effective government and business partnership development in Kazakhstan. As part of this study, an analysis of the current PPP development status in the Republic of Kazakhstan has been carried out; institutional and legislative framework of PPP has been defined. This study reveals that it is necessary to provide a set of measures that will contribute to forming a ready PPP market in Kazakhstan, attractive for both domestic and foreign investors.

Keywords: energy sector; public-private partnership; legal framework; infrastructure facilities

JEL Classification: H420; H440; L330

Introduction

In recent years there has been a growing interest on the part of the government to the private sector in terms of using its potential for financing, creating, and implementing projects aimed at infrastructure development. Studies

² Corresponding Author

have shown that as of today, a considerable experience in the implementation of PPP projects in various industries has been obtained, particularly in the fields of industrial infrastructure, innovation sector, transportation, the social sphere, and in the sphere of public services. The use of PPP mechanisms confers a number of advantages, both for the state and for business development. For the private sector, new investment opportunities and, therefore, new sources of income are offered, as well as the opportunity to participate in major projects. On the other hand, PPP involves the private sector resource and intellectual potential utilization in the areas of traditional government liability. However, despite these facts, the mechanism has not been properly developed in Kazakhstan.

Public-private partnership projects in various forms are actively gaining popularity in many countries as a tool for creating new infrastructure facilities and providing services for public works. Despite the fact that, over the last decades, this phenomenon has been presented as a kind of invention, PPP has a long-standing tradition in many countries of the world.

At the present stage, there is a special increase in infrastructure investment using PPP mechanisms in the developing economies of Southeast Asia; thus, China accounts for up to 90% of such transactions. As for Europe and the United States, an uneven use of PPP is observed: due to intensive processes of the infrastructure sector restructuring and application of the relevant legislation, the UK, France, and Spain are the leaders of applying PPP mechanisms in Europe.

It is no coincidence that in the framework of the Message of President of the Republic of Kazakhstan – Leader of the Nation Nursultan Nazarbayev (2012) to the people of Kazakhstan ‘Strategy’ Kazakhstan-2050: a new policy of the established state’, a comprehensive support for entrepreneurship as the driving force of the national economy is provided, including creation of a new PPP model ‘Strong business – strong state’.

In accordance with the state program of industrial-innovative development for 2015-2019, the industrial development of the country is defined as a basic condition for the national economy growth, its stability and balance (RK SPIID 2014). A successful realization of industrial-innovative development of the national economy should primarily be based on mutually effective partnership of government and business, particularly in the priority sectors of its development, leveraging the experience of public-private partnership (PPP) of highly developed countries.

In Kazakhstan, under the conditions of growing social needs for infrastructure facilities and quality of their services, the government financial resource insufficiency for renovation and creation of infrastructure facilities, the use of PPP mechanisms can provide fulfillment of a number of tasks in the fields of the traditional government liability, will allow realizing and developing the potential of private investors and raising funds of institutional investors.

The use of PPP mechanisms in Kazakhstan will not only increase the supply of resources for infrastructure projects reducing the budgetary expenditures at the same time, but also give an opportunity to provide better services. The private sector, given the opportunity to participate in major projects, will discover both new investment opportunities and new sources of revenue. It is important to note that PPP is an important anti-crisis tool to overcome the crisis through the mechanism of business and economic recovery stimulation.

It should be noted that there is much concern about the issue of infrastructure development in both developed and developing countries. According to the OECD and McKinsey & Co estimates, needs for infrastructure investment globally till 2030 amount to 57-67 and 75 billion USD, respectively (OECD 2007, Dobbs *et al.* 2013). In this regard, many countries are increasingly turning to public-private partnerships as a meaningful alternative to building and reconstruction of the required infrastructure and provision of public services. Also, it is worth noting that PPP is seen not only as a tool to attract investments in infrastructure, but also as a tool to improve the efficiency and quality of public services.

Conclusions

If defining the condition and the development level of PPP in Kazakhstan according to a procedure proposed by the UNECE, at the moment it can be argued that the preparatory phase in Kazakhstan has been passed in full, and the second phase of the PPP implementation process is nearing completion.

In course of the study, the following results have been obtained:

- In the current economic environment, it is obvious that in the government budget, there is a shortage of funds for a continuous provision of replacement and extended reproduction in all branch enterprises; therefore, there is a need for an assignment for temporary medium- and long-term use of public property to the private sector with the government's right reserved to regulate and control its operation.

- In comparison with the countries where PPP has a wide experience and is consistently applied by the government as an alternative during the implementation of infrastructure projects, the experience of Kazakhstan is not yet vast enough. At the same time, the high demand for infrastructure projects contributes to focusing on creating the necessary legal and investment environment for the PPP development in this country.

- Public-private partnership has become an indispensable tool for the infrastructure economic sector development of the Republic of Kazakhstan. The mechanisms of project financing through PPP allows the government to transfer a substantial share of the investment burden into the hands of business, while still retaining control of the overall infrastructure development strategy.

- The results of the study will allow creating conditions for improving the quality of preparation and implementation of concession projects, the use of new types of PPP contracts in various sectors of the economy, as well as providing an effective selection of the most optimal scheme of implementing concession projects out of the variety of PPP forms. Well-structured and properly implemented PPPs may well result in an efficiency increase during the infrastructure facilities construction and the provision of infrastructure services, and, therefore, reduce the public expenditure to ensure the availability of these services. If a decision is taken in favor of PPP, it is important to make sure that the drafting process is still aimed at achieving economic efficiency and ensuring acceptability in budgetary terms.

- The study has revealed the following specificities of the PPP development in the Republic of Kazakhstan: while beginning with infrastructure projects, yet, in the sectoral structure there has been an inclination towards social projects, including health care and education; in the regional structure of PPP projects, the city of Astana and East Kazakhstan region take the most active part in the creation of public-private partnership projects. At the same time, low activity is observed in a number of regions: Akmola, Aktobe, Atyrau, Kostanay, and Pavlodar regions. In terms of legislation, the following amendments have been introduced: deregulation in terms of PPP application sectors (all sectors of the economy); new contract types introduced (service contracts, life cycle contracts, innovation contracts); the pool of PPP participants expanded (including national companies and holding companies, state-owned enterprises and financial institutions). Regarding local PPP projects (to the value of up to 4 million MCI = 7.9 billion tenge), implemented on the basis of standard documentation, tendering procedures are carried out without expert examination and preliminary assessment (on the basis of the National Chamber of Entrepreneurs register).

Thus, further PPP development in the Republic of Kazakhstan will be an important factor in the economic interaction between the public authorities and the private sector for the purpose of development, planning, financing, construction, and operation not only of production facilities, but also the social infrastructure. Therefore, partnership between the government and the private sector should be characterized as a long-term cooperation in order to attract additional sources of funding and as an effective symbiosis of corporate management practices and government control.

References

- [1] Abdymanapov, S.A. (Ed.) 2015a. *The development of public-private partnership mechanisms in the Republic of Kazakhstan*. Monograph, Astana: "Esil" Publisher.

- [2] Abdymanapov, S.A. (Ed.) 2015b. *Public-private partnership in the social sphere*. Astana: “Esil” Publisher.
- [3] Abdymanapov, S.A., Abiesov, Zh.A. (Eds.) 2014. *Public-private partnership in the Republic of Kazakhstan*. Astana: KazUEFMT Press.
- [4] Abdymanapov, S.A., Toxanova, A., and Galiyeva, A. 2016. Development of Public-Private Partnership in the Republic of Kazakhstan. *International Electronic Journal of Mathematics Education*, 11(5): 1113-1126. Available at: <http://iejme.com/makale/540>
- [5] Delmon, J. 2010. *Public-Private Partnership Projects in Infrastructure: An Essential Guide for Policy Makers*. Astana: Publishing House of JSC “Kazakhstan Center of Public-Private Partnership”.
- [6] Dobbs, R., et al. 2013. *Infrastructure Productivity. How to save \$1 trillion a year*. McKinsey Global Institute. Available at: <http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/infrastructure-productivity>.
- [7] Foster, V., Andrés, L.A., Guasch, J.L., and Haven, T. 2009. *The Impact of Private Sector Participation in Infrastructure: Lights, Shadows, and the Road Ahead*. World Bank. Available at: <http://documents.worldbank.org/curated/en/912661468231538767/pdf/456250PUB0Box3101OFFICIAL0USE0ONLY1.pdf>
- [8] Gassner, K., Popov, A.; and Pushak, N. 2009. Does Private Sector Participation Improve Performance in Electricity and Water Distribution? *Trends and Policy Options*; No. 6. Washington, DC: World Bank. Available at: <https://openknowledge.worldbank.org/handle/10986/6605> License: Creative Commons Attribution CC BY 3.0 IGO.
- [9] Juričić, D. 2013. *Development of PPP in Croatia Actual Market Movement*. Available at: http://www.eib.org/epcc/resources/presentations/presentation_development_of_ppp_in_croatia.pdf
- [10] Knaus, V.V. 2008. *Management of development of public-private partnership*. Author’s abstract of Candidate Thesis in Economics. Moscow
- [11] Koch, C., and Jensen, J. O. 2009. Small public private partnerships: The answer to local public and private needs, yet an ugly duckling? In A. Ceric, & M. Radujkovic (Eds.), *Construction Facing Worldwide Challenges: Proceedings from the CIB Joint International Symposium of CIB Working Commissions: W055: Building Economics and W065: Organization and Management of Construction*. (pp. 1098-1108). Faculty of Civil Engineering, University of Zagreb. Available at: http://vbn.aau.dk/files/18418466/Small_private_public_partnerships.pdf
- [12] Mataev, T.M. 2011. *Prospects for the development of forms of public-private partnership in the Republic of Kazakhstan*. *Russian Entrepreneurship*, 12: 14-19.
- McKinsey & Company. 2013. Analysis of the needs of financing the economy of Kazakhstan, including in for the implementation of SPAID-2.
- [13] Nazarbayev, N.A. 2012. “Kazakhstan-2050” Strategy: new political course of the established state. Address by the President of the Republic of Kazakhstan to the people of Kazakhstan. Legal Information System of Normative Legal Acts of the Republic of Kazakhstan. Available at: <http://www.akorda.kz>.
- [14] Rubinstein, A.Ya. 2008. *Economics of public preferences. The structure and evolution of social interest*. St. Petersburg: Aletheia.
- [15] Sazonov, V.E. 2012. *Public-private partnership: civil, administrative-legal and financial-legal aspects*. Moscow: HSE Press.
- [16] Solovyov, Yu.V. 2012. *Foreign experience of measuring and providing efficiency in the field of public-private partnership*. St. Petersburg: Renome.

- [17] Tilebaldinov, K. 2011. *Public-private partnership - one of the possible tools for implementing economic policy*. Kazakhstanskaya Pravda, 07.09.2011. Available at: <http://uchet.kz/news/detail.php?EID=45874>
- [18] Toxanova, A., Galiyeva, A., and Abildina, A. 2015. *Models of public-private partnership*. Proceedings of the XII International Scientific Conference “Russia and Europe: the relationship of culture and economy”, June 15, 2015 Prague, Czech Republic, pp. 500-505.
- [19] Varnavskiy, V.G., Klimenko, A.V., and Korolev, V.A. 2010. *Public-Private Partnership: Theory and Practice*. Moscow: HSE Press.
- [20] Yescombe, E.P. 2008. *Principles of Project Finance*. Moscow: Vershina.
- *** Concession agreement on construction and operation of the “North Kazakhstan–Aktobe oblast” interregional power transmission line (28 December 2005), approved by Resolution of the Government of the Republic of Kazakhstan dated December 9, 2005 No. 12. Available at: <http://adilet.zan.kz/rus/docs/P050001217>
- *** ECE/CECI/4. 2008. *Guidebook on Promoting Good Governance in Public-Private Partnerships*. United Nations Economic Commission for Europe., New York; Geneva.
- *** EIB. 2013. *Infrastructure Investment in Eastern Neighbours and Central Asia (ENCA)*”, EIB Working Papers 2013/01, European Investment Bank. Available at: <http://www.eib.org/infocentre/publications/all/economics-working-paper-2013-01.htm>
- *** IEG. 2014. *World Bank Group Support to Public-Private Partnerships Lessons from Experience in Client Countries*, FY02-12. Independent Evaluation Group Available at: https://ieg.worldbankgroup.org/Data/reports/chapters/ppp_eval_updated.pdf
- *** Kapital Business Information Center. 2014. Investors looking for partners in Kazakhstan. Available at: <http://kapital.kz/expert/31001/investory-icsht-kazahstanskih-partnerov.html>
- *** OECD. 2007. *Infrastructure to 2030: Main findings and policy recommendations*. pp. 19-106. Available at: <https://www.oecd.org/futures/infrastructureto2030/40953164.pdf>
- *** *Partnerships Victoria Requirements*. 2013. State of Victoria, Department of Treasury and Finance. Available at: http://f.datasrv.com/fr1/613/19246/Partnerships_Victoria_Requirements_May_2013.PDF
- *** PDPPP. 2011. *The Program for the development of public-private partnership in the Republic of Kazakhstan for 2011-2015*. Approved by Resolution of the Government of the Republic of Kazakhstan dated June 29, 2011. Available at: <http://adilet.zan.kz/rus/docs/P1100000731>
- *** *Program “Development of Regions”*. 2011. Approved by Resolution of the Government of the Republic of Kazakhstan No. 862 dated July 26, 2011. Available at: http://online.zakon.kz/Document/?doc_id=31038108#pos=1;-277
- *** *Regulations for submission, examination and selection of concession projects*. Approved by Resolution No. 1343 of the Government of the Republic of Kazakhstan dated December 10, 2010 Available at: <https://zakon.uchet.kz/rus/history/P1000001343/10.12.2010>
- *** *Resolution of the Government of the Republic of Kazakhstan No.1633 “On the creation of Coordinating Council for Public-Private Partnership”* dated December 20, 2012. Available at: http://online.zakon.kz/Document/?doc_id=31320998
- *** *Resolution of the Government of the Republic of Kazakhstan No.21 dated February 18, 2005 “On measures for the construction of a new railway line “Shar Station - Ust-Kamenogorsk”* Available at: <http://adilet.zan.kz/rus/docs/P050000021>
- *** RK Agency for Statistics. 2016. Available at: www.stat.kz

- *** *RK Law No. 1021-XII*. 1991. "On Concessions in the Republic of Kazakhstan", ceased to be in force in 1993. Available at: http://online.zakon.kz/Document/?doc_id=1000820
- *** *RK Law No. 131-V*. 2013. "On amendments and supplements to some legislative acts of the Republic of Kazakhstan concerning introduction of new types of public-private partnerships and expansion their spheres of activity". Available at: https://online.zakon.kz/Document/?doc_id=31416540#pos=13;-165
- *** *RK Law No. 161-V*. 2014. "On amendments and supplements to some legislative acts of the Republic of Kazakhstan concerning public procurement". Available at: http://online.zakon.kz/Document/?doc_id=31494386
- *** *RK Law No. 167-III*. 2006. "On Concessions" (amended and supplemented as of 04.07.2013). Available at: <http://adilet.zan.kz/eng/docs/Z060000167>
- *** *RK Law No. 2721*. 1995. "On Privatization". Available at: http://online.zakon.kz/Document/?doc_id=1004037
- *** *RK Law No. 303-III* 2007. "On Public Procurement". Available at: https://online.zakon.kz/Document/?doc_id=30115056
- *** *RK Law No. 379-V* 2015. "On Public-Private Partnership" (amended as of 08.04.2016) Available at: https://online.zakon.kz/Document/?doc_id=37704720
- *** *RK Law No. 415-II* 2003. "On Joint Stock Companies". Available at: https://online.zakon.kz/Document/?doc_id=1039594
- *** *RK Law No.373-II*. 2003. "On Investments". Available at: http://online.zakon.kz/Document/?doc_id=1035552
- *** *Standard & Poor's*. 2007. 2008 Global Project Finance Yearbook. New York. Available at: <http://www.levow.com/wp-content/uploads/IDB/S&P%202008%20global%20project%20finance%20yearbook.pdf>
- *** SPAIID. 2010. *State Program for Accelerated Industrial and Innovative Development of Kazakhstan for 2010-2014*. Approved by the Republic of Kazakhstan President's Decree No.958 of March 19, 2010. Available at: <http://www.kazakhembus.com/content/spaiid>
- *** SPIID. 2014. *State Program for Innovative and Industrial Development of the Republic of Kazakhstan for 2015-2019*. Approved by the Republic of Kazakhstan President's Decree No. 874 of 1.08.2014. Available at: <http://baiterek.gov.kz/en/activities/state-programs/gpiir-2/>
- *** *Standard & Poor's*. 2005. *Public Private Partnerships: Global Credit Survey*. New York.
- *** World Bank. 2011. *Transformation through Infrastructure, Issues and Concept Note*. World Bank Group, Infrastructure Strategy Update. Washington D.C.

Model of Multi-Criteria Selection of Traditional Suppliers

Volodymyr V. SYSOIEV

Department of Economics, Enterprises Management and Logistics

Faculty of Management and Marketing

Simon Kuznets Kharkiv National University of Economics³

deppost@hneu.edu.ua; sysoevvv@ukr.net

Suggested Citation:

Sysoiev, V.V. 2017. Model of multi-criteria selection of traditional suppliers. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1064-1079.

Abstract

Efficient supply chain management is based on the strategic cooperation of many companies (suppliers and consumers), which involves long-term interaction with business partners. To ensure a reliable supply, most of the modern companies simultaneously interact with multiple suppliers of identical products, distributing the orders between them depending on many factors characterising suppliers, their products, and supply processes in previous periods. Under these conditions, the solution of the problem of multi-criteria selection of traditional suppliers is carried out by optimising purchase amounts of different product types in accordance with the needs of the consumer company based on many criteria. The main selection criteria are supply reliability and logistics costs of the purchase and product delivery. The generalised criterion for the assessment of supply reliability reflects the results of the interaction with suppliers in previous periods and includes assessment of completeness, package contents, timeliness of supply, and quality of supplied products. The logistics costs criterion shows the rejection of product prices offered by traditional suppliers and delivery costs from the minimum values of these indicators in the markets at the time of making procurement decisions. The paper contains the developed linear programming model, which allows optimising the procurement of different types of products from several traditional suppliers under the objective function, combining the evaluation criteria of supply reliability and logistics costs. The list of suppliers for each type of product is determined by the optimisation results. The method for selection of traditional suppliers is based on the proposed mathematical model and has a numerical example illustrating its application.

Keywords: traditional supplier; multi-criteria selection; supply reliability; logistics costs; linear programming model; procurement optimization

JEL Classification: C61; M21

Introduction

The efficient and regular functioning of supply chains depends on the organisation of supply of the necessary materials or goods to their member companies, which requires competent management of their procurement and supply. Against the backdrop of a growing number of suppliers of identical products, with different opportunities, parameters of the offered products, and the organisation of the supply process, one of the most important procurement tasks is to choose the most profitable suppliers, from the point of view of the consumer company.

The formed supply chains create a stable range of traditional suppliers, which leads to certain peculiarities of solving the problem of their choice. When selecting suppliers with whom one has already established business relationships and interacted, one typically uses quantitative criteria characterising the suppliers and processes of the previous supplies. Based on the business objectives of companies in the field of supply, the main criteria for the selection of traditional suppliers include their production capacities, supply reliability, quality of service and products supplied, costs of the purchase and product supply, which determines the multi-criteria tasks for the selection of suppliers (Aguzzoul 2012, Ávila *et al.* 2015, Cheraghi *et al.* 2004, Ha and Krishnan 2008). The number of suppliers, with whom the company or the consumer is cooperating at the same time, is important in supply management (Ford 1993, Lysons and Farrington 2006). Interaction with a single supplier makes the consumer or the company more vulnerable and dependent on the performance of supplier's work. Therefore, many companies have multiple sources

³ Kharkiv, Kharkiv, Nauky aveny, 9a, 61001 Ukraine

of product supply, which reduces the probability of failures in their work with suppliers, increases the flexibility of supply by varying orders in case of emerging issues or changing demands.

Given the multivariance of solving the problem of selecting traditional suppliers under various criteria, the most attractive option is its optimisation arrangement that allows not only to select the best suppliers, but also to determine the best quantity of the product orders for each of them. However, in the context of diversity of purchased products, different dimensions, and interconnectedness of indicators characterising suppliers and the supply process, the rigorous solution to this issue is a complex problem that requires the development of optimisation models of procurement from multiple suppliers, based on the joint use of different economic and mathematical methods.

Conclusions

Efficient management of supply chains is based on mutually beneficial and long-term cooperation in each pair "supplier – consumer". In the context of market economy, most companies have several suppliers of the same product to ensure reliable supply, to use their competition for reduce prices of products supplied, and to more easily meet the changing demand of the range of products. Interaction with several traditional (permanent) suppliers does not remove from the agenda the task of selecting the best of them from the standpoint of the consumer company with each new procurement. In this case, the task is formulated as a task of optimal allocation of orders among suppliers based on many factors characterising suppliers, their products and supply processes in previous time periods. Supply reliability and logistics costs of product purchase and delivery are offered as the main criteria for selecting traditional suppliers. The generalised criterion for the assessment of supply reliability reflects the results of the interaction with suppliers in previous periods and presented in the form of multiplicative convolution of local indicators assessing the completeness, package contents, and timeliness of supply, as well as the quality of products supplied, taking into account their weighting coefficients that are defined by methods of expert evaluation. The logistics costs criterion shows the rejection of product prices offered by suppliers and delivery costs from the minimum values of these indicators in the markets at the time of making procurement decisions.

The developed linear programming model allows optimising the procurement of different types of products from several traditional suppliers under the objective function, combining the evaluation criteria of supply reliability and logistics costs, given the weighting coefficients of product types. The model contains a rational combination between the elements of retrospective and marketing analysis, optimisation with expert reviews, which provides the optimal solution when selecting traditional suppliers. We proposed indicator assessing procurement efficiency. The developed method of multi-criteria selection of traditional suppliers is based on the proposed mathematical model.

The article shows the numerical example, illustrating the application of the developed model and method that confirms their efficiency as tools of justifying decisions made by the management of the consumer company in the context of a different procurement options from several traditional suppliers and limited financial resources.

An important task in further research is the development of a model for simultaneous selection of both traditional and new suppliers.

References

- [1] Aissaoui, N., Haouari, M., and Hassini, E. 2007. Supplier selection and order lot sizing modeling: a review. *Computers & Operations Research*, 34(12): 3516-3540. DOI: <https://doi.org/10.1016/j.cor.2006.01.016>
- [2] Agarwal, P., Sahai, M., Mishra, V., Bag, M., and Singh, V. 2011. A review of multi-criteria decision-making techniques for supplier evaluation and selection. *International Journal of Industrial Engineering Computations*, 2(4): 801-810. DOI: [10.5267/j.ijiec.2011.06.004](https://doi.org/10.5267/j.ijiec.2011.06.004)
- [3] Aguezoul, A. 2012. Overview on supplier selection of goods versus 3PL selection. *Journal of Logistics Management*, 1(3): 18-23. DOI: [10.5923/j.logistics.20120103.02](https://doi.org/10.5923/j.logistics.20120103.02)
- [4] Amid, A., Ghodsypour, S. H., and O'Brien, C. 2009. A weighted additive fuzzy multi-objective model for the supplier selection problem under price breaks in a supply Chain. *International Journal of Production Economics*, 121(2): 323–332. DOI: [10.1016/j.ijpe.2007.02.040](https://doi.org/10.1016/j.ijpe.2007.02.040).
- [5] Ávila, P. et al. 2015. Proposal of an empirical model for suppliers selection. *International Journal for Quality Research*, 9(1): 107-122.
- [6] Boer, L., Labro E., and Morlacchi, P. 2001. A review of methods supporting supplier selection. *European Journal of Purchasing & Supply Management*, 7(2): 75-89. DOI: [https://doi.org/10.1016/S0969-7012\(00\)00028-9](https://doi.org/10.1016/S0969-7012(00)00028-9)

- [7] Bruno, G., Esposito, E., Genovese, A., and Passaro, R. 2012. AHP-based approaches for supplier evaluation: problems and perspectives. *Journal of Purchasing and Supply Management*, 18(3): 159-172. DOI: <https://doi.org/10.1016/j.pursup.2012.05.001>
- [8] Çebi, F., and Bayraktar, D. 2003. An integrated approach for supplier selection. *Logistics Information Management*, 16(6): 395-400. DOI: [10.1108/09576050310503376](https://doi.org/10.1108/09576050310503376)
- [9] Chai, J., Liu, J.N.K., and Ngai, E.W.T. 2013. Application of decision-making techniques in supplier selection: A systematic review of literature. *Expert Systems with Applications*, 40(10): 3872-3885. DOI: <https://doi.org/10.1016/j.eswa.2012.12.040>
- [10] Cheraghi, S.H., Dadashzadeh, M., and Subramanian, M. 2004. Critical success factors for supplier selection: An update. *Journal of Applied Business Research*, 20(2): 91-108. DOI: <http://dx.doi.org/10.19030/jabr.v20i2.2209>
- [11] Esfandiari, N., and Seifbarghy, M. 2013. Modeling a stochastic multiobjective supplier quota allocation problem with price-dependent ordering. *Applied Mathematical Modelling*, 37(8): 5790-5800. DOI: <https://doi.org/10.1016/j.apm.2012.11.011>
- [12] Ford, W.O. 1993. *Purchasing Management Guide to Selecting Suppliers*. Prentice Hall Trade.
- [13] Ha, H.S., and Krishnan, R. 2008. A hybrid approach to supplier selection for the maintenance of a competitive supply chain. *An International Journal of Expert Systems with Applications*, 34(2): 1303-1311. DOI: <https://doi.org/10.1016/j.eswa.2006.12.008>
- [14] Ho, W., Xu, X., and Dey, P.K. 2010. Multi-criteria decision-making approaches for supplier evaluation and selection: A literature review. *European Journal of Operational Research*, 202(1): 16-24, DOI: [10.1016/j.ejor.2009.05.009](https://doi.org/10.1016/j.ejor.2009.05.009)
- [15] Hong, G.H., Park, S.C., Jang, D.S., and Rho, H.M. 2005. An effective supplier selection method for constructing a competitive supply-relationship. *Expert Systems with Applications*, 28(4): 629-639. DOI: <https://doi.org/10.1016/j.eswa.2004.12.020>
- [16] Ghodspour, S.H., and O'Brien, C. 1998. A decision support system for supplier selection using an integrated analytical hierarchy process and linear programming. *International Journal of Production Economics*, 56/57: 199-212. DOI: [https://doi.org/10.1016/S0925-5273\(97\)00009-1](https://doi.org/10.1016/S0925-5273(97)00009-1)
- [17] Ghodspour, S.H., and O'Brien, C. 2001. The total cost of logistics in supplier selection, under conditions of multiple sourcing, multiple criteria and capacity constraints. *International Journal of Production Economics*, 73(1): 15-27. DOI: [https://doi.org/10.1016/S0925-5273\(01\)00093-7](https://doi.org/10.1016/S0925-5273(01)00093-7)
- [18] Karpak, B., Kumcu, E., and Kasuganti, R.R. 2001. Purchasing materials in the supply chain: Managing a multi-objective task. *European Journal of Purchasing and Supply Management*, 7(3): 209-216. DOI: [https://doi.org/10.1016/S0969-7012\(01\)00002-8](https://doi.org/10.1016/S0969-7012(01)00002-8)
- [19] Lysons, K. and Farrington, B. 2006. *Purchasing and supply chain management*. Seventh Edition. Pearson Education Limited, ISBN 9780273694380
- [20] Narasimhan, R., Talluri, S., and Mahapatra, S.K. 2006. Multiproduct, multi-criteria model for supplier selection with product life-cycle considerations. *Decision Sciences*, 37(4): 577-603. DOI: [10.1111/j.1540-5414.2006.00139.x](https://doi.org/10.1111/j.1540-5414.2006.00139.x)
- [21] Ng, W.L. 2008. An efficient and simple model for multiple criteria supplier selection problem. *European Journal of Operational Research*, 186(3): 1059-1067. DOI: <https://doi.org/10.1016/j.ejor.2007.01.018>
- [22] Pal, O., Gupta, A.K., and Garg, R.K. 2013. Supplier selection criteria and methods in supply chains: a review. *International Scholarly and Scientific Research & Innovation*, 7(10): 2667-2673.

- [23] Rajan, A.J., Ganesh, K., and Narayanan, K.V. 2010. Application of integer linear programming model for vendor selection in a two stage supply chain. Paper presented at Proceedings of the International Conference on Industrial Engineering and Operations Management, January 9-10, in Dhaka, Bangladesh.
- [24] Sanayei, A., Mousavi, S.F., Abdi, M.R., and Mohaghar, A. 2008. An integrated group decision-making process for supplier selection and order allocation using multi-attribute utility theory and linear programming. *Journal of the Franklin Institute*, 345(7): 731-747. DOI: <https://doi.org/10.1016/j.jfranklin.2008.03.005>
- [25] Setak, M., Sharifi, S., and Almohammadin, A. 2012. Supplier selection and order allocation models in supply chain management: A review. *World Applied Sciences Journal*, 18(1): 55-72. DOI: [10.5829/idosi.wasj.2012.18.01.3258](https://doi.org/10.5829/idosi.wasj.2012.18.01.3258)
- [26] Shahroudi, K., Rouydel, H., Assimi, S., and Eyvazi, H.R. Supplier selection and order allocation a main factor in supply chain. Paper presented at Proceedings of the 3rd International Conference on Advanced Management Science, November 4-6, in Singapore.
- [27] Tahiri, F., Osman, M.R., Ali, A., and Yusuff, R.M. 2008a. A review of supplier selection methods in manufacturing industries. *Suranaree Journal of Science and Technology*, 15(3): 201-208.
- [28] Tahiri, F., Osman, M.R., Ali, A., Yusuff, R.M., and Esfandiary A. 2008b. AHP approach for supplier evaluation and selection in a steel manufacturing company. *Journal of Industrial Engineering and Management*, 01(02): 54-76. DOI: <http://dx.doi.org/10.3926/jiem.v1n2.p54-76>.
- [29] Talluri, S., and Narasimhan, R. 2005. A note on "a methodology for supply base optimization". *IEEE Transactions on Engineering Management*, 52(1): 130-139. DOI: [10.1109/TEM.2004.839960](https://doi.org/10.1109/TEM.2004.839960)
- [30] Ustun, O., and Demirtas, E.A. 2008. An integrated multiobjective decision-making process for multi-period lotsizing with supplier selection. *International Journal of Management Science*, 36(4): 509-521. DOI: <https://doi.org/10.1016/j.omega.2006.12.004>
- [31] Wadhwa, V., and Ravindran, A.R. 2007. Vendor selection in outsourcing. *Computers and Operations Research*, 34(12), 3725-3737. DOI: <https://doi.org/10.1016/j.cor.2006.01.009>
- [32] Ware, N.R., Singh, S.P., and Banwet, D.K. 2012. Supplier selection problem: a state-of-the-art review. *Management Science Letters*, 2(5): 1465-1490. DOI: [10.5267/j.msl.2012.05.007](https://doi.org/10.5267/j.msl.2012.05.007)
- [33] Weber, C.A., Current, J.R., and Benton, W.C. 1991. Vendor selection Criteria and Methods. *European Journal of Operational Research*, 50: 2-18. DOI: [https://doi.org/10.1016/0377-2217\(91\)90033-R](https://doi.org/10.1016/0377-2217(91)90033-R)
- [34] Weber, C.A., and Current, J.R. 1993. A multiobjective approach to vendor selection. *European Journal of Operational Research*, 68(2): 173-184. DOI: [https://doi.org/10.1016/0377-2217\(93\)90301-3](https://doi.org/10.1016/0377-2217(93)90301-3).
- [35] Weber, C.A., Current, J.R., and Desai, A. 1998. Non-cooperative negotiation strategies for vendor selection. *European Journal of Operational Research*, 108(1): 208-223. DOI: [https://doi.org/10.1016/S0377-2217\(97\)00131-8](https://doi.org/10.1016/S0377-2217(97)00131-8)
- [36] Weber, C.A., Current, J.R., and Desai, A. 2000. An optimization approach to determining the number of vendors to employ. *Supply Chain Management: An International Journal*, 5(2): 90-98. DOI: <http://dx.doi.org/10.1108/13598540010320009>.

How Can Strategy Influence the Internal Nature of Business Model?

Štefan SLÁVIK

Faculty of Business Management
University of Economics in Bratislava, Slovak Republic
stefan.slavik@euba.sk

Branislav ZAGORŠEK

Faculty of Business Management
University of Economics in Bratislava, Slovak Republic
branislav.zagorsek@euba.sk

Suggested Citation:

Slávik, Š., Zagoršek, B. 2017. How can strategy influence the internal nature of business model? *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1080-1090.

Abstract

Business model and business strategy fundamentally determines the existence and performance of a company. Despite the numerous research on business models and business strategies dealing with each topic separately, the research of their relationship is almost absent and therefore insufficient. In this paper, we present the results of our research on the relation between the business model and strategy focused on business model blocks with the most internal influence. Our research was conducted on a sample of 231 companies using linear regression method to determine the relations. As a result, we identified approaches how companies tried to develop quality business model and strategies supporting this approaches. We then identified strategies with the most influence on the complexity and the difficultness of the business model. These results can have both practical and theoretical application because understanding this relationship can help manage limited resources efficiently and further improve the present state of knowledge.

Keywords: business model; business strategy; strategy-model relationship

JEL Classification: M10; M21

Introduction

The state of the art knowledge in the field of strategic management reached a situation that requires some explanation of the relationship between the business model and the business strategy. After a thorough literature research, a satisfactory explanation was missing what led to this research. Currently, the dynamics of knowledge progression is increasing under the influence of globalization and information technologies. The progression created new diverging branches of this field with specific characteristics but fundamentally related. These include the concept of strategy and business model. This situation results in the need to review some established concepts, and to separate and study its components.

Business strategy and business model are two determinants, which affect the essence of existence, position, and performance of a company. Both the strategy and model are the object of long-term academic research and are separately well investigated. Although there is a natural perception of their relationship, this relationship is not adequately researched. Existing studies recognize some links between the business model and strategy, even some common features, but these rather have the character of an opinion usually lacking a proper empirical research. The presented research is built on an extensive theoretical knowledge research on strategy, business models and their relations and studies the specific relation between strategy and business model using an actual field research of 231 companies. Our findings contribute to the present state of knowledge

Conclusion

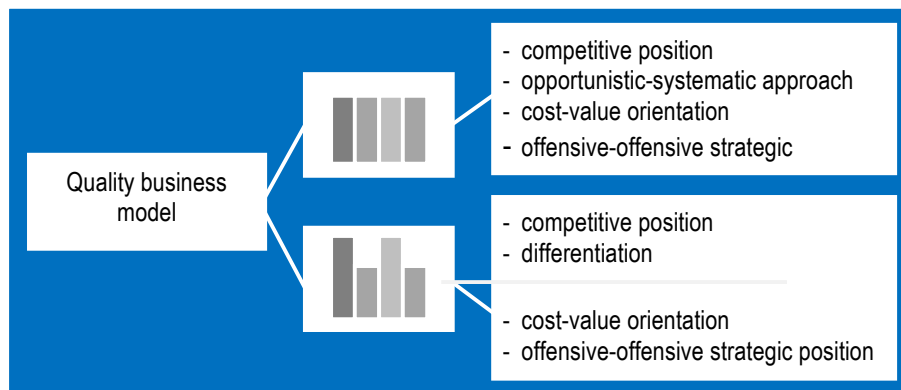
The presented results of our research are very valuable because they contribute to fundamental understanding of business, how it is constructed and how its actions shape it.

In our research, we identified the effects that differentiation, competitive position, cost-value orientation and the defensive-offensive position have on how demanding is the business model. Companies that want to use certain strategies have to make proper adjustments to their business models. In the case of mentioned factors, it is more difficult to build such business model as it has more exceptional levels of the business models elements related to the competitors. This knowledge, and so the use of presented combination of strategies can be a potential tool to create a competitive advantage as it is inherently difficult to create such a business.

Our second contribution to the present state of knowledge is the identification of the effect that competitive position, opportunistic-systematic approach, cost-value orientation and at a marginal significance level defensive-offensive strategic position have on the complexity of the business model. Complexity speaks about the overall level of a business model without minimal requirements. A complex business model can be costly to obtain as it can have many expensive elements involved in the model and there are circumstances where a complex business model can be a competitive advantage or can provide an entry barrier to the competitors.

There were two ways how companies created quality business models. One was to have more business model blocks with the highest average quality of blocks without variations in quality between blocks. The second was to have as many specialized blocks as possible, with variations in quality between the blocks. Both approaches are outlined in Figure 2 and can be supported by different sets of strategies.

Figure 1. Approaches to develop quality business model



In general, as we were able to identify a causal relationship between the business strategy and the selected business model blocks, we can conclude that there must be a relationship between business strategy and business model as a whole also. However, the tightness of this relationship is according to our results rather loose. That means we can see a relationship, but there are also a lot of different degrees of freedom of this relationship.

Understanding this relationship can help companies to spend their limited resources effectively and to choose the right combination of strategies that fit the organization and has a clear impact on the desired outcome. Researchers can build on our findings as we built our research on findings of our colleagues. The relationships that we uncovered have to be further studied as well as other business model blocks and other strategy types. Another research opportunity is presented in the form of studying these relationships in different business environments and conditions.

References

- [1] Afuah, A. 2004. *Business Models: A Strategic Management Approach*. New York: McGraw-Hill/Irwin.

- [2] Andrews, K. R. 1971. *The concept of corporate strategy*. New York, Richard D Irwin,
- [3] Ansoff, H. 1965. *Corporate strategy*. New York: McGraw-Hill.
- [4] Carter, N. M., Stearns, T. M., Reynolds, P. D., and Miller, B. A. 1994. New venture strategies: Theory development with an empirical base. *Strategic Management Journal*, 15: 21–41. DOI: <https://doi.org/10.1002/smj.4250150103>
- [5] Casadesus-Masanell, R. and Ricart, J. E. 2011. How to design a winning business model? *Harvard Business Review*, 89 (1-2): 100-107.
- [6] Casadesus-Masanell, R., and Ricart, J. E. 2010. From strategy to business models and onto tactics. *Long Range Planning*, 43 (2-3): 195-215. DOI: <https://doi.org/10.1016/j.lrp.2010.01.004>
- [7] Chandler, A. 1962. *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. Cambridge, MA: MIT Press.
- [8] Chesbrough, H., and Rosenbloom, R. S. 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, 11(3): 529-555. DOI: <https://doi.org/10.1093/icc/11.3.529>
- [9] DaSilva, C. M., and Trkman, P. 2014. Business model: What it is and what it is not. *Long Range Planning*, 47(6): 379-389. DOI: <https://doi.org/10.1016/j.lrp.2013.08.004>
- [10] Demil, B., and Lecocq, X. 2010. Business model evolution: in search of dynamic consistency. *Long Range Planning*, 43 (2-3): 227-246. DOI: <https://doi.org/10.1016/j.lrp.2010.02.004>
- [11] Gamble, J., Strickland, A., and Thompson, A. 2007. *Crafting & Executing Strategy*. New York, McGraw-Hill.
- [12] Hambrick, D. C., and Frederickson, J. W. 2001. Are you sure you have a strategy? *The Academy of Management Executive*, 15(4): 48-59.
- [13] Johnson, M. W., Christensen, C. M., and Kagermann, H. 2008. Reinventing your business model. *Harvard Business Review*, 86(12): 57-68.
- [14] Karnani, A. 2008. Controversy: The essence of strategy. *Business Strategy Review*, 19: 28–34. DOI: <https://doi.org/10.1111/j.1467-8616.2008.00560.x>
- [15] Magretta, J. 2002. Why Business Models Matter. *Harvard Business Review*, 80(5): 86-92.
- [16] Markides, C. 2001. Strategy as Balance: From “Either-Or” to “And”. *Business Strategy Review*, 12: 1–10. DOI: <https://doi.org/10.1111/1467-8616.00178>
- [17] McGrath, R. G. 2010. Business models: a discovery driven approach. *Long Range Planning*, 43(2): 247-261. DOI: <https://doi.org/10.1016/j.lrp.2009.07.005>
- [18] Mullins, J. W., and Komisar, R. 2009. *Getting to plan B: Breaking through to a Better Business Model*. Boston: Harvard Business Press.
- [19] Newth, F. 2012. *Business Models and Strategic Management*. New York: Business Expert Press.
- [20] Osterwalder, A., and Pigneur, Y. 2010. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Hoboken, NJ: John Wiley & Sons.
- [21] Porter, M. 1998. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York, Free Press.
- [22] Seddon, P., and Lewis, G. 2003. Strategy and Business Models: What's the Difference?. PACIS 2003 Proceedings, 17, Available at: <http://aisel.aisnet.org/pacis2003/17>.

- [23] Simons, R. 2010. Stress-test your strategy: The 7 questions to ask. *Harvard Business Review*, 88(11): 93-100.
- [24] Stieglitz, N., and Foss, N. J. 2015. "Business model innovation: The role of leadership." In *Business model innovation. The organizational dimension*, edited by Foss, N. J. – Saebi, T., p 106. Oxford: Oxford University Press,
- [25] Teece, D. J. 2010. Business models, business strategy and innovation. *Long Range Planning*, 43(2-3): 172-194. DOI: <https://doi.org/10.1016/j.lrp.2009.07.003>
- [26] Wheelen, T. L., and Hunger, J. D. 2008. *Concepts on Strategic Management and Business Policy*. New Jersey, Pearson Prentice Hall,
- [27] Wirtz, B. W., Mathieu, A., and Schilke, O. 2007. Strategy in high-velocity environments. *Long Range Planning*, 40 (3): 295-313. DOI: <https://doi.org/10.1016/j.lrp.2007.06.002>
- [28] Wirtz, B. W., Schilke, O., and Ulrich, S. 2010. Strategic development of business models: implications of the Web 2.0 for creating value on the internet. *Long Range Planning*, 43(2-3): 272-290. DOI: <https://doi.org/10.1016/j.lrp.2010.01.005>
- [29] Wirtz, B.W., Pistoia A., Ullrich, S., and Göttel, V. 2016. Business models: Origin, development and future research perspectives. *Long Range Planning*, 49 (1): 36-54. DOI: <https://doi.org/10.1016/j.lrp.2015.04.001>
- [30] Zott, Ch., and Amit, R. 2010. Business Model Design: An Activity System Perspective. *Long Range Planning* 43 (2-3): 216-226. DOI: <https://doi.org/10.1016/j.lrp.2009.07.004>

Economic Assessment of Marketing Elements of Exhibition Activities

Bauyrzhan M. ZHAKIPOV

Narxoz University

European University Business School (EU Business School), Almaty, Republic of Kazakhstan

baur_07@list.ru

Dina I. RAZAKOVA

Marketing Department, Narxoz University, Almaty, Republic of Kazakhstan

dina_next@mail.ru

Suggested Citation:

Zhakipov, B.M., Razakova, D.I. 2017. Economic assessment of marketing elements of exhibition activities. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1091-1102.

Abstract

The purpose of the article is to address the challenge of formulating guidelines for assessing the economic efficiency of marketing aspects of participation in activities and organization thereof. Achieving this goal involved the use of a systematic approach in constructing the economic efficiency assessment system for marketing elements of exhibition activity; generalization and specification when comparing foreign and domestic experiences; marketing analysis for studying marketing elements of exhibition activities; algorithmic presentation for analyzing and modeling of the impact of changes in marketing factors on the exhibition activities of enterprises; selection of the most effective assessment system elements among those applicable in practice to construct the economic assessment system for marketing events. In the course of work, features of analysis of exhibition activities were considered, the role of marketing factors in carrying out this type of activities was updated, and the basic aspects of organizing exhibitions for the participants and the organizers were defined. Scientific-methodological and practical provisions for structuring an economic efficiency assessment of marketing aspects of exhibition activities were formulated. The most effective assessment system elements among those applicable in practice for marketing events were selected to construct a comprehensive economic efficiency assessments system for exhibition activities. Proposals developed within this article were applied by the example of the X Anniversary Central Asian International Exhibition "Agriculture" AgroWorld Kazakhstan 2015 organized by LLP "Iteca" at the exhibition complex "Atakent", Almaty, Republic of Kazakhstan. The results of the study are aimed at enhancing the management of exhibition activity, based on a balance of marketing goals and interests of the organizers and participants of the exhibition events.

Keywords: exhibition activities; assessment; marketing; structure; elements; logistical costs

JEL Classification: M10; M31; Q13

Introduction

Rapid development of technologies, including the marketing ones, short lifetime of innovations, dynamic changes in the economic life of society, scientific and technical environment, constant changes in consumer preferences increase the value of such communication activities as exhibitions in the modern economy (Suleymanova 2016, International events... 2016, Mei-Chin and Sui-Ming 2013), since they allow to adequately react to changes in the market environment, to disseminate and receive information on developments in the various fields of science, technology, economy and cover a wide range of target audience interested in this information (Kapitonov *et al.* 2016).

Under these conditions, the study of problems of exhibition activities reveals to analysts a wide field of unsolved tasks related to consideration of interest of all participants of the exhibition process, namely organizers, participants and visitors; problems related to optimization of costs for exhibition activities, methodical provision for economic effectiveness estimation of marketing elements related to exhibition activities for both exhibitors and exhibition organizers.

Along with the need to find scientifically well-founded methods of ensuring the organizers of exhibition activities that marketing tasks are fulfilled to the greatest possible extent during organization of exhibitions, the above mentioned moments determine the relevance of the subject of this paper.

Studying the problem of achieving marketing objectives in the exhibition activities, analysis and assessment of its effectiveness, included a review of various sources, covering both theoretical papers, analytical models and recommendations on exhibition activities organization (Isakov 2016, Jin and Weber 2013, Rubinstein and Blinov 2015) and the empirical analysis of conditions and results of exhibition activities organization (Kim and Chon 2009, Kurkina 2008, Nugzar 2016, Davis 2006). In particular, the experience of domestic exhibition companies and exhibition activities at the regional level have been considered on the example of the X Anniversary Central Asian International Exhibition "Agriculture" AgroWorld Kazakhstan 2015 organized by LLP "Iteca" at the exhibition complex "Atakent", Almaty, Republic of Kazakhstan (LLP "Iteca" – website; AgroWorld Kazakhstan – website).

When analyzing the scientific literature, a reference should be made to the papers of Kellerman A., where the concept of "exhibition logistics" is defined as "oriented activities carried out through the management of an efficient flow of exhibition services and related information from the place of origin of this stream to the point of its consumption with the purpose to fully meet consumer demands, i.e. to ensure full service range for exhibition services in a timely manner, in the right range, with the required quality of service, in a certain place, and cost-effectively for both the organizers and exhibitors (Kellerman 2016, 510).

Conclusion

The studies carried out and the results obtained have allowed us to formulate the following conclusions and suggestions:

- It was founded that costs for carrying out and participation in the exhibition are closely linked to its effectiveness and completely dependent on the latter, and are important for implementation of the marketing mix;
- For the economic assessment of the marketing elements of exhibition activities, it is offered to use a system of indicators that characterize the level of organization of the exhibition services and allow applying a comprehensive approach to identifying priorities for assessing from the marketing point of view;
- Scientific-methodical and practical provisions for structuring the economic effectiveness assessing system for marketing aspects of the exhibition activities, as well as provisions for selection of directions of improving exhibition activities management have been developed,
- Directions of the comprehensive assessing of marketing elements of exhibition activities have been determined and compared to the elements of the marketing mix to determine their priority for the qualitative assessing.

The proposed approaches and economic assessment using the example of the specific event can be supplemented and specified both on the basis of further analytical research and improvement of the method of analysis, and by conducting further expert and marketing work.

Advanced researches should be focused on studying those tasks that have not been solved yet and relate to exhibition activities organization and management and taking of administrative decisions in this area according to the marketing principles.

References

- [1] Badillo, R. 2016. Are Collaborative Agreements in Innovation Activities Persistent at the Firm Level? Empirical Evidence for the Spanish Case. *Review of Industrial Organization*, 49(1): 71-101.
- [2] Davis, P. 2006. Measuring the business stealing, cannibalization and market expansion effects of entry in the US motion picture exhibition market. *Journal of Industrial Economics*, 54(3): 293-321. DOI: 10.1111/j.1467-6451.2006.00290.x.
- [3] Egorchenkova, O.M. 2016. Historical and theoretical aspects of exhibition activities. In: *Science Integration Collection of Scientific Papers*, pp. 676-681.
- [4] Giorgini, B., and Sartori, M. 2016. Human mobility world lines on urban topologies. *Quality and Quantity*, 50(4): 1817-1831. DOI: 10.1007/s11135-015-0237-6.
- [5] Grigoryeva, E.I., and Doglyad, E.V. 2016. The potential of the cultural and exhibition centers in the creative self-realization of young people. *Bulletin of Moscow State University of Culture and Arts*, 1: 181-187.
- [6] Gusev, E.B. 2005. *Exhibition Activities in Russia and Abroad*. Dashkov and Co.
- [7] Huang, Z.J. 2009. *Introduction to the Exhibition Industry*. Taiwan External Trade Development Council: TAITRA.
- [8] Isakova, O.N. 2016. The practice of exhibition activities: patents and "royal privileges". *Scientific and Technical Libraries*, 4: 25-29.
- [9] Jin, X., and Weber, K. 2013. Developing and testing a model of exhibition brand preference: The exhibitors' perspective. *Tourism Management*, 38: 94-104. DOI: 10.1016/j.tourman.2013.02.018.

- [10] Kapitonov, I.A. *et al.* 2016. Green Energy Revolution Perspectives in Modern Russian Economy. *International Journal of Economic Perspectives*, 3(10): 166-175.
- [11] Karvitskaya, G.V. 2016. The use of territorial marketing tools in the regional: Effectiveness assessing. *Discussion*, 1(64): 30-36.
- [12] Kellerman, A. 2016. Image spaces and the geography of Internet screen-space. *GeoJournal*, 81(4): 503-517.
- [13] Kim, S.S. 2005. A study of visitor satisfaction with the service quality provided by exhibition booth staffs [MA paper]. Kon-kuk University.
- [14] Kim, S.S., and Chon, K. 2009. An economic impact analysis of the Korean exhibition industry. *International Journal of Tourism Research*, 11(3): 311-318. DOI: 10.1002/jtr.691.
- [15] Kirillov, N.P. 2016. Safety of business in modern Russia: theory and practice. *Materials of the Afanasiev Readings*, 1(14): 166-180.
- [16] Kurkina, N.S. 2008. Assessing of effect of the fair and exhibition activities: inter-university collection of research papers. *Russian Economy: The Main Directions of Improvement*, 6: 170-187.
- [17] Kuzner, S.K. 2008. Assessing of exhibition effectiveness: Myth or Reality Kuzner S.K. ExpoRepozt, pp. 17-26.
- [18] Lee, D.P. and Palakurthi, R. 2013. Marketing Strategy to Increase Exhibition Attendance through Controlling and Eliminating Leisure Constraints. *Event Management*, 17(4): 323-336.
- [19] Li, Y. *et al.* 2016. Livelihood changes and evolution of upland ethnic communities driven by tourism: a case study in Guizhou Province, southwest China. *Journal of Mountain Science*, 13(7): 1313-1332. DOI: 10.1007/s11629-015-3631-6
- [20] Loboda, V.A. 2007. Ways to improve the effectiveness of exhibition activities of scientific and industrial organizations of the Republic of Belarus. Information and analytical magazine "News of Science and Technology". Minsk: BellSA, No. 1: 5-13.
- [21] Löfstedt, U., and Holmberg, S.C. 2016. Social Media as a Mean for Improved Technical Communication. *Systemic Practice and Action Research*, 29(4): 297-312. DOI: 10.1007/s11213-016-9373-8
- [22] Lu, Y., and Roto, V. 2016. Design for Pride in the Workplace. *Psychology of Well-Being*, 6: 6. DOI: 10.1186/s13612-016-0041-7
- [23] Luyten, W. *et al.* 2016. Ageing with elegans: a research proposal to map healthspan pathways. *Biogerontology*, 17(4): 771-782. DOI: 10.1007/s10522-016-9644-x
- [24] Melikova, M.A., and Nakhratova, E.E. 2016. Information and analytical support on a project of organization strategic development. *Materials of the Afanasiev Readings*, 4(17): 149-156.
- [25] Moll-de-Alba, J., Prats, L., and Coromina, L. 2016. The need to adapt to travel expenditure patterns. A study comparing business and leisure tourists in Barcelona. *Eurasian Business Review*, 6(2): 253-267.
- [26] Munkova, Y.V. 2016. Strategy of exhibition activities during festivals and Biennale of contemporary arts in Russia. *Symbol of Science*, 3-4: 215.
- [27] Nugzar, T. 2016. Main Aspect of service quality in the Hotel Industry of Georgia. *4th International Conference on Contemporary Marketing Issues (ICCM)*, pp. 431-435.
- [28] Patsalyuk, K.O. 2016. Role of exhibition as a means of marketing communications. *Economy. Management. Innovations*, 1(15): 231-240.

- [29] Qiu, C.Y. *et al.* 2014. Key success factors on promoting the MICE in Taiwan. *Management Information Computing*, 3(1): 99-119.
- [30] Ren, C., and Szilvia, G. 2013. Transforming and Contesting Nation Branding Strategies: Denmark at the Expo 2010. *Place Branding and Public Diplomacy*, 9(1): 17-29. DOI: 10.1057/pb.2012.25
- [31] Rubinstein, E.D., and Blinova, O.N. 2015. Exhibition activities abroad: Analysis and Prospects of Development. *Theory and Practice of the Public Development*, 5: 45-48.
- [32] Shabalina, N.M. 2016. Areas of regional art institution in the XX century. Architecture, urban planning and design. *Architecture, Urban Development and Design*, 7: 40-47.
- [33] Stancanelli, E., and Van Soest, A. 2016. Partners' leisure time truly together upon retirement. *IZA Journal of Labor Policy*, 5: 12. DOI: 10.1186/s40173-016-0068-7
- [34] Suleymanova, K. 2016. Trends and prospects of development of the exhibition business in Russia. *Problems of the Theory and Management Practice*, 3: 37-43.
- [35] Yang, M.X., Lin, Q. L. 2015. A study of information exhibitors' function requirements on applications. *Journal of Ghungchou*, 93-108.
- *** AgroWorld Kazakhstan 2016. Official exhibition Internet-resource. Available at: <http://agroworld.kz/>
- *** International events. 2016. *Environmental Earth Sciences* 75: 1052.
- *** LLP "Iteca" – company's official website: <http://www.iteca.kz/>

Implemented Crisis Management Measurements by Selected Entrepreneurs

Nadezda JANKELOVA

Department of Management, Faculty of Business Management

University of Economics in Bratislava

nadezda.jankelova@euba.sk

Jan SIDOR

Department of Services and Tourism, Faculty of Commerce

University of Economics in Bratislava

jan.sidor@euba.sk

Suggested Citation:

Jankelova, N., Sidor, J. 2017. Implemented crisis management measurements by selected entrepreneurs. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1103-1115.

Abstract:

The paper concerns with crisis management issue in enterprises oriented on furniture production field in region of Slovak republic. Partly the paper contributes with evaluation of last crises impact in Slovak republic, because in this analyzed period in conditions of Slovak republic we met crisis for the first time. It is a survival test of companies and test of crisis managers' skills achieve businesses through this period. The general aim is to come up with analyses based on data gathered in personal interview with managers and bring up an overview of crises management approach in crises conditions and point out measurements taken. Ability crisis seen, to determine the proper steps to overcome it, to manage and control the implementation of these actions, and not least to learn from past experiences have to be an essential part of the equipment crisis manager. Often they we can find solutions that do not require unacceptable levels of additional costs. The research is supported adopting of bankruptcy and scoring modelling of enterprise performance as we analyzed their creditworthiness or vulnerability on the basis of three selected models. Integral elements of the work are findings as well added by recommendations and conclusions.

Keywords: management; crisis management; furniture production; measurements; strategy

JEL Classification: L26; G32

Introduction

Current world is affected by a state of emergency in multiple consecutive years. Regularly, we can capture many views on the crisis in many areas of human society regarding business, finance, personal values and relationships. The crisis hits enterprises, people, whole corporations and countries that lead to loss of market or inability to create market demand for products. It results in slowing down production, partial or total liquidation of a certain company. Loss of income of the population is reflected in the decrease of available resources, which has an adverse effect and downward pressure on demand. This cycle is known as an economic phenomenon that creates a downward spiral leading to constant deterioration of the economic situation. Consequently, the phenomenon is also reflected in the behavior of people in the society and often will result in negative outcomes, such as the increase in crime, depression and suicides (Campello, Graham and Harvey 2010).

The enterprises must know how to react correctly, quickly and efficiently if they want to fulfil their mission. It means to realize that the crisis is not only a real threat to business. It is important to understand the reasons, causes, connections, transform them into effective strategy that must be communicated in the internal and external environment and then overcome the crisis step by step. All these activities require completing the plans and if it is necessary, following the instructions within the framework of these plans.

Conclusion

The crisis should be seen as a normal part of business life. The companies and managers cannot avoid and evade the crisis, because it is constantly ready at any moment to threaten them. On the contrary, they need to be prepared and know how to solve a crisis cases. The crisis has even become an impulse for change. The most important is the company's ability to overcome the crisis. If the crisis is understood only in a negative sense, it will limit the view on the issue; because of the crisis may be even an opportunity at the same time. Many times, overcoming the crisis pushes the management and employees of the company forward in their professionalism. The main objective is to find the most optimal solutions in managing the crisis situations in the company.

Therefore, we think that every crisis also brings its positive effects. For example the fact that the winners will be bigger and stronger enterprises, better product and processed base in enterprises or improved emergency plans, able to prevent the company in the future. The companies should not passively wait an end of the crisis. In times of crisis, there is enough space for improvement in many areas of the company: process improvement; product development; employee training; development of early warning systems; finding new points of sale in the market; identification of new partners and innovation.

Often they will find solutions that do not require unacceptable levels of additional costs. Therefore, it is necessary to plan, apply, engage them in the widest potential of the business and got the company to a level to be ready for the boom which comes after the crisis.

The companies from the Slovak Republic met the crisis for the first time. It is a test of survival of companies and skills of crisis managers to conduct them through this period. We think that Slovak managers are able and skilled as well as others, they know how to manage businesses in the conditions of the crisis, and also they will be enriched by new experience and thus be more prepared for the next crisis. However, it is important to follow the best intentions in the theory of crisis management which are confirmed over time by practice. By researching and analysing we have achieved the aim of thesis and we highlighted the fact that the managers of the companies approached differentially to the crisis management. We pointed out the successful companies, which by involving the elements of the crisis management achieved good results in times of the crisis and it improved in the referenced period. On the contrary, there were also managers which mismanaged company during crisis and company resulted in the restructuring. In neither case we cannot speak about the perfect application of procedures of crisis management and that is why we are pleased that the work defines recommendations that managers should consider in the future. Every crisis manager should be able to: see the crisis, determine the proper steps to overcome it, manage and control the implementation of these steps and learn from own and another's mistakes. In addition, it is important to be able to use more available system resources and proper communication to all participants. Compliance with these assumptions gives the company and its manager's good prospects for successful crisis management. Experience has shown that the crisis arrival is only a matter of time.

This article was written in the context of VEGA project number 1/0109/17.

References

- [1] Booth, S. A. 1993. *Strategy. Competition and change in modern enterprises*. London: Routledge, 1993.
- [2] Campello, M., Graham, J. R., and Harvey, C. R. 2010. The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics, Elsevier*, 97: 470-487.
- [3] Coombs, W. T. 2014. *Ongoing Crisis Communication Planning, Managing, and Responding*. Fourth edition. Thousand Oaks : Sage Publications Inc. 2014. 256 s. ISBN 978-1-4522-6136-2
- [4] Crandall, W. R., Parnell, J. A., and Spillan, J. E. 2014. *Crisis management, Leading in the new strategy landscape*. Second edition. Los Angeles: Sage Publications. 2014. 363 s. ISBN 978-1-4129-9168-1
- [5] González-Herrero, A., and Pratt, C. B. 1995. *How to Manage a Crisis Before or Whenever It Hits*. In *Public relations quarterly* 40, ISSN 0033-3700

- [6] HNONLINE.SK. 2013. *Theories explaining the reasons of financial crises*. [online]. Available at: <http://finweb.hnonline.sk/c1-53627070-teorie-ktore-vysvetluju-priciny-financnych-kriz>; [accessed 12.4.2013].
- [7] Kislingerová, E. 2010. *Podnik v časech krize*. Praha : Grada Publishing. 2010. ISBN 978-80-247-3136-0
- [8] Kita, J., Grossmanová, M., and Konstiak, P. *Geomarket-Importance of its Application in the Slovak Retail Trade*. Conference: 5th International Scientific Conference on Trade, International Business and Tourism Location: Mojmirovce, SLOVAKIA Date: OCT 16-17, (2014).
- [9] Kozłowski, R., and Matejun, M. 2016. Characteristic features of project management in small and medium-sized enterprises. *E&M Economics and Management*, 1: 33 -48. DOI: [dx.doi.org/10.15240/tul/001/2016-1-003](https://doi.org/10.15240/tul/001/2016-1-003)
- [10] Krošláková, M., Kubičková, V., Jurkovičová, L., and Kubiniy, N. 2015. Dynamics of high growth enterprises – „gazelles“– in Czech Republic. In *Problems and Perspectives in Management. Sumy: Limited Liability Company "Consulting Publishing Company "Business Perspectives"*, 13(2): 27-35. ISSN 1727-7051. VEGA 1/0205/14.
- [11] Majtán, Š. et al. 2009. *Podnikové hospodárstvo*. Bratislava: Sprint dva, 2009. ISBN 978-80-89393-07-7
- [12] Melikhova, Y., Bažó, L., Holubcová, I., and Camacho, J.A. 2015. Trade in services and tertiarisation of the Visegrád Four economies. *Post-Communist Economies*, 27(1): 1-22. Available at: <http://dx.doi.org/10.1080/14631377.2015.992219>
- [13] Pudlo, P., and Gavurova, B. 2012. *Experimental learning in higher education, using simulation games as learning tool*. SGEM 2012: 12th International Multidisciplinary Scientific GeoConference: conference proceedings: vol. 3: 17-23 June, 2012, Albena, Bulgaria. Sofia: STEF92 Technology Ltd., 2012, pp. 1093-1100. Available at: <http://dx.doi.org/10.5593/sgem2012/s23.v3009>
- [14] Pudlo, P., and Gavurova, B. 2013. *Experimental teaching methods in higher education - practical application*. SGEM 2013: 13th International Multidisciplinary Scientific Geoconference: Ecology, Economics, Education and Legislation: vol. 2: 16-22 June, 2013, Albena, Bulgaria. - Albena: STEF92 Technology Ltd., 2013, pp. 423-428. Available at: <http://dx.doi.org/10.5593/sgem2013/be5.v2/s22.010>
- [15] Slovak Credit Bureau. 2013. *Banruptcy and restructuring development*. [online]. Available at: <http://www.crif.sk/Novinky/Novinky/Documents/TS%20Konkurzy%20a%20re%C5%A1trukturaliz%C3%A1cie%202.Q%202012.pdf>; [accessed 2.4.2013].
- [16] Smejkal, V., and Rais, K. 2006. *Řízení rizik ve firmách a jiných organizacích*. Praha: Grada Publishing.
- [17] Strážovská, H., Strážovská, L., Krošláková, M., and Bažó, L. 2016. *Malé a stredné podnikanie (zmeny obsahu ekonomických nástrojov)*. Bratislava: Sprint 2.
- [18] Zuzák, R., and Königová, M. 2009. *Krizové řízení podniku. 2nd Edition*. Praha: Grada Publishing, 2009.

Modified Method for Sensitivity Analysis of Investment Projects Efficiency Criteria

Aleksandr Mikhaylovich BATKOVSKIY
Joint Stock Company "Central Research Institute of Economy
Management and Information Systems "Electronics", Moscow, Russia
batkovskiy_a@instel.ru

Elena Georgievna SEMENOVA
Institute of Innovation and Basic Postgraduate Training
St. Petersburg State University of Aerospace Instrumentation, St. Petersburg, Russia
egsemenova@mail.ru

Valeriy Yaroslavovich TROFIMETS
The Department of Higher Mathematics and Systems Modeling of Complex Processes
Saint-Petersburg University of State Fire Service of Emercom of Russia, St. Petersburg, Russia
zemifort@inbox.ru

Elena Nikolaevna TROFIMETS
The Department of Higher Mathematics and Systems Modeling of Complex Processes
Saint-Petersburg University of State Fire Service of Emercom of Russia, St. Petersburg, Russia
ezemifort@inbox.ru

Alena Vladimirovna FOMINA
Joint Stock Company "Central Research Institute of Economy
Management and Information Systems "Electronics", Moscow, Russia
fomina_a@instel.ru

Suggested Citation:

Batkovskiy, A.M. et al. 2017. Modified method for sensitivity analysis of investment projects efficiency criteria. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1116-1131.

Abstract

The article deals with the theoretical and practical aspects of applying the sensitivity analysis method for efficiency criteria of investment projects. The advantages and disadvantages of the method have been analyzed. A modified version of the method has been proposed, in which the model of the project cash flow is refined and, unlike the standard method, the elasticity coefficient, calculated on the basis of regression model development, is used as the index of sensitivity. In addition, for the situation of representative statistical data on dependent parameters of the project being absent, the proposed method includes a procedure for developing a regression model based on the distribution table of a two-dimensional random variable obtained on the basis of plausible expert judgments about the interrelationship of project parameters. An integrated approach to risk assessment of investment projects has been considered, consisting in joint application of the sensitivity analysis method and the method of analysis of project development scenarios. The scenario analysis method has been supplemented with a quantitative indicator of risk assessment that is more informative in comparison with the variation coefficient and characterizes the probability for an investment project to prove unprofitable.

Keywords: investment project; risk assessment; sensitivity analysis; scenario analysis; computer simulation

JEL Classification: C18; B26; C40; C60

Introduction

Analyzing the investment activity of an enterprise is one of the most difficult sections of financial management. The decisions made in this area are designed for long periods of time and the following aspects are usually inherent in them (Lukasevich 1998):

- are part of the development strategy of an economic entity (firm, enterprise, etc.) in the future;
- entail significant outflows of cash;

- as from a certain point in time can become irreversible;
- rely on predictive estimates of future costs and revenues.

The latter aspect determines a limited application of deterministic methods to justify investment decisions and requires considering random and uncertainty factors in assessing the efficiency of investment projects. Sensitivity analysis is one of the relatively simple and at the same time highly effective methods enabling to take into account uncertainty and to identify factors that could affect the success of the project implementation.

Conclusion

Thus, it can be argued that the comprehensive approach to risk assessment is the most effective involving the use of diverse economic and mathematical methods. This approach does not only allow obtaining a variety of quantitative risk assessments, but also gives a more complete qualitative model of possible results of project implementation as a whole.

The proposed modified method has been brought to the level of practical implementation in the form of a computer model in the Excel spreadsheet environment. The method and the computer model have been practically tested and endorsed through an example of risk assessment of an investment project for production of turbochargers for marine power plants.

Acknowledgements

The study was supported by the Russian Foundation for Basic Research (project RFBR No. 16-06-00028).

References

- [1] Alastair D, J. 2015. *Mastering Financial Mathematics in Microsoft Excel*. FT Press.
- [2] Allen, G. 2015. *Threat Assessment and Risk Analysis: An Applied Approach*. Butterworth-Heinemann, 2015.
- [3] Anderson, E.J. 2013. *Business Risk Management: Models and Analysis*. Wiley.
- [4] Aven, T., and Renn, O. 2010. *Risk Management and Governance: Concepts, Guidelines and Applications*. Springer.
- [5] Avon, J. 2015. *The Basics of Financial Modeling*. Apress.
- [6] Batkovskiy, A.M. et al. 2015. Study of Economic Systems Using the Simulation-Based Statistical Modeling Method. *Mediterranean Journal of Social Sciences*, 6, 4 S4: 369-380. DOI: 10.5901/mjss.2015.v6n4s4p369
- [7] Batkovskiy, A.M. et al. 2016. Computer Modeling of Leasing Operations. *Indian Journal of Science and Technology*, 9(28): 85-95. DOI: 10.17485/ijst/2016/v9i28 /97661
- [8] Benninga, S. 2014. *Financial Modeling*. The MIT Press.
- [9] Bühlmann, H. 1996. *Mathematical Methods in Risk Theory*. Springer.
- [10] Chan, H.K., and Wang, X. 2013. *Fuzzy Hierarchical Model for Risk Assessment: Principles, Concepts, and Practical Applications*. Springer. DOI: 10.1007/978-1-4471-5043-5
- [11] Charnes, J. 2012. *Financial Modeling with Crystal Ball and Excel*. John Wiley and Sons.
- [12] Crouhy, M., Galai, D., and Mark, R. 2014. *The Essentials of Risk Management*. New York: McGraw-Hill.
- [13] Dubrov, A.M., Lagosha, B.A., and Hrustalev E.Ju. 2000. *Simulation in economics and business risk situations*. Moscow: Finansy i statistika [in Russian].
- [14] Ermasova, N.B. 2008. *Risk management organization*. Moscow: Dashkov i K° [in Russian].
- [15] Fairhurst, D.S. 2012. *Using Excel for Business Analysis*. Wiley.
- [16] Goossens, F. 2015. *How to Implement Market Models Using VBA*. Wiley.
- [17] Gracheva, M.V. 2009. *Risk management of the investment project: textbook for universities*. Moscow: JuNITI-DANA [in Russian].
- [18] Haimes, Y.Y. 2009. *Risk Modeling, Assessment, and Management*. Wiley.
- [19] Hardy, K. 2014. *Enterprise Risk Management: A Guide for Government Professionals*. Wiley.
- [20] Kalinina, V.N., Pankin, V.F. 1998. *Mathematical statistics*. Moscow: Vysshaya shkola [in Russian].

- [21] Korolev, V.Ju., Bening, V.E., and Shorgin, S.Ja. 2011. *Mathematical foundations of the theory of risk*. Moscow: Fizmatlit [in Russian].
- [22] Korosteleva, M.V. 2007. Nekotorye metody analiza chuvstvitel'nosti vnutrennej normy dohodnosti investicionnogo proekta [Some methods of sensitivity analysis internal rate of return of the investment project]. *SPbGU Bulletin*, 5(3): 145-152 [in Russian].
- [23] Kossov, V.V., Livshits, V.N., and Shakhnazarov, A.G. 2000. *Methodical recommendations on estimation of effectiveness of investment projects (second edition)*. Moscow: Ekonomika. Available at: <http://www.niec.ru/Met/02redMR.pdf> [in Russian].
- [24] Lai, D.C.F. et al. 2010. *Professional Financial Computing Using Excel and VBA*. Wiley.
- [25] Lukasevich, I.Y. 1998. *Analysis of Financial Transactions. Methods, Models, Computational Technique*. Moscow: Finansy, YuNITI [in Russian].
- [26] Mercantini, J.-M., and Faucher, C. (Eds.) 2015. *Risk and Cognition*. Springer-Verlag Berlin Heidelberg.
- [27] Meyer, C., and Quell, P. 2011. *Risk Model Validation*. New York: Risk Books.
- [28] Michael, R. 2015. *Business risk and simulation modelling in practice: using Excel, VBA and @RISK*. John Wiley and Sons.
- [29] Nikonova, I.A. 2012. *Project analysis and project financing*. Moscow: Al'pina Publisher [in Russian]
- [30] Passenheim, O. 2013. *Enterprise Risk Management*. Bookboon.
- [31] Peterson, S.P. 2012. *Investment Theory and Risk Management*. Wiley
- [32] Pham, H. (Ed.) 2011. *Safety and Risk Modeling and Its Applications*. London: Springer. DOI: 10.1007/978-0-85729-470-8
- [33] Pritchard, C.L. 2014. *Risk Management: Concepts and Guidance*. New York: Auerbach Publications.
- [34] Ragsdale, C.T. 2012. *Spreadsheet Modeling and Decision Analysis: A Practical Introduction to Management Science*. South-Western, Cengage Learning.
- [35] Rausand, M. 2011. *Risk Assessment: Theory, Methods, and Applications*. Wiley.
- [36] Saati, T. 1989. *Decision-making. Method of analysis of hierarchies*. Moscow: Radio i svyaz. [in Russian].
- [37] Samonas, M. 2015. *Financial Forecasting, Analysis and Modelling: A Framework for Long-Term Forecasting*. Wiley.
- [38] Sengupta, C. 2004. *Financial Modeling Using Excel and VBA*. Wiley.
- [39] Shapkin, A.S., and Shapkin, V.A. 2005. *Risk theory and modeling risk situations*. Moscow: Dashkov i K° [in Russian].
- [40] Skoglund, J., and Chen, W. 2015. *Financial Risk Management: Applications in Market, Credit, Asset and Liability Management and Firm Wide Risk*. Wiley.
- [41] Tihomirov, N.P. 2003. *Methods of analysis and management of ecological-economic risks*. Moscow: JuNITI-DANA [in Russian].
- [42] Urodovskih, V.N. 2011. *Enterprise risk management*. Moscow: Vuzovskiy uchebnik: INFRA-M [in Russian].
- [43] Vilenskiy, P.L., Livshic, V.N., and Smoljak S.A. 2002. *Assessment of efficiency of investment projects. Theory and practice*. Moscow: Delo [in Russian].
- [44] Yoe, C. 2012. *Principles of Risk Analysis: Decision Making under Uncertainty*. CRC Press.

Calculation Method and Software Development for Prime Cost Calculation in Case of Road Freight Transport Trips

György KOVÁCS
University of Miskolc, Institute of Logistics
altkovac@uni-miskolc.hu

Suggested Citation:

Kovács, G. 2017. Calculation method and software development for prime cost calculation in case of road freight transport trips. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1132-1140.

Abstract

Due to growing market globalization, increasing global competition the forwarding companies are compete together for client orders. Clients will choose the quality and cheap service providers. In the study a precise calculation method and a total prime cost function are elaborated, the cost components of the prime cost function and calculation methods for these are also defined. Based on the elaborated theory a software was developed to define the prime cost of a given transport task. Due to the precision of the calculation method and software the bid for the transport task will not be lower or higher than the market price, so risk and waste of the company can be reduced, and profit can be realized. It is especially important in case of long international transport trips. Due to the fastness of the software the company will be able to fast respond to client's orders. A software is also introduced in this article which is absolutely original and unique.

Key words: road transport; transport trip; prime cost calculation; software development

JEL Classification: R40; L91

Introduction

The intensity of the transport activities connected to production and service is ever increasing due to the growth of the efficiency of the economy and the bigger supply chains (Kovács and Kot 2016, Lukinskiy and Lukinskiy 2016).

The research study is very important and actual, because the 30% of the cost of the whole supply chain comes from transportation. The ratio of road transport in Europe is 78% of the total transit volume (Fraunhofer 2015). Due to it, every company focus on optimization of transportation and reduction of transport costs, especially in case of long international transport trips.

Recently in practice the calculation of transport fee of a transport task is not supported by software at transport companies, but depends on the individual estimation of the transport managers. It results wastes if the bid for the transport task is lower than the prime cost, profit will not be realized for the companies. If the bid for the transport task is higher than the prime cost the fee of the transport task will be over the market price, so the company will not be competitive. It is problem especially in case of long international transport trips. The idea of a software for a prime cost calculation of a road freight transport was initiated by this fact, so the software can offer precise and prompt solution for an everyday task.

The goal of this research is to elaborate a precise calculation method, to define the total prime cost function and cost components of the prime cost function, and elaborate the calculation methods for these. After it based on the elaborated theory a software was developed to define the prime cost of a given transport task. This software is absolutely original and unique, especially that it can provide a fast and precise prime cost calculation for a given transport task based on minimal number of input data.

Due to the fastness of the software the company will be able to fast respond to customer orders and due to the precision the bid for the transport task will not be lower or higher than the market price, so risk and waste of the company can be reduced, and profit can be realised. The developed software can also help the strategic decision making, optimization of transport activities and making short and long term operative plans. The developed software is absolutely fit to the customer demands and very cost effective. Precision and reliability of the elaborated prime cost calculation method and software compared to the improper practice was verified by comparative analysis. The developed software was implemented successfully at a Hungarian forwarding company.

Conclusions

Production companies and service providers put large emphasis on the optimization of transportation and reduction of transport costs. Especially in case of long international freight transport trips, because the transportation is one of most expensive logistical activity. The performance of transportation sector shows that the ratio of road transport in Europe is 78% of the total transit volume. Due to it, this research is very actual and important because the optimization of road transport activities results a significant cost reduction.

The reason of the elaboration of the calculation method and software development was the improper practice applied at transport companies that the calculation of the transport fee of a transport task is not supported by software, but depends on the individual estimation of the transport managers.

In the study a precise calculation method and a prime cost function were elaborated, the cost components of the prime cost function and calculation methods for these were also defined. Based on the elaborated theory a software was developed to define the prime cost of a given transport task.

The elaborated calculation method and software is absolutely original and unique, especially that it can provide a fast and precise prime cost calculation. This software was developed for SMEs, which cannot invest in expensive ERP systems. Further advantage of the software that absolutely fit to the customer requirements and very cost effective.

Due to the fastness of the software the company will be able to fast respond to client orders and due to the precision the bid for the transport task will not be lower or higher than the market price, so risk and waste of the company can be reduced especially in case of long international transport trips. The developed software can also help the strategic and operative decision. Precision and reliability of the elaborated prime cost calculation method and software compared to the improper practice was verified by comparative analysis (Section 7).

The software was implemented successfully at a forwarding company; other enterprises are also interesting in this software. Our future plan is to develop an "expert system" for this software which can make suggestions automatically based on the evaluation of historic transport data for improvement of road freight transport activity.

References

- [1] Anbuudayasankar, S. P., Ganesh, K., and Mohapatra, S. 2014. *Models for Practical Routing Problems in Logistics. Design and Practices*, Springer Verlag.
- [2] Banister, D., et al. 2000. Transport policy scenarios for the EU: 2020 images of the future. *Innovation: The European Journal of Social Sciences*, 13(1): 27-45.
- [3] Birge, J. R., and Linetsky, V. 2007. *Handbooks in operations research and management science*. Volume 15. Available at: <http://www.sciencedirect.com/science/handbooks/09270507>
- [4] Caramia, M., and Dell'Olmo, P. 2008, *Multi-Objective Management in Freight Logistics*. Springer Verlag.
- [5] Ehmke, J. F. 2012. *Integration of Information and Optimization Models for Routing in City Logistics*, Springer Verlag. ISBN: 9781461436270 • 9781461436287 (online). DOI: 10.1007/978-1-4614-3628-7
- [6] Glock, C.H. 2017. Decision support models for managing returnable transport items in supply chains: A systematic literature review. *International Journal of Production Economics*, 183: 561-569.
- [7] Golyand, I. L., Mukhina, K. A., Zakharin, K. N., and Hegai, J. A. 2017. Ensuring sustainable development of the regional passenger transport systems on the basis of economically sound tariffs for transportation services. A case study of Krasnoyarsk Krai. *Journal of Applied Economic Sciences*, 12, 2(48): 462-469.
- [8] Grondys, K., and Dragolea, L.L. 2016. Logistics attractiveness of Poland in relation to logistics centres and global competition. *Polish Journal of Management Studies*, 14 (1): 84-94.
- [9] Gudehus, T., and Kotzab, H. 2009. *Comprehensive Logistics*, Springer Verlag.

- [10] Kovács, G., and Kot, S. 2016. New logistics and production trends as the effect of global economy changes. *Polish Journal of Management Studies*, 14(2): 115-126.
- [11] Lukinskiy, V., and Lukinskiy, V. 2016. Evaluation of the influence of the logistic operations reliability on the total costs of a supply chain. *Transport and Telecommunication*, 17(4): 307-313.
- [12] Ross D. F. 2015. *Distribution Planning and Control*, Springer Verlag.
- [13] Rushton, A., Phil Croucher, P., and Baker P. 2010. *The Handbook of Logistics & Distribution Management*, Kogan Page Limited.
- [14] Simchi-Levi, D., Xin, C., and Bramel, J. 2014, *The Logic of Logistics, Theory, Algorithms, and Applications for Logistics Management*, Springer Verlag.
- [15] Ślusarczyk, B. 2014. Logistics costs measurement at enterprises. *Economic Annals-XXI*, 11-12: 97-100.
- [16] Swanson, D. 2016. Transportation price benchmarking: implications for firm performance. *Benchmarking*, 23(4): 1015-1026.
- *** Fraunhofer Institute, 2015, *Executive summary*. Available at: <http://www.scs.fraunhofer.de/content/dam/scs/de/dokumente/studien/Top%20100%20EU%202015%20Executive%20Summary.pdf>, Access on: 15.09.2016

Does Outlier need to be removed from Regression Analysis? Case Study in Economics Research

Loekito Adi SOEHONO

Faculty of Mathematics and Natural Sciences

Brawijaya University, Malang, Indonesia

loekito_soehono@hotmail.com

Devanto Shasta PRATOMO

Faculty of Economics and Business

Brawijaya University, Malang, East Java, Indonesia

dede_gsu02@yahoo.com

Suggested Citation:

Soehono, L.A., Pratomo, D.S. 2017. Does outlier need to be removed from regression analysis? Case study in economics research. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1141-1147.

Abstract:

The linear relationship between response and predictor variables in economics can be expressed in a regression model. The Ordinary Least Square in estimating the parameters in the regression will produce a less valid estimator whenever outlier appears in the data. The identification of the outlier needs to be done to improve the validity of the results. The objective of this study is to examine how is the effect of deleting outliers from the data sets will change the adjusted coefficient of determination R^2_{adj} as compared to the use of full data (with outlier). Using twenty five sets of data obtained from the final projects of undergraduate students in economics of University of Brawijaya, two methods of deleting outlier observation are examined, *i.e.* (1) by deleting observation with the largest residual without considering the number of outliers in the data sets and (2) by deleting all outliers at once. The results of the analysis show that deleting observation with the largest outlier from the data sets increase an average of R^2_{adj} by 6.33% and an average increase of R^2_{adj} by 7.78% after deleting all outliers at once. Therefore, it is required to have a very careful analysis so that it can be decided whether or not to include outlier in the process of the regression analysis.

Keywords: outlier; least square; adjusted coefficient of regression

JEL Classification: C10; C51; C52

Introduction

Multiple linear regression analysis is a popular statistical technique for students in economics to determine the relationship between a response variable and several predictor variables. The regression model is usually represented by the following equation (Draper and Smith 1981):

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots + \beta_p X_{ip} + \varepsilon_i \quad (1)$$

where: Y_i : the i^{th} response variable; β_0 : intercept; $\beta_1, \beta_2, \dots, \beta_p$: partial regression coefficient; $X_{i1}, X_{i2}, \dots, X_{ip}$: predictor variables; ε_i : the i^{th} residual; n : the number of observations; p : the number of predictor variables

Parameter $\beta_1, \beta_2, \dots, \beta_p$ on the model (1) cannot be exactly known because in almost every condition, researcher is using only a small fraction of the population (sample) from the values of Y which are related to the values of several X values. Therefore, the equation (1) can be estimated using following sample model:

$$Y_i = b_0 + b_1 X_{i1} + b_2 X_{i2} + \dots + b_p X_{ip} + e_i \quad (2)$$

One of the methods to estimate the parameters of linear regression models is the Ordinary Least Square (OLS) with assumptions: independent and normal distributed residual, with mean zero and variance of σ^2 , which can be summarized as $\varepsilon_i \sim NID(0, \sigma^2)$ (Draper and Smith 1981).

In many studies, it is commonly found that there are observations which are suspected to be outliers, *i.e.* observations with larger absolute residual values compare to other residuals. There are various definitions of an outlier namely: is a score in a set of data which is so extreme that, by all appearances, it is not representation of the population from which the sample is derived (Sheskin 2000); is an observation that do not follow the common patterns and is located far from the centre of the data (Weisberg 2005) and is an observation that deviates far from other observation, which may arise due to wrong measurement (Hawkins 1980).

The identification of outlier is needed to determine whether outlier should be removed or not from the data analysis. This is because the presence of outlier will cause some problems such as altering or obscuring the conclusions made by researchers, so that the research result become invalid (Draper and Smith 1981).

Robust regression method is one of the methods to overcome the influence of outlier in the data set. This method requires more complicated mathematical calculation, as shown by Fox (2002). Draper and Smith (1981) then suggested removing the outliers from the data and re-analysing without the outliers. Similarly, Weisberg (2005) stated if there are problems associated with outlier, then the diagnostic tool which can identify the outlier problem is needed. One of the methods is removing the outlier from the data then re-analyzes the data without outlier.

The important indicator to measure the accuracy or the suitability of regression obtained from the parameter estimation based on samples is the coefficient determination (R^2). R^2 can also be used to measure the proportion of the total variability around the mean which can be explained by the regression line (Hamilton 1992). Draper and Smith (1981) defined the value as coefficient determination and is calculated as follows:

$$R^2 = \frac{\sum_{i=1}^n (\hat{Y}_i - \bar{Y})^2}{\sum_{i=1}^n (Y_i - \bar{Y})^2} = \frac{SSR}{SST} = 1 - \frac{SSE}{SST} \quad (3)$$

where: SSR: Regression sum of squares; SST: Total sum of squares; SSE: Error sum of squares; R^2 in equation (3) is sensitive to the addition of predictor variables, where the more predictor variables are involved, the greater the value of R^2 will be.

Therefore, the number of variable in the model should be considered. Coefficient determination that takes into account the number of predictor variables in the model is called the adjusted coefficient determination R^2_{adj} . The coefficient of determination has been adjusted to the respective degrees of freedom each sum of squares. According to Drapper and Smith (1981) R^2_{adj} is defined as:

$$R^2_{adj} = 1 - \frac{SSE/n - p - 1}{SST/n - 1} \quad (4)$$

where: SSE: Error sum of square; SST: Total sum of square; p : Number of predictor variables; n : number of observations.

The value of R^2_{adj} lies between 0 and 1 is ($0 \leq R^2_{adj} \leq 1$). The closer the value of R^2_{adj} to 1, the better the data fit with the model, and conversely the closer the value of R^2_{adj} to 0, then the regression model obtained is not appropriate to predict the value of dependent variables Y. In general, the interpretation of the corrected coefficient determination is the proportion of the total variability of Y explained by the diversity of predictor variables X (Hamilton 1992).

Although multiple regression analysis is commonly used in economics research and the assumption test was done so that the conclusions are valid, the identification of outlier is rarely performed. Meanwhile, OLS is a sensitive estimation method when outliers are presence (Hamilton 1992). The objective of the study is therefore to examine how deleting outliers affects the accuracy or suitability of regression as measured by the change in the adjusted coefficient of determination.

The rest of this paper is as follows. In the second section, the material and method will be explained. The following section contains the results and discussion. As for the final section, this paper presents the conclusion.

Conclusion

The objective of the study is to examine the effect of deleting outliers on the accuracy and suitability of regression measured by the change in adjusted coefficient of determination. Based on the findings using 25 datasets of final project of undergraduate students of Brawijaya University, it can be concluded that the presence of outlier can affect the results of regression analysis, both in magnitude and sign of regression coefficient and on the adjusted coefficient determination (R^2_{adj}) as one of the criteria for the accuracy of the model. The results of the analysis show that (1) deleting observation with the largest outlier from the data sets increase an average of R^2_{adj} by 6.33% and (2) deleting all outliers at once from the data sets increase an average of R^2_{adj} by 7.78%. The hypothesis testing (Friedman test) also shows a significant increase in R^2_{adj} ($p < 0.001$) after deleting of the outliers.

The findings imply that the identification should be carried out against the presence of outlier because OLS is sensitive estimation methods to the presence of outlier. The study suggests that outliers should be removed from the regression analysis. In removing outliers, careful consideration need to be take, so that the important information of the data suspected as outliers is not lost, and it is also up to the researchers which of deleting outliers' method to be used.

References

- [1] Draper, N. R., and Smith, H. 1981. *Applied Regression Analysis*. 3rd Edn., John Willey and Sons Inc., NY.
- [2] Fox, J. 2002. *Robust regression*. Available at: <http://www.biostat.jhsph.edu/~tlouis/bio752-753/140.753/robust-regression.pdf> (accessed June 20, 2016)
- [3] Gujarati, D. 2004. *Basic Econometrics*. Mc Graw Hill Company, New York.
- [4] Hamilton, L.A. 1992. *Regression with Graphics*. A Second Course in Applied Statistics. Duxbury Press, Belmont.
- [5] Hawkins, D. 1980. *Identification of Outliers*. Chapman and Hall. Available at: <http://www.eng.tau.ac.il/~bengal/outlier.pdf> (accessed November 15, 2016)
- [6] Hordo, M, Kiviste, A., Sims, A., and Lang, M. 2004. *Outliers and/or Measurement Errors on the Permanent Sample Plot data*. Estonian Agricultural University, Institute of Forestry and Rural Engineering.
- [7] Pearson, R. 2002. *Outliers in Process Modelling and Identification*. IEEE Transactions on Control Systems Technology.
- [8] Seo , S. 2002. *A Review and Comparison of Methods for Detecting Outliers in Univariate Data Sets*. University of Pittsburgh.
- [9] Sheskin, D. J. 2000. *Handbook of parametric and nonparametric statistical procedures*. 2nd Edition Chapman & Hall/CRC. The United States of America.
- [10] Stevens, J. P. 1984. *Outliers and Influential Data Points in Regression Analysis*. *Psychological Bulletin*, 95(2): 334-344. The American Psychological Association, Inc.
- [11] Strickland, J. 2014. *Predictive Analytics Using R*. Lulu Inc, Colorado.
- [12] Weisberg, S. 2005. *Applied Linear Regression*. Third Edition. University of Minnesota. School of Statistics. Minneapolis, Minnesota. A John Wiley & Sons.
- [13] Williams, R. 2016. *Outlier*. Available at: <http://www3.nd.edu/%7Erwilliam/> (accessed November 24, 2016)

Competitiveness, Sustainable Development and Import Substitution Problems in the Russian Federation

Tatiana Anatolyevna SALIMOVA
Ogarev Mordovia State University, Saransk, Russian Federation
tasalimova@yandex.ru

Nadezda Dmitrievna GOUSKOVA
Ogarev Mordovia State University, Saransk, Russian Federation
econauka@yandex.ru

Lyudmila FEDOSKINA
Ogarev Mordovia State University, Saransk, Russian Federation
ld0168@yandex.ru

Ivan Alexandrovich GORIN*
Ogarev Mordovia State University, Saransk, Russian Federation
naukamrsu@mail.ru

Suggested Citation:

Salimova, T. A., Gouskova, N. D., Fedoskina, L., and Gorin I.A. 2017. Competitiveness, Sustainable Development and Import Substitution Problems in the Russian Federation. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1148-1161.

Abstract

The article deals with the critical analysis of the scholars' works in the field of import substitution, substantiating the necessity of its orientation towards the international market. The export and import commodity structure of the Russian Federation which characterizes the increasing dependence of the country on mineral resources sales and technological equipment import is studied. The authors analyze and make adequate conclusions about the correlation between financial resources obtained through the windfall from sales of oil as the main export product of the Russian economy and the development of its own innovative import-substituting production. The principal scheme of innovative import substitution process has been developed by the researchers, its stages have been analyzed and the most problematic areas in its implementation have been singled out. Based on the analysis of empirical data obtained by the survey of target groups, the identification of factors has been provided and their significance in the import substitution potential of the region has been determined; the algorithm for the region import substitution capacity assessment has been developed

Keywords: import; export; import substitution; of import substitution potential; innovative import substitution

JEL Classification: R11; O43; O3

Introduction

Broad-ranging discussion on the strategic approaches to the formation of Russia's import substitution policy that unfolded in the contemporary scholarly literature proves the high relevance of this area of research both for Russia and for all the countries interested in the processes related to the issues of import substitution. Over the past 25 years Russia was a passive participant involved in the international division of labor and specialized in the supply of resources, especially hydrocarbons, to the external market. Own industrial production was maintained to a greater extent in those sectors that had been formed and operated since the Soviet period. Imported equipment is used to manufacture innovative products in the enterprises which were created in recent years. These circumstances contributed to the acceleration of technological backwardness of Russia from the developed countries of the West and the United States.

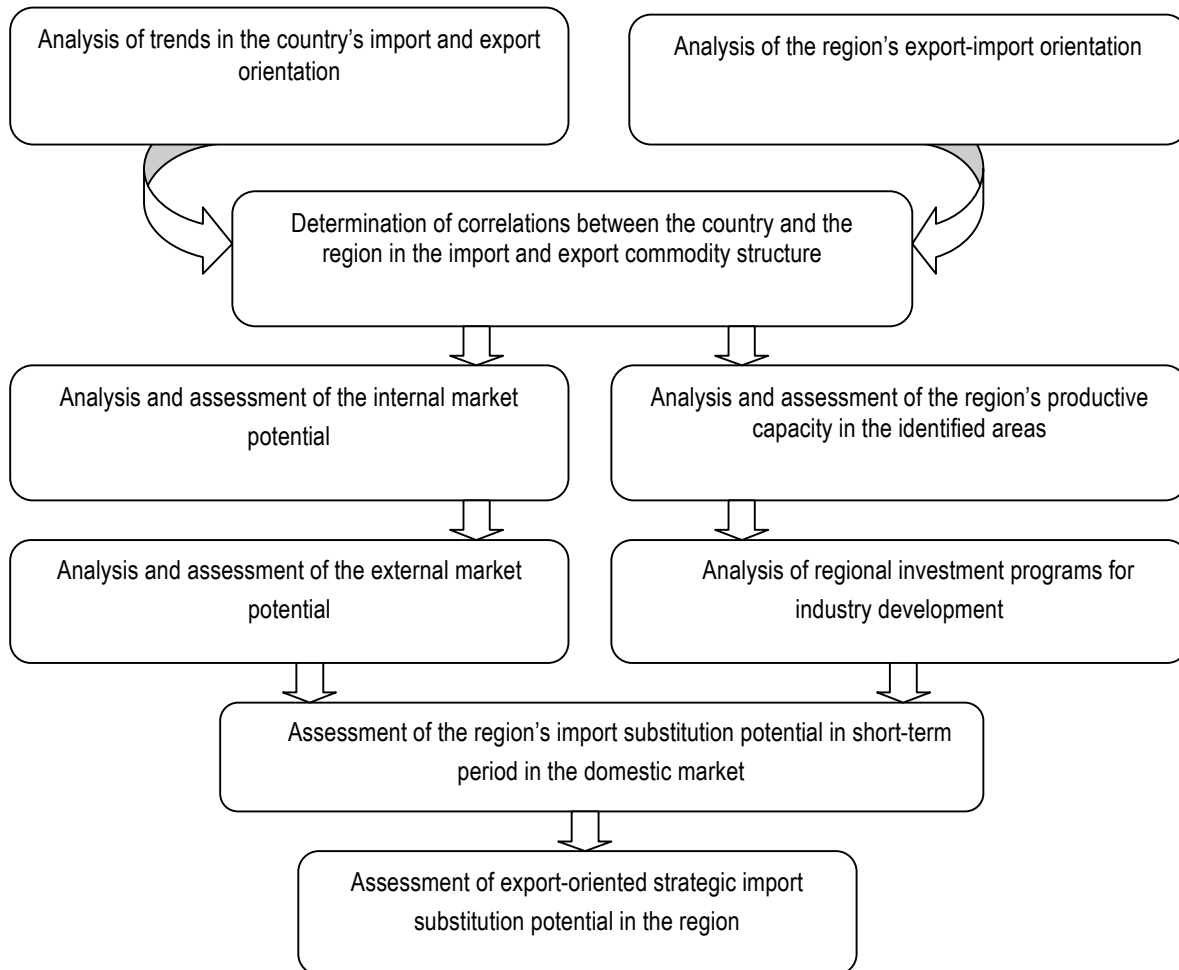
In this regard, further studies in the field of import substitution make it necessary to deepen them in order to identify possible prospects for the development of the Russian economy.

Conclusions

The results of conducted research led to the following conclusions:

1. Modern approach to understanding the intrinsic content of import substitution is based not on the policy of reducing imports and meeting the internal demand by expanding domestic production capacity but rather on the trends to develop foreign economic activity toward increase in the positive balance of foreign trade turnover by reducing imports and increasing exports provided that the country's internal demand is satisfied in full through the manufacture of products, similar to or exceeding the substituted imports in terms of quality or performance characteristics. Exclusive orientation toward internal consumers lead to a significant loss of competitive advantage in the long term and, consequently, to the decrease in the level of competitiveness.

Figure 2. Algorithm for assessment of import substitution potential of the region



2. The analysis of the Russian export commodity structure showed a significant increase in the share of mineral products (up to 70.5% of total exports) in the last 20 years. In general, export structure shows that the Russian Federation is exclusively a raw-material-exporting country with the further trend in heavier reliance on the raw material component.

3. The study of the import commodity structure in the Russian Federation shows the degradation of one of the most important areas of the developed economies – mechanical engineering. The share of machinery, equipment and motor vehicles in the structure of imports increased over the last 15 years from 31.4% in 2000 to 47.6% in 2014.

4. The funds received from the oil windfall were allocated rather to finance the science-based and technology-intensive imports than to develop own production in the field of innovative enterprises, R&D or other areas that economy is based on.

5. The authors have developed a principal diagram of innovative import substitution process, analyzed its stages and highlighted the most problematic areas in its implementation.

6. The researchers have identified the factors and determined their significance for the import substitution potential of the region based on the analysis of empirical data obtained through the questionnaire survey of the following target groups: managers and specialists of large enterprises, representatives of government agencies, small and medium-sized businesses, teachers and students.

7. The algorithm for assessing the region's import substitution potential have been developed, it makes possible to ensure a high level of reliability of the information about the potential of the regional industry, to implement the principles of the state policy of import substitution in the short and long term, taking into account additional possibilities of export growth in the region through the use of innovative technologies and increase in the share of innovative products in the overall of domestic product.

References

- [1] Adewale, A.R. 2012. Does import substitution industrialisation strategy hurt growth? New evidence from Brazil and South Africa. *African and Asian Studies*, 11(3): 288-314. DOI: [10.1163/15692108-12341235](https://doi.org/10.1163/15692108-12341235)
- [2] Altenburg, T., and Meyer-Stamer, J. 1999. How to promote clusters: Policy experiences from Latin America. *World Development*, 27(9): 1693-1713. DOI: [10.1016/S0305-750X\(99\)00081-9](https://doi.org/10.1016/S0305-750X(99)00081-9)
- [3] Anderson, J.E., and Neary, J.P. 2003. The mercantilist index of trade policy (Review). *International Economic Review*, 44(2): 627-649. DOI: 10.3386/w6870.
- [4] Balassa, B. 1961. *The Theory of Economic Integration*. George Allen & Unwin Ltd.
- [5] Balasubramanyam, V.N., Salisu, M., and Sapsford, D. 1996. Foreign direct investment and growth in EP and IS countries. *Economic Journal*, 106(434): 92-105. DOI: 10.2307/2234933.
- [6] Belini, C. 2012. Industrial exports and Peronist economic policies in post-war Argentina. *Journal of Latin American Studies*, 44(2): 285-317. DOI: [10.1017/S0022216X12000016](https://doi.org/10.1017/S0022216X12000016)
- [7] Berezinskaya, O.B., and Vedev, A.L. 2015. Production dependence on imports of Russian industry and the mechanism of strategic import substitution. *Issues of Economics*, 1: 103-115.
- [8] Bruton, H.J. 1998. A Reconsideration of Import Substitution. *Journal of Economic Literature*, 36(2): 903-936. Available at: <http://sites-final.uclouvain.be/econ/DW/DOCTORALWS2004/bruno/import%20substitution.pdf> (Accessed: January 23, 2017).
- [9] Chen, T., and Tang, D. 1987. Comparing technical efficiency between import-substitution-oriented and export-oriented foreign firms in a developing economy. *Journal of Development Economics*, 26(2): 277-289. DOI: [10.1016/0304-3878\(87\)90030-7](https://doi.org/10.1016/0304-3878(87)90030-7).
- [10] Cline, W.R. 1982. Can the East Asian model of development be generalized? *World Development*, 10(2, February): 81-90.
- [11] De Lombaerde, P.A.A. 2006. Trade liberalization indexes and the evaluation of preferential trade agreements. A note on Ruiz Estrada. *Journal of Policy Modeling*, 28(8): 877-883. DOI: [10.1016/j.jpolmod.2005.08.005](https://doi.org/10.1016/j.jpolmod.2005.08.005)
- [12] Debowicz, D., and Segal, P. 2014. Structural change in Argentina, 1935-1960: The role of import substitution and factor endowments (Review). *Journal of Economic History*, 74(1): 230-258. DOI: [10.2139/ssrn.2161333](https://doi.org/10.2139/ssrn.2161333)
- [13] Der Heiden, P.T. 2013. China's trade in steel products: Evolution of policy goals and instruments.

Copenhagen Journal of Asian Studies, 31(1): 29-61. Available at: <https://rauli.cbs.dk/index.php/cjas/article/viewFile/4322/4751> (Accessed: March 11, 2017).

- [14] Dollar, D., and Sokoloff, K. 1990. Patterns of productivity growth in South Korean manufacturing industries, 1963-1979. *Journal of Development Economics*, 33(2): 309-327. DOI: [10.1016/0304-3878\(90\)90026-8](https://doi.org/10.1016/0304-3878(90)90026-8)
- [15] Drysdale, P., and Garnaut, R. 1982. Trade intensities and the analysis of bilateral trade flows in a many-country world: A survey. *Hitotsubashi Journal of Economics*, 22(2): 62-84. DOI: 10.15057/7939
- [16] Federal State Statistics Service of Russian Federation. Official website: <http://www.gks.ru/> [in Russian]
- [17] Frolova, O. 2012. Import substitution in the manufacturing product supply of the Russian engineering industry: strategy and levels. *RISK*, 4: 53-58.
- [18] Gareev, T. 2013. The special economic zone in the Kaliningrad region: Development tool or institutional trap? *Baltic Journal of Economics*, 13(2): 113-130. DOI: [10.1080/1406099X.2013.10840535](https://doi.org/10.1080/1406099X.2013.10840535)
- [19] Grechenyuk, O.N., and Grechenuk, A.V. 2015. Evaluation of innovation development of the Central Black Earth region to identify the prospects for import substitution. *Transactions of Southwestern State University. Series. Economics. Sociology. Management*, 1: 16-20.
- [20] Grilli, E. 2005. Political economy and economic development in Latin America in the second half of the 20th century. *Journal of Policy Modeling*, 27(1): 1-31. DOI: [10.1016/j.jpolmod.2004.11.001](https://doi.org/10.1016/j.jpolmod.2004.11.001).
- [21] Hertel T., Hummels D., Ivanic M., and Keeney R. 2007. How confident can we be of CGE-based assessments of Free Trade Agreements? *Economic Modelling*, 24(4): 611-635. DOI: [10.1016/j.econmod.2006.12.002](https://doi.org/10.1016/j.econmod.2006.12.002)
- [22] Jakobson, L., and Sanovich, S. 2010. The changing models of the Russian third sector: Import substitution phase. *Journal of Civil Society*, 6(3): 279-300. DOI: 10.1080/17448689.2010.528951
- [23] Kamyshachenko, E.N., and Dorohova, E.I. 2014. The external economic potential of the Belgorod Region: state and development priorities. *Scientific Journal of Belgorod State University. Series: History. Politology. Economics. Informatics*, 15(186): 31/1, 5-13. [in Russian]
- [24] Kohli, A. 1989. Politics of economic liberalization in India. *World Development*, 17(3): 305-328. DOI: [10.1016/0305-750X\(89\)90205-2](https://doi.org/10.1016/0305-750X(89)90205-2)
- [25] Kojima, K. 1964. The pattern of international trade among advanced countries. *Hitotsubashi Journal of Economics*, 5(1): 16-36. DOI: 10.15057/8091.
- [26] Krugman, P., and Livas Elizondo, R. 1996. Trade policy and the Third World metropolis. *Journal of Development Economics*, 49(1): 137-150. DOI: [10.1016/0304-3878\(95\)00055-0](https://doi.org/10.1016/0304-3878(95)00055-0).
- [27] Kumar, N., and Saqib, M. 1996. Firm size, opportunities for adaptation and in-house R&D activity in developing countries: The case of Indian manufacturing. *Research Policy*, 25(5): 713-722. DOI: [10.1016/0048-7333\(95\)00854-3](https://doi.org/10.1016/0048-7333(95)00854-3)
- [28] Lim, S., Mosley, L., and Prakash, A. 2015. Revenue Substitution? How Foreign Aid Inflows Moderate the Effect of Bilateral Trade Pressures on Labor Rights. *World Development*, 67: 295-309. DOI: [10.1016/j.worlddev.2014.10.025](https://doi.org/10.1016/j.worlddev.2014.10.025)
- [29] Ma, H., Oxley, L., Gibson, J. and Kim, B. 2008. China's energy economy: Technical change, factor demand and interfactor/interfuel substitution. *Energy Economics*, 30(5): 2167-2183. DOI: [10.1016/j.eneco.2008.01.010](https://doi.org/10.1016/j.eneco.2008.01.010)
- [30] Makarov, A.N. 2011. Import substitution industrialization as a tool for the region's economy: Innovative Aspects (a case study of the Nizhny Novgorod region). *Innovations*, 5(151): 90-93.

- [31] Neyolov, Yu.V. 2014. Prospects of import substitution in the Russian Federation. *Analytical Bulletin of the Federation council of the Russian Federation. Series: Homeland security problems*, 27(545): 4-6. [in Russian]
- [32] Nishimizu, M., and Robinson, S. 1984. Trade policies and productivity change in semi-industrialized countries. *Journal of Development Economics*, 16(1-2): 177-206. DOI: [10.1016/0304-3878\(84\)90106-8](https://doi.org/10.1016/0304-3878(84)90106-8)
- [33] Omamo, S.W. 1998. Transport costs and smallholder cropping choices: An application to Siaya District, Kenya. *American Journal of Agricultural Economics*, 80(1): 116-123. DOI: [10.2307/3180274](https://doi.org/10.2307/3180274)
- [34] Puga, D., and Venables, A.J. 1999. Agglomeration and economic development: Import substitution vs. trade liberalization. *Economic Journal*, 109(455): 292-311. DOI: 10.1111/1468-0297.00433
- [35] Rabelotti, R. 1999. Recovery of a Mexican cluster: Devaluation bonanza or collective efficiency? *World Development*, 27(9): 1571-1585. DOI: [10.1016/S0305-750X\(99\)00071-6](https://doi.org/10.1016/S0305-750X(99)00071-6).
- [36] Ricardo D. 1999. On the Principles of Political Economy and Taxation. Reprinted from 3rd Edition of 1821. Liberty Fund Inc. Available at: <http://www.econlib.org/library/Ricardo/ricP.html>
- [37] Rodríguez-Clare, A. 2007. Clusters and comparative advantage: Implications for industrial policy. *Journal of Development Economics*, 82(1): 43-57. DOI: 10.1016/j.jdeveco.2005.09.001
- [38] Schiff, M.W., and Winters, L.A. 2003. *Regional integration and development*. The International Bank for Reconstruction and Development, Washington, DC 20433. Available at: <http://siteresources.worldbank.org/BRAZILINPOREXTN/Resources/3817166-1185895645304/4044168-1186324101142/12RegionallIntegratioFull.pdf> (Accessed: March 11, 2017).
- [39] Shiells, C.R., and Reinert, K.A. 1993. Armington models and terms-of-trade effects: some econometric evidence for North America. *Canadian Journal of Economics*, 26(2): 299-316. DOI: 10.2307/135909.
- [40] Smirnov, V.V. 2015. Increasing the capacity of the food import substitution in the Russian regions. *Audit and Financial Analysis*, 1: 418-425. [in Russian]
- [41] Smith, A. 2000. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Reprinted from 5th Edition of 1904. Liberty Fund Inc. Available at: <http://www.econlib.org/library/Smith/smWNCover.html>
- [42] Spiegelaar, N.F., and Tsuji, L.J.S. 2013. Impact of Euro-Canadian agrarian practices: In search of sustainable import-substitution strategies to enhance food security in subarctic Ontario. *Canada Rural and Remote Health*, 13(2), Article number 2211. Available at: http://www.rh.org.au/published/articles/article_print_2211.pdf (Accessed: March 17, 2017).
- [43] Spiegelaar, N.F., Tsuji, L.J.S., and Oelbermann, M. 2013. The potential use of agroforestry community gardens as a sustainable import-substitution strategy for enhancing food security in subarctic Ontario, Canada. *Sustainability*, 5(9): 4057-4075. DOI: [10.3390/su5094057](https://doi.org/10.3390/su5094057)
- [44] Storper, M. 1991. *Industrialization, economic development and the regional question in the Third World: from import substitution to flexible production*. Pion LTD.
- [45] Suhanova, I.F., and Lyavina, M.Yu. 2014. Import substitution as a factor of regional economic growth. *Bulletin of Volgograd State University. Series: Economics. Ecology*, 5(28): 26-36. [in Russian]
- [46] Tussie, D. 2012. Latin America in the World Trade System (Chapter 14). In Ocampo, J.A. and Ros J. (Eds.) *The Oxford Handbook of Latin American Economics*. DOI: 10.1093/oxfordhb/9780199571048.013.0013
- [47] Wolfe, M. 2013. The historical dynamics of Mexico's groundwater crisis in la Laguna: Knowledge, resources, and profit, 1930s-1960s (Review). *Mexican Studies - Estudios Mexicanos*, 29(1): 3-35. DOI: 10.1525/msem.2013.29.1.3

- [48] Yakovlev, G.I. 2015. Features of the import substitution strategy in the Russian industry, *Bulletin of Samara State Economic University*, 5(127): 59-64. [in Russian]
- [49] Yaméogo, N.D., Nabassaga, T., and Ncube, M. 2014. Diversification and sophistication of livestock products: The case of African countries. *Food Policy*, 49(P2): 398-407. DOI: [10.1016/j.foodpol.2014.10.005](https://doi.org/10.1016/j.foodpol.2014.10.005)
- [50] Yilmazkuday, H. 2011. Agglomeration and trade: State-level evidence from US industries. *Journal of Regional Science*, 51(1): 139-166. DOI: 10.1111/j.1467-9787.2010.00684.x
- [51] Yuryev, V.M., Karpunina, E.K., and Kolesnichenko, E.A. 2015. Realistic models and tools of import substitution in the Russian economy. *Bulletin of Tambov State University*, 2: 17-24. [in Russian]
- *** FZ-488. 2014. Federal Law of the Russian Federation “On the Industrial Policy in the Russian Federation”. Available at: http://www.consultant.ru/document/cons_doc_LAW_173119 (Accessed: March 11, 2017). [in Russian]
- *** Interstate Statistical Committee of the Commonwealth of Independent States. Official website: <http://www.cisstat.com/>

The Impact of the 2008-2009 Global Crisis on Governance: A Comparison of High-Income and Low-Income Countries

Halil Dincer KAYA

Department of Accounting and Finance, College of Business and Technology
Northeastern State University⁴, United States
kaya@nsuok.edu and halildkaya@yahoo.com

Suggested Citation:

Kaya, H.D. 2017. The Impact of the 2008-2009 global crisis on governance: a comparison of high-income and low-income countries. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1162-1167.

Abstract:

We examine the impact of the 2008-2009 Global Crisis on governance. We examine High-Income OECD, High-Income Non-OECD, Upper-middle Income, Lower-Middle Income, and Low Income Countries separately. As measures of governance, we use the World Bank's Worldwide Governance Indicators which includes six dimensions of governance which include "Voice and Accountability", "Political Stability and Absence of Violence", "Government Effectiveness", "Regulatory Quality", "Rule of Law", and "Control of Corruption". We find that, from pre-crisis period to post-crisis period, the ranking of each income group does not change. Our results show that, both pre- and post-crisis, the High-Income OECD Countries have the best governance measures, the High-Income Non-OECD Countries have the second best measures, and so on, in the order shown above. Interestingly, the High-Income Non-OECD Countries performed better than the other groups after the crisis. After 2008, this group actually improved in four out of six categories. We conclude that although crises affect all income groups, the High-Income Non-OECD Countries have been more successful in alleviating the effects of crises on public governance. Most of these countries are more authoritarian and more resource-rich countries and we believe that these characteristics may explain their success in fending off the negative impacts of financial/economic crises.

Keywords governance; wgi; economic crisis; global crisis.

JEL Classification: E02; E32; E65; G01; H12

Introduction

In this study, we examine the impact of the recent Global Crisis on governance. We look into two issues: First, we look into how OECD membership affects the Global Crisis' impact on governance. Then, we look into how countries' income levels affect the crisis' impact on governance.

Previous studies like Haggard (1999), Jung (2010), and Levine (2012) examine the impact of a crisis like the 1997 Asian Crisis or the 2008-2009 Global Crisis on governance. However, they are narrower in scope because they focus on either a certain country or a group of countries. These studies also do not examine whether OECD membership or the income level of a country affects the performance of a country in the face of a crisis. Haggard (1999) examine the impact of the Asian Crisis and contends that the political regime type, the structure of business-government relations, and the design of government agencies are the main factors that determine how governance is affected by a crisis. Jung (2010), on the other hand, discusses the roles of path dependence, centralization or decentralization, politicization, coordination and coherence (or retention of power by individual ministries or agencies), and time perspective on the disruption of the stability of public administration due to crises. Levine (2012) sees the problem as a systemic failure of financial regulation, therefore he recommends the formation of a new independent institution with informed, expert staff.

In this study, we make three contributions: First, in contrast to the previous studies that focus on a particular region or on a group of countries, here, we examine the impact of the Global Crisis on all of the countries in the world (as much as our dataset allows). Second, we examine how OECD membership affects a crisis' impact on governance. Do Non-OECD countries like Saudi Arabia insulate themselves from such crises?

⁴ 3100 E. New Orleans St., Broken Arrow, Oklahoma, United States

Previous studies do not examine that. Third, we examine how a country's income level affects that country's performance in governance. Are richer countries better able to protect themselves from the effects of a crisis? Again, none of the previous studies deal with this issue in a methodological way.

We look into six measures of governance which are defined in the World Bank's Worldwide Governance Indicators dataset. These are "Voice and Accountability", "Political Stability and Absence of Violence", "Government Effectiveness", "Regulatory Quality", "Rule of Law", and "Control of Corruption". This dataset covers governance data for 215 countries. World Bank dataset classifies countries according to their OECD membership and also according to the country's income levels. In this study, we use their classification and focus on five groups of countries. These classifications are High-Income OECD, High-Income Non-OECD, Upper-middle Income, Lower-Middle Income, and Low Income Countries.

The paper proceeds as follows: Section 2 discusses the previous literature. Section 3 states our hypotheses. Section 4 explains our data. Section 5 shows the results. Finally, Section 6 concludes.

Conclusion

In this study, we examine the impact of the 2008 Global Crisis on Governance while allowing for the moderating effects of OECD membership and income levels. We use World Bank's Worldwide Governance Indicators (*i.e.* WGI) dataset which includes six dimensions of governance. These six dimensions are "Voice and Accountability", "Political Stability and Absence of Violence", "Government Effectiveness", "Regulatory Quality", "Rule of Law", and "Control of Corruption".

We examine the 2005-2011 period which allows us to compare the indicators before the crisis and after the crisis. World Bank classifies countries according to their OECD membership and also according to the country's income levels. We use their classification and focus on five groups of countries. These are High-Income OECD, High-Income Non-OECD, Upper-middle Income, Lower-Middle Income, and Low Income Countries.

We find that, from pre-crisis period to post-crisis period, the ranking of each income group does not change. Our results show that, both pre- and post-crisis, the High-Income OECD Countries have the best governance measures, the High-Income Non-OECD Countries have the second best measures, and so on, in the order shown above. Interestingly, the High-Income Non-OECD Countries performed better than the other groups after the crisis. After 2008, this group actually improved in four out of six categories.

We conclude that although crises affect all income groups, the High-Income Non-OECD Countries have been more successful in alleviating the effects of crises on public governance. Most of these countries are more authoritarian and more resource-rich countries and we believe that these characteristics may explain their success in fending off the negative impacts of financial/economic crises.

References

- [1] Desta, A. 2012. Good Growth and Governance in Africa: Implementing Rather than Re-thinking Development Strategies. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 2(2): 69-75.
- [2] Fleischer, J., and Parrado, S. 2010. Power distribution in ambiguous times: The effects of the financial crisis on executive decision-making in Germany and Spain. *der moderne staat—Zeitschrift für Public Policy, Recht und Management*, 3(2).
- [3] Gieve, J., and Provost, C. 2012. Ideas and coordination in policymaking: *The Financial Crisis of 2007–2009. Governance*, 25(1): 61-77.
- [4] Haggard, S. 1999. Governance and growth: lessons from the Asian economic crisis. *Asian-Pacific Economic Literature*, 13(2): 30-42.
- [5] Higgott, R. 1998. The Asian economic crisis: a study in the politics of resentment. *New Political Economy*, 3(3): 333-356.
- [6] Jung, Y. D. 2010. Introduction to Symposium on Public Administration and Governance in a Time of Global Economic Turbulence: Searching for New Paradigms. *Korean Journal of Policy Studies*, 24: 1-2.
- [7] Kahler, M. 2013. Economic Crisis and Global Governance: The Stability of a Globalized World. *Procedia-Social and Behavioral Sciences*, 77: 55-64.
- [8] Kickert, W. 2012. State responses to the fiscal crisis in Britain, Germany and the Netherlands. *Public Management Review*, 14(3): 299-309.
- [9] Levine, R. 2012. The governance of financial regulation: reform lessons from the recent crisis. *International Review of Finance*, 12(1): 39-56.
- [10] Li, J. S. 2003. Relation-based versus Rule-based Governance: An Explanation of the East Asian Miracle and Asian Crisis. *Review of international economics*, 11(4): 651-673.

- [11] Mgonja, B. E. S., and Tundui, C. 2012. Institutional Impacts of the Local Government Reform Program on Good Local Governance in Tanzania. *International Journal of Academic Research in Business and Social Sciences*, 2(5): 206-222.
- [12] Peters, B. G., Pierre, J., and Randma-Liiv, T. 2011. Global financial crisis, public administration and governance: Do new problems require new solutions? *Public Organization Review*, 11(1): 13-27.
- [13] Posner, P., and Blöndal, J. 2012. Democracies and deficits: Prospects for fiscal responsibility in democratic nations. *Governance*, 25(1): 11-34.
- [14] Remmer, K. L. 1990. Democracy and economic crisis: The Latin American experience. *World Politics*, 42(03): 315-335.
- [15] Woods, N. 2010. Global governance after the financial crisis: a new multilateralism or the last gasp of the great powers? *Global Policy*, 1(1): 51-63.

Improving Performance of Small and Medium-Sized Enterprises of Processed Food through Competitive Strategy, Industry Environment, Innovation Capability, and Macroeconomic Factors

Stefanus Yufra M. Taneo
Faculty of Economics and Business, Ma Chung University⁵, Indonesia
Stefanus.yufra@machung.ac.id

Yudi SETYANINGSIH
Faculty of Language and Art, Ma Chung University, Indonesia
Yudi.setyaningsih@machung.ac.id

Ang Swat Lin LINDAWATI
Faculty of Economics and Business, Ma Chung University, Indonesia
Linda.wati@machung.ac.id

Suggested Citation:

Taneo, S.Y.M., Setyaningsih, Y., Lindawati, A.S.L. 2017. Improving performance of SMEs of processed food through competitive strategy, industry environment, innovation capability, and macroeconomic factors. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4 (50): 1175-1187.

Abstract

Small and medium-sized enterprises (SMEs) processed foods play a major role in the national economy but its performance is still low. The poor performance is due to many factors, but research results are still partial. This study fills the gap, with the aim of analyzing the influence of the industry environment, innovation capabilities, and macroeconomic factors on competitive strategy and the performance of SMEs of processed foods in Malang, Indonesia. Data were collected using a questionnaire of 65 SMEs of processed foods then analyzed using WarpPLS software version 5.0. The study found that the competitive strategy positively influences the performance of SMEs processed foods and competitive strategy is positively influenced by the capabilities of innovation and macroeconomic factors. Industry environment does not significantly affect the competitive strategy and macroeconomic factors do not significantly affect the performance of SMEs of processed foods.

Keywords: small and medium-sized enterprises; innovation capabilities; competitive strategy; performance

JEL Classification: E33; E51; E62; L15; O32; J31

Introduction

Processed foods are part of the processing industry and creative industry. The creative industries play an important role in the national economy because most of the enterprises are included a category for Micro, Small and Medium-Sized Enterprises (MSMEs). Data of the Ministry of Cooperatives and SMEs (2016) showed SMEs in Indonesia in 2013 as many as 57.9 million or 99.9% of total business units, absorbing 114.1 million people or about 97 percent of the workforce, accounted for about Rp5.440.007, 9 billion, or about 60% of Gross Domestic Product (GDP). One of the creative industries is culinary subsector. Culinary industry is defined as an activity related to the manufacture of foods that have characteristics such as a characteristic of a region (Departemen Perdagangan 2012). These regional characteristics make the culinary industry has a great potential as a tourism industry.

In according with tourism industry, Malang municipality has its mission as the city of industry and tourism. Malang is also famous for a city of education where there are more than 50 higher educational institutions in which college students come from various regions in Indonesia. Industry includes a wide range of small and medium industries include food processing. In the field of tourism, Malang became one of tourism destination in East Java. Tourists visiting Malang buying processed food products as souvenirs to their home areas. In 2014 as

⁵ Villa Puncak Tidar Blok N-01, Malang, Jawa Timur 65151

many as 5.8 million domestic and foreign tourists visiting Malang, then it increased to 6.4 million in 2015 and mostly to Kota Batu—the nearest tourist town with Malang (Surya Daily Online - Suryamalang.com 2016). Thus, the performance of processed foods needs to be increased.

Unfortunately, research on the performance of processed foods is limited and partial analysis. For example, Sunaryo *et al.* (2014) concerning the clusters of micro, small, and medium-sized food and drink; Kusumastuti and Nur (2014) on competency-based learning for culinary entrepreneurs; Sancoko (2015) on the business development strategy of business meals and drinks at the depot time to eat Surabaya; Wulandari and Zubaidah (2016) about culinary innovation in Malang but it is a case study on Meatballs Kebab Grill. Ramadan *et al.* (2014) formulate a model of agent-based simulation system for the culinary industry, but based on data and assumptions hypothetical so it is advisable to further research using real data to make it more accurate. Studies on the food business has not revealed a more comprehensive analysis covering competition within the industry, the ability to innovate on the existing resources and competitive strategies that can be applied to improve the performance of small and medium enterprises of the food.

This study is intended to fill this gap by analyzing the relationship between industry environment, innovation capabilities, macroeconomic factors and competitive strategy and performance of SMEs of processed foods in Malang. The results are expected to provide information on efforts to improve the business performance of processed foods.

Conclusion

The performance of SMEs of processed foods was affected by the competitive strategy. Competitive strategy was influenced by innovation capabilities and macroeconomic factors. Competitive strategy applied by SMEs was cost leadership, while the innovation capabilities reflected with relatively the same effect by technological innovation, product, market, and service innovation.

Industry environment has no significant influence on competitive strategy. Five forces framework analysis according to Porter that are new entrants, existing companies, buyers, suppliers, and substitute products yet or do not have a high intensity competition for influence competitive strategy of SMEs of processed foods. Likewise, macroeconomic factors do not significantly affect the performance of SMEs of processed foods.

Based on these findings it is suggested to the government in order to optimize the innovation capabilities through various means such as training for businesses, providing information and support infrastructure to support the technology implementation. In addition, the government can also manage macroeconomic factors to be optimized through tax policy and minimum wage, controlling inflation, and credit management for SMEs. For SMEs managers and/or owners to increase the capabilities of specific resources owned thus improving business performance. Subsequent studies can analyze the environmental industry and macroeconomic factors relationship with business performance using time series data.

Acknowledgement

The research was funded by the Directorate of Research and Community Services, the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia in 2015-2016 through the Fundamental Research Scheme.

References

- [1] Adebisi, J.F., and Gbegi, D.O. 2013. Effect of Multiple Taxation on the Performance of Small and Medium Scale Business Enterprises (A Study of West African Ceramics Ajeokuta, Kogi State). *Mediterranean Journal of Social Sciences*, 4 (6): 125 – 141. DOI: 10.5901/mjss.2013.v4n6p323
- [2] Atawodi, O. W., and Ojeka, S.A. 2012. Factors That Affect Tax Compliance among Small and Medium Enterprises (SMEs) in North Central Nigeria. *International Journal of Business and Management*, 7 (12), June 2012. DOI: 10.5539/ijbm.v7n12p87
- [3] Barney, J.B., and Clark, D.N. 2007. *Resource-Based Theory: Creating and Sustaining Competitive Advantage*. Oxford University Press.
- [4] Bernardo, F.R. et al. 2012. *Industri Update*, Bank Mandiri, Volume 7, April 2012.
- [5] Chen, Yu-Shan, Shyh-Bao Lai, dan Chao-Tung Wen. 2006. The Influence of Green Innovation Performance on Corporate Advantage in Taiwan. *Journal of Business Ethics*, 67: 331 – 339. DOI: 10.1007/s10551-006-9025-5
- [6] Cho, Yong Ju; Choon Seong Leem, dan Ki Tae Shin. 2008. The Relationships among Manufacturing Innovation, Competitiveness, and Business Performance in the Manufacturing Industries of Korea. *International Journal of Advance Manufacturing Technology*, 38: 840 – 850. DOI: 10.1007/s00170-007-1107-8
- [7] Corbett, C., and Wassenhove, L. 1993. Trade Off? What Trade Offs? Competence and Competitiveness in Manufacturing. *California Management Review*, 35 (4): 107 – 122. DOI: 10.2307/41166757
- [8] David, F. R. 2011. *Strategic Management: Concepts and Cases*. 13th Edition. Prentice-Hall.
- [9] Davenport, Th.H., Leibold, M., and Voelpel, S. 2006. *Strategic Management in the Innovation Economy: Strategy Approaches and Tools for Dynamic Innovation Capabilities*. Publicis-Wiley.

- [10] Garcia, R. dan R. Calantone. 2002. A Critical Look at Technological Innovation Typology and Innovativeness Terminology: A Literature Review. *Journal of Product Innovation Management*, 19(2): 110-132. DOI: 10.1111/1540-5885.1920110
- [11] Graig, J.C., and Grant, R.M. 2010. Strategic Management: the fast-track MBA series. Kogan Page Published in Association with AMED.
- [12] Grupp, H. 1997. The Links between Competitiveness, Firm Innovative Activities and Public R&D Support in Germany: An Empirical Analysis. *Technology Analysis and Strategic Management*, 9 (1): 19 – 33. DOI: 10.1080/09537329708524267
- [13] Hair, J.F., Black, W. C., Babin, B. J., and Anderson, R. E. 2010. *Multivariate Data Analysis: A Global Perspective*. Prentice-Hall.
- [14] Hair, J.F., Hult, G.T.M., Ringle, C.M., and Sarstedt, M. 2014. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. SAGE
- [15] Harmana, D. M. 2013. Pengaruh Pajak Tangguhan dan Tax to Book Ratio Terhadap Kinerja Perusahaan. *Jurnal Fakultas Ekonomi dan Bisnis Universitas Udayana*, 3(2): 24-37.
- [16] Huber, A.J. 2010. *Effective Strategy Implementation: Conceptualizing Firms' Strategy Implementation Capabilities and Assessing their Impact on Firm Performance*. Springer.
- [17] Ismail, N.A., Ab. Karim, M. S., Othman, M., and Abd. Halim, N. 2013. The values of the traditional culinary practices towards the modernization as perceived by the Malay Chefs in Klang Valley. *International Food Research Journal*, 20(5): 2857-2864. Available at: <http://www.ifrj.upm.edu.my>
- [18] Jauch, L. R., and Glueck, W.F. 2009. *Manajemen Strategis dan Kebijakan Perusahaan*. Edisi Ketiga. Penerbit Erlangga.
- [19] Kementerian Koperasi dan Usaha Kecil dan Menengah. 2016. *Sendangan Data UMKM tahun 2012-2013*. Available at: www.depkop.go.id (accessed on 25th April 2016).
- [20] Kim, Y.G., Eves, A., and Scarle, C. 2009. Building a model of local food consumption on trips and holidays: A grounded theory approach. *International Journal of Hospitality Management*, 28: 423–431. DOI:10.1016/j.ijhm.2008.11.005
- [21] Kusumastuti, D. dan Nur, F.F. 2014. Pembelajaran Berbasis Kompetensi Bag1 Pengusaha Kuliner. *Jurnal Manajemen Bisnis Indonesia*, 1 (3): 428-450.
- [22] Makadok, R. 2011. Toward a Synthesis of the Resource-Based View and Dynamic Capability Views on Rent Creation. *Strategic Management Journal*, 22(5): 387– 401. DOI: 10.1002/smj.158
- [23] Mankiw, N.G. 2007. *Principles of Economics*. 5th Edition. New Jersey: Thompson South Western.
- [24] Mungaya, M. A. H. Mbwambo, and Tripathi, S.K. 2012. Study of Tax System Impact on the Growth of Small and Medium Enterprises (SMEs): With Reference to Shinyanga Municipality, Tanzania. *International Journal of Management & Business Studies*, 2(3). Available at: www.ljbsm.com, ISSN: 2230-9519 (Online), ISSN: 2231-2463 (Print).
- [25] Porter, M.E. 2008. The Five Competitive Forces that Shape Strategy. *Harvard Business Review*, 86(1): 78-93.
- [26] Porter, M.E. 1992. *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: The Free Press.
- [27] Pratomo, H.B. 2014. 5 Masalah Seputar Penyaluran Kredit Usaha Rakyat. *Harian Merdeka.com*. Edisi Selasa, 4 Maret 2014.

- [28] Putri, R.T., Novirani, D., dan Kurniawan, D. 2015. Formulasi Strategi Menghadapi Persaingan Industri Kuliner pada Eins Bistro & Boutique di Bandung. *Reka Integra*, Jurnal Online Institut Teknologi Nasional, 2(3): 127-137.
- [29] Pyndick, R.S., and Rubinfeld, D.L. 2005. *Microeconomics*. Sixth Edition. Prentice-Hall, New Jersey.
- [30] Ramadhan, F. C. Nugraha, dan Rispianda. 2014. Pemodelan dan Simulasi Berbasis Agen untuk Sistem Industri Kuliner. *Reka Integra*, Jurnal Online Institut Teknologi Nasional, 03(01): 101 – 113.
- [31] Ross, J.W. 1996. Developing Long-term Competitiveness through IT Assets. *Sloan Management Review*, 38 (1): 31 – 42.
- [32] Sancoko, A.H. 2015. Strategi Pengembangan Bisnis Usaha Makanan dan Minuman Pada Depot *Time to Eat* Surabaya. *Agora*, 3(1): 185-194.
- [33] Sekaran, U. 2003. *Research Method for Business: A Skill-Building Approach*. New York: John Wiley & Sons, Inc.
- [34] Sholihin, M., dan Ratmono, D. 2013. *Analisis SEM-PLS dengan WarpPLS 3.0 untuk Hubungan Nonlinier dalam Penelitian Sosial dan Bisnis*. Yogyakarta: Penerbit ANDI.
- [35] Sulistiawati, R. 2012. Pengaruh Upah Minimum terhadap Penyerapan Tenaga Kerja dan Kesejahteraan Masyarakat di Provinsi di Indonesia. *Jurnal Eksos*, 8(1): 195 – 211.
- [36] Sunaryanto, L.T., Sasongko, G., and dan Yumastuti, I. 2014. Pengembangan Klaster Industri Makanan-Minuman Berbasis Rantai Nilai. *Jurnal Ekonomi Pembangunan*, 15 (1): 84-99.
- [37] Surya Daily Online. Edisi 2 Januari 2016. <http://suryamalang.tribunnews.com/2016/01/01/luar-biasa-350-ribu-wisatawan-jubeli-kota-batu-selama-liburan-panjang#>. Accessed on 20th September 2016.
- [38] Sutapa, M. 2014. Peningkatan Kapabilitas Inovasi, Keunggulan Bersaing dan Kinerja melalui Pendekatan Quadruple Helix: Studi Pada Industri Kreatif Sektor Fashion. *Jurnal Manajemen Teknologi*, 13 (3): 304 – 321.
- [39] Teece, D.J. 2008. *Technological Know-How, Organizational Capabilities, and Strategic Management: Business Strategy and Enterprise Development in Competitive Environments*. New Jersey: World Scientific.
- [40] Undang-Undang Republik Indonesia Nomor 20 Tahun 2008 tentang Usaha Mikro, Kecil, dan Menengah. Jakarta: PT. Pustaka Binaman Pressindo.
- [41] Vinzi, V.E, Chin, W.W., Hanseler, J., and Wang, H. 2010. *Handbook of Partial Least Squares: Concepts, Methods and Application*. New York: Springer.
- [42] Wheelen, T. L., and Hunger, J.D. 2005. *Strategic Management and Business Policy*. Fifth Edition. Addison – Wesley Publishing Company
- [43] Wulandari, E., and dan Zubaidah, E. 2016. Kebab Bakso Bakar: Inovasi Kuliner Khas Kota Malang Menjadi Modern Sebagai Upaya Pelestarian Kuliner Bangsa. *Jurnal Pangan dan Agroindustri*, 4 (1): 230-237.
- *** Badan Perencanaan Pembangunan Nasional (Bappenas). 2010. Rencana Pembangunan Jangka Menengah Nasional (RPJMN) Tahun 2010 – 2014. Buku II. Badan Perencanaan Pembangunan Nasional.
- *** Departemen Perdagangan Republik Indonesia. 2012. Studi Industri Kreatif Indonesia. Kelompok Kerja Indonesia *Design Power*.

Economic Effect in the Framework of Lean Production

Elena S. BALASHOVA

Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia
elenabalashova@mail.ru

Elizaveta A. GROMOVA

Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg, Russia
lizaveta-90@yandex.ru

Suggested Citation:

Balashova, E.S., and Gromova, E.A. 2017. Economic effect in the framework of lean production. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1188-1193.

Abstract

From the end of the 2014 Russian economy is in crisis. Structural transformation of the industrial sector of the Russian economy is required. About 85 Russian industrial companies were analysed. Representatives of the state corporations «Rostec» and «Rosatom», the industrial group "Basic element", JSC "Russian Railways" and large Russian enterprises were involved in the analysis. A lot of companies declare their adherence to the principles of the lean production. Positively recommended concept of lean production abroad became popular in Russia in early 2000-ies. Economic effect, which is the main performance indicator of the implementation of lean production, was studied in detail. The absence of a unified concept of calculating economic effect is a problem in the context of the Russian experience of industrial development. Unified method of calculation of economic effect was proposed. The obtained results demonstrate the prospects of the further development of lean production and prove the possibility of achieving a high competitiveness of the domestic industrial sector of economy.

Keywords: modern organizational technologies; lean production; economic effect; Russian industry

JEL Classification: L15; L23; O1

Introduction

Russian economic crisis is a logical continuation of a difficult geopolitical situation in the world, formed at the end of 2014. The problems of uncertainty and rapid changes in the business environment are characteristic for this stage. Therefore, companies clearly have to generate competitive development strategies. The course of the Russian government on import substitution and structural economic changes involves the actualization of the questions of competitiveness increase of Russian industry. In this regard, it is worth to note the need to implement effective models of management of industrial enterprises and organization of business processes. World experience of development of the industry shows that along with the effectively applied technology, organizational technologies are gaining in importance. Basic concepts of creating and maintaining effective functioning of company's internal processes are implied by organizational technologies. That's why exploration and analysis of experience of introduction and application of the modern management models like lean production in the Russian industrial sector are of particular relevance.

Conclusion

Summing up the research, it is possible to formulate the main results and conclusions:

- The geopolitical situation and the absence of major structural changes in the Russian economy raise the question of implementing effective management models at the enterprises of the Russian industrial sector that can be competitive on a global level.
- Lean production has received the widest spread of the modern management concepts in Russian industry, and it is noteworthy that the first successful experience of practical implementation for a long time was the only and not seen by a wide range of the public due to the lack of available information. Independent interpretation of the principles of this concept prevails in the Russian experience.
- The economic effect from the use of lean production at the enterprises of Russian industry is extremely low and vary mostly in the 1% of revenue.
- There are very few companies that have been able to calculate the economic effect from the introduction of lean production. The reason for this is the absence of unified method of calculation the economic effect in Russian practice.
- The formula of calculating economic effect which is based on the different experience of Russian and foreign companies was offered.
- It should be noted that the obtained results clearly demonstrate the potential for further development, among which it is worth first of all to pay attention to the logic and consistency of activities in the framework of lean production. The achieved economic results show the hidden potential, the identification and use of which will allow to get closer to the goal on the path of structural changes of the Russian economy and the efficiency of Russian industrial sector.

References

- [1] Byrne, A. 2013. *The lean turnaround. How business leaders use lean principles to create value and transform their company* – USA.: The McGraw-Hill books.
- [2] Deming, E. 1982. *Out of the crisis*. Cambridge MA: MIT Press.
- [3] Emiliani, M.L. 2014. *Real Lean. Understanding the Lean Management System*. First edition. The Center for Lean Business Management, LLC. Wethersfield, Connecticut.
- [4] Glukhov, V. V., Balashova, E. S., Artemenko, E. S., Freidinov, Y. L., and Plekhanova, E. G. 2012. *Resource management: methods of identifying production reserves*. SPb.: Publishing house "Science".
- [5] Imai, M. 1997. *Gemba Kaizen: A Commonsense, Low-Cost Approach to Management*. New York: McGraw-Hill.
- [6] Katkalo, V.S. 2002. Resource-based view of strategic management: Genesis of basic ideas and concepts. *Vestnik SpbGU*, 4 (32): 20-42.
- [7] Katkalo, V.S. 2003. The place and role of the resource concept in the development of strategic management theory. *Vestnik SpbGU*, 3 (24): 3-17.
- [8] Kleiner, G.B. 2011. The resource theory of systemic organization of economy. *Russian management journal*, 9(3): 3-28.
- [9] Liker, J. 2004. *The Toyota way. 14 management principles from the world's greatest manufacturer*. New York: McGraw-Hill.
- [10] Ohno, T. 1988. *Toyota Production System*. Productivity Press.
- [11] Shingo, Sh. 1992. *The Shingo Production Management System: Improving Process Functions (Manufacturing & Production)*. Productivity Press.

[12] Womack, J. P., and Jones, D. T. 2003. *Lean Thinking*. New York: Free Press

Trade Openness and Employment: Evidence from Nigeria

Abiola John ASALEYE

Economics Department, College of Business and Social Sciences
Landmark University, Kwara State, Nigeria
asaleye.abiola@lmu.edu.ng; asaleyebiola@yahoo.com

Henry OKODUA

Economics Department, College of Business and Development Studies
Covenant University, Lagos State, Nigeria
henry.okodua@covenantuniversity.edu.ng; okodua@gmail.com

Elizabeth Funlayo OLONI

Economics Department, College of Business and Social Sciences
Landmark University, Kwara State, Nigeria
oloni.elizabeth@lmu.edu.ng; olonielizabeth@yahoo.com

Joseph Olufemi OGUNJOBI

Economics Department, College of Business and Social Sciences
Landmark University, Kwara State, Nigeria
ogunjobi.olufemi@lmu.edu.ng; jolujobi@yahoo.com

Suggested Citation:

Asaleye, A.J., Okodua, H., Oloni, E.F., Ogunjobi, J.O. 2017. Trade Openness and Employment: Evidence from Nigeria. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1194-1209.

Abstract

The rate of Unemployment has been on the increase over the years in Nigeria despite all the direct labour policies that the government have implemented to no avail. Scholars have observed that trade openness is a way to address the problem of unemployment in literature. But the debate on this has been indecisive in developing economies, so it becomes necessary to investigate this relationship in Nigeria. The identified Vector Error Correction model and Granger Non-Causality are used for this purpose. Our findings show short-run, but no long-run causalities among employment, trade openness, Real Gross Domestic Product, Consumer price index, exchange rate and interest rate. Negative long-run relationship between trade openness and output has also been established. This implies that trade has been harmful to employment generation. It was recommended that the government should increase their competitiveness in the international market and make use of interest and exchange rates for trade competitiveness.

Keyword: trade openness; employment; vector error correction; short- and long-run causality

JEL Classifications: F6; J6; C3; C410

Introduction

One of the main macro-economic goals of every nation is to attain full employment. This has been the main focus of most developed and developing economies, unlike developing economies where unemployment has been the main cause of backwardness. Nigerian government had implemented various policies and programmes to improve economic growth with the aim to provide more employment opportunities. Nigerian economy had been experiencing growth for some decades before the recent economic recession, but the growth is not inclusive (Oloni, Asaleye, Abiodun and Adeyemi 2017, Campbell and Asaleye 2016, World Bank 2014). Though in literature, it has been argued that there is a positive relationship between economic growth and employment, (theoretically Okun 1962, and empirically Iwayemi 2006, Barkely 2001). However, trade has been considered as the core instrument of development strategies by Nigeria's government, because of the inherent belief that trade can create jobs, expand markets, increase income, as well as facilitating competition and disseminating

knowledge (WTO 2005). Most studies in Nigeria have focused on output and employment; following Pesaran and Shin (2001), this paper used identified Vector Error Correction Model (VECM) and Granger Non-Causality test proposed by Toda and Yamamoto (1995) to examine the relationship between trade and openness in Nigeria. The rest of this paper is organised as follows: Section II discusses literature review. Section III presents methodology of the study, which includes the theoretical framework of the study and model specification. Section IV presents the result of the analysis while Section V concludes and recommends.

Conclusion

This study investigated the relationship between trade openness and employment in Nigeria, this was motivated by the fact that the unemployment rate in Nigeria has been on increasing trend despite various attempts by Nigerian government to curb the situation. The paper uses both Augmented Dickey-Fuller and Phillips-Perron test for the presence of unit root. The unit root test reveals that the variables are nonstationary and were made stationary after the first difference. Johansen's co-integration was used to test for cointegrating vectors; the trace and maximum eigenvalue indicate three co-integrating equations at five percent level. The result suggests that the set of cointegrated time series have an error-correction representation, which reflects the long run adjustment mechanism. Based on the result, the VECM was estimated following Pesaran and Shin (2001) to impose restrictions for identification. The result of the VECM reveals that there is no joint long run causality with the dependent (employment) and other variables (economic growth, interest rate, exchange rate and consumer price index). However, there is an existence of joint short run causality. The structural long run identified equations show that interest rate elasticity is negative and significant; the coefficient of trade openness is negative and significant, also the elasticity of the exchange rate is positive and significant. The economic implication of this result is that in the long run as the interest rate increases, the economic growth rate decreases, and openness has not improved the economic performance in Nigeria. The result of the causality test following Toda and Yamamoto (1995) approach to causality showed that there is unidirectional relationship from trade openness to employment. The variance decomposition shows that the contribution of trade openness to employment is minimal from the short-run to long-run.

The models are subjected to diagnostic tests; for a model to be correctly specified, it must satisfy the following conditions: residual of the model must be normally distributed; model should capture the autoregressive conditional heteroskedasticity (ARCH) effect; model must not have any serial correlation and finally; must satisfy the stability condition. The model for this study satisfies all the stated condition. The overall conclusion that can be drawn from the results is that trade Openness has negative impact on employment in Nigeria. The result has clearly shown that the growth rate experienced within the periods of 1981 to 2014 has been jobless. It is also shown that exchange rate; interest rate and consumer price index are variables to be considered in stimulating growth in the employment in the short run. Based on the findings, the study suggested restrictive measures to maximise the benefit of trade openness in the long run; this is in congruence with the tenet of the new trade theory in order to increase the degree of competitiveness.

References

- [1] Autor, H.D, Dorn, D. and Hanson, G. H. 2013. The China syndrome: Local Labour Market Effect of Import Competition in the United States. *America Economic Review*, 103(6): 2121–2168. Available at: <http://dx.doi.org/10.1257/aer.103.6.2121>
- [2] Baldwin, Y. C., and Clark B. K. 2002. The Fundamental Theorem of Design Economics, Harvard Business School. Available at: <https://pdfs.semanticscholar.org/d0ab/d3d9cc880d49b8e3d3fe4153a6ae7c6cb14c.pdf>
- [3] Barkley, D.L. 2001. Employment Generation Strategies for Small Towns: An Overview of Alternatives. Redrl Research Report.
- [4] Campell, O., and Asaleye, A.J. 2016. Financial Sector Reforms and Output Growth in Manufacturing: Empirical Evidence from Nigeria. *American International Journal of Contemporary Research*, Vol. 6, No. 3.
- [5] Chu-Ping, Lo. 2016. Openness and Urbanization: The Case of the People's Republic of China. Asian Development Bank Institute, ADBI Working Paper Series, No. 561.
- [6] Cypher, M.J., and Dietz, L.J. 2004. *The process of Economic Development*. Available at: <https://philpapers.org/rec/CYPTPO>

- [7] Dickey, D., and Fuller, W. 1979. Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association*, 74: 427–431.
- [8] Dickey, D., and Fuller, W. 1981. Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, 49: 1057–1072.
- [9] Engle, R.F, and Granger, C.W.J 1987. Co-integration and Error Correction: Representation, Estimation and Testing. *Econometrica*, 55 (2): 251 – 279.
- [10] Felbermayr, G., Prat, J., and Schmerer, H. 2011. Trade and Unemployment: What do the data say? *European Economic Review*, 55(6): 748 – 758. Available at: http://econpapers.repec.org/article/eeeeecrev/v_3a55_3ay_3a2011_3ai_3a6_3ap_3a741-758.htm
- [11] Geishecker, I., and Gory H. 2008. Winner and Losers: A Micro-Level Analysis of International Outsourcing and Wages. *Canadian Journal of Economics*, 41: 243-270.
- [12] Geishecker and Gory H. 2011. Services Off shoring and Wages, Evidence from Micro Data, Oxford Economic Papers, *Forthcoming*.
- [13] Gorg, H., and Gorlish, D. 2012. Trade and Labour Market Outcomes in Germany, Keil Institute for the World Economy and Christain-Albrechto University of Kiel, Policy Priorities for International Trade and Jobs OECD
- [14] Helpman, E., and Itskhoki, O. 2010. Labour Market Rigidities, Trade and Unemployment. Oxford Journals. *The Review of Economic Studies*, 77(3): 1100 – 1137.
- [15] Itskhoki, O., and Helpman E. 2015. Trade Liberalization and Labour Market Dynamics with Heterogeneous Firms. Available at: <http://www.princeton.edu/~itskhoki/papers/TradelMDynamics.pdf>
- [16] Iwayemi, A. 2006. Modeling the Nigerian Economy for Growth and Employment in Employment Generation in Nigeria: Selected Papers for the 2006 Annual Conference (pp. 31-66). Ibadan: Nigerian Economic Society.
- [17] Kareem, R.O. 2009. Employment Level and Economic Growth of Nigeria, Department of Economics and Actuarial Sciences, College of Social and Management Sciences, Crescent University, Abeokuta, Nigeria.
- [18] Kurihara, Y., and Fukushima, A. 2016. Openness of the Economy, Diversification, Specialization, and Economic Growth. *Journal of Economics and Development Studies*, 4(1): 31-38.
- [19] Lawal, A. I., Nwanji, T. I., Asaleye, A., and Ahmed, V. 2016. Economic growth, financial development and trade. *Cogent Economics & Finance*, 4: 1258810.
- [20] Liu, R., and Treffer, D. 2008. Much ado about nothing: American jobs and the rise of service outsourcing to China and India, NBER working paper 14061.
- [21] Lurwey, M., and Uhile, U. 2010. International Trade and Individual Market Perspectives. A Micro-Level Analysis of German Manufacturing Workers, SOEP Papers on Multidisciplinary Panel Data Research No.297.
- [22] Mavrotas, G., and Kelly, R. 2001. Old Wine in New Bottles: Testing Causality between Savings and Growth, *John Wiley & Sons Ltd and the University of Manchester*, 69(S1): 1–105. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/manc.2001.69.issue-s1/issuetoc>
- [23] Mesghena, Y. 2006. Trade Liberalization and Its Impact on the Relative Wage and Employment of Unskilled Workers in the United States. Morehead State University, USA.
- [24] Ohlin, B. 1967. Interregional and International Trade. Harvard Economic Studies. 39. Cambridge, MA: Harvard University Press.

- [25] Okun, A. M. 1962. Potential GNP: Its Measurement and Significance. In: Proceedings of the Business and Economics Statistics Section, American Statistical Association. Washington D.C.: American Statistical Association, pp. 98-103.
- [26] Olayiwola, W.K. and Rutaiwya, J.L. 2010. Trade Liberalization and Employment Performance of Textile and Clothing Industry in Tanzania. *International Business Research*, 3(3)
- [27] Oloni, E., Asaley, A., Abiodun, F., and Adeyemi, O. 2017. Inclusive growth, agriculture and employment in Nigeria. *Journal of Environmental Management and Tourism*, Volume VIII, 1(17): 183 - 194. DOI:10.14505/jemt.v8.1(17).18
- [28] Perron, P. 1990. Testing for a unit root in a time series with a changing mean. *Journal of Business and Economic Statistics*, 8: 153–162.
- [29] Pesaran M.H., and Shin Y. 2001. Long-run Structural Modeling, *Econometric Reviews* 21: 49 – 87.
- [30] Pesaran, M., Shin, Y., and Smith, R. 2000. Structural analysis of vector error correction models with exogenous I(1) variables. *Journal of Econometrics*, 97: 293–343.
- [31] Pesaran, M., and Smith, R. 1998. Structural analysis of cointegrating VARs. *Journal of Economic Surveys*, 12: 471–505.
- [32] Rambaldi, A.N., and Doran, H.E. 1996. Testing the Granger non-causality in cointegrated system make easy. Working Paper in Econometrics, University of New England, Econometrics, New England.
- [33] Revenga, A. L. 1992. The impact of import competition on employment and wages in US manufacturing, *Quarterly Journal of Economics*, 107: 255-84.
- [34] Samuelson, P. A. 1948. International Trade and the Equalization of Factor Prices, *Economic Journal*, June: 163-184.
- [35] Serdaroğlu, T. 2015. Financial Openness and Total Factor Productivity in Turkey. *Procedia Economics and Finance*, 30: 848 – 862.
- [36] Stefan, B., Marco, H., and Lechner, M. 2013. *Trade Liberalisation and Employment Growth: Plant-level Evidence from Switzerland*. Available at: <http://www.stefan-buehler.net/pdfs/bhl.pdf>
- [37] Toda, H.Y., and Yamamoto, T. 1995. Statistical inference in vector autoregression with possibly integrated process. *Journal of Econometrics*, 66: 225-250.
- [38] Wolde-Rufael, Y. 2004. Disaggregated industrial energy consumption and GDP: the case of Shanghai, 1952–1999. *Energy Economics*, 26(1): 69–75.
- [39] Zapata, H.O., and Rambaldi, A.N. 1997. Monte Carlo evidence on cointegration and causation. *Oxford Bulletin of Economics and Statistics*, 59: 285-298.
- *** Central Bank of Nigeria. 2015. *Statistical Bulletin*. Central Bank of Nigeria, Abuja
- *** IMF. 2015. Slower Growth in Emerging Markets; a Gradual Pickup in Advanced Economies. Available at: <http://www.imf.org/external/pubs/ft/weo/2015/update/02/>
- *** National Bureau of Statistics Report 2014
- *** World Bank. 2014. Nigeria Economic Report: Improved Economic Outlook in 2014, and Prospects for Continued Growth Look Good. Available at: <https://www.worldbank.org/en/country/nigeria/publication/nigeria-economic-report-improved-economic-outlook-in-2014-and-prospects-for-continued-growth-look-good>
- *** WTO. 2005. Exploring the links between trade, standard and WTO. Available at: https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report05_e.pdf

Determinants of Debt Maturity Structure in Shariah and Non-Shariah Firms in Pakistan: A comparative Study

Naveeda K. KATPER

Department of Syariah and Management
Academy of Islamic Studies, University of Malaya⁶, Malaysia

Institute of Business Administration
Faculty of Commerce and Business Administration, University of Sindh⁷, Pakistan

nksyed@usindh.edu.pk

Azian MADUN

Department of Syariah and Management
Academy of Islamic Studies, University of Malaya, Malaysia

azianm@um.edu.my

Karim Bux Shah SYED

Institute of Business Administration
Faculty of Commerce and Business Administration, University of Sindh, Pakistan

Department of Finance and Banking, Faculty of Business and Accountancy
University of Malaya, Malaysia

kbsayed@usindh.edu.pk

Muhammad Nawaz TUNIO

Department of Sociology, Faculty of Economics Alpen-Adria-University Klagenfurt, Austria

m1tunio@edu.aau.at

Suggested Citation:

Katper, K. N., Madun, A., Syed, K. B. S., Tunio, M. N. 2017. Determinants of debt maturity structure in shariah and non-shariah firms in Pakistan: A comparative study. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4(50): 1210-1225.

Abstract

Despite the global emergence of Shariah-complaint firms and the resulting interest of investors and policy makers, the research on these companies is still at an embryonic stage. This paper addresses this issue by investigating the capital structure decisions of Shariah compliant firms in comparison with the conventional or non-Shariah firms. Using the theories of corporate debt maturity structure, we carried out the empirical analysis of firm-level factors influencing the debt maturity structure among Shariah firms in Pakistan. Since Shariah compliance entails some specific firm characteristics such as lower debt ratio, lower liquidity, and higher tangibility, we argue that the debt maturity structure of Shariah and conventional firms would differ significantly. Our purpose, therefore, is to explore how Shariah compliance translates into debt maturity structure decisions of these firms. Our results show some significant variations among the impact of various determinants of debt maturity among the Shariah and conventional firms. Our most striking finding is that the debt maturity among Shariah firms is significantly shorter than conventional firms. Amid the dearth of studies investigating the relationship between Shariah compliance and firm's choice of financial decisions, our study would be a source of unfolding the debate and understanding the nature of capital and debt maturity structure of Shariah firms. The research findings are also expected to benefit large and growing clientele of the Shariah firms by providing better insights on the capital and debt maturity structure of these firms.

Keywords: debt; debt maturity structure; Shariah-compliant firms; Non-Shariah firms

JEL Classification: G3; G32

Introduction

⁶ Jalan Universiti, 50603 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia

⁷ Allama I.I. Qazi Campus, 76080, Jamshoro, Pakistan

Unlike conventional finance, Islamic finance puts Islamic guidelines of doing business ahead of modern market-based economic rationalities. The Islamic guidelines are mainly based on the moral and ethical values that Islam propagates to attain the objective of economic well-being or *Falah* for all human beings (Sarker 1999). The Shariah law requires the capital market transactions to be free of usury (*riba*), gambling (*mayisir*), and ambiguity (*gharar*) (Bacha 1999). Shariah law is thus the binding set of principles that govern the economic, social, ethical and religious aspects of an Islamic society (Iqbal 1997).

The emergence of Shariah compliant firms in recent years has been a welcome development in world financial markets. Complying with religious and ethical investment requirements, Shariah firms have attracted a large chunk of religious (especially Muslims) and ethical investors to invest in stock markets (Elgari 1993, Omeran 2009). The increasingly growing interest of these investors in Shariah compliant firms has resulted in special clientele for these firms and has thus created the need for deeper understanding of Shariah firm's financial policies. Despite this, however, there appears a paucity of research on Shariah firms, in general, and their financing decisions, in particular. This paper is an attempt to investigate the capital structure decisions of Shariah companies with a specific focus on their debt maturity structure.

The advances in corporate finance theory have enhanced our understanding of the capital structure and its related issues. In recent years, optimality of term structure of corporate debt has gained considerable attention for its importance in maximizing firm value. Previous research entails that an ideal or optimal capital structure consists of such a composition of debt and equity that minimizes the cost of capital and maximizes the value of the firm (Bevan and Danbolt 2002; Sayilgan, Karabacak and Küçükkoçao 2006). The capital structure theory further suggests that devising an optimal debt policy is not restricted only to optimizing the debt-to-equity ratio; it also involves determining appropriate maturity structure of debt within the capital structure (Stephan, Talavera and Tsapin 2011). Having an optimum mix of long and short term debt is desirable for several reasons ranging from reducing agency cost of debt (Myers 1977), enhancing monitoring effectiveness (Jensen 1986), signaling financial muscle to the outsiders (Flannery 1986), reducing liquidity risk to avoid forced liquidation (Diamond 1991, 1993, Sharpe 1991), and forestalling refinancing risk (Jun and Jen 2003).

The literature on debt maturity structure abounds in conventional finance setup; however, according to the best of authors' knowledge, this study is the first study focusing on the debt maturity structure of Shariah firms. Shariah compliance alters some of the essential firm characteristics, such as leverage ratios, liquidity, and tangibility. The extant debt maturity theories predict the major influence of these firm characteristic over corporate term structure of debt. This paper, thus, attempts to establish a link between Shariah compliance and debt maturity choice of firms. We argue that Shariah firms, for their typical characteristics, possess significantly different debt maturity structure than non-Shariah firms. Using five-year data from one of the important developing markets of the Muslim world, we show noticeable differences among the debt maturity structures of Shariah and non-Shariah firms. First, conforming to what this study hypothesizes; Shariah firms have a greater concentration of short-term debt than conventional firms. This suggests that an average Shariah firm borrows for significantly shorter duration than an average conventional firm. The paper also finds that as a consequence of Shariah compliance the strength of firm-level determinants varies considerably among Shariah and non-Shariah firms.

The paper contributes in several ways. Though, some studies (Gunn *et al.* 2014) have recently attempted to analyze the impact of Islam as a religion on the capital structure of Muslim countries at the macro level, to the best of our knowledge no previous study has focused on this issue at the firm level. Our study, thus, attempts to explicate the how Shariah compliance translates into corporate financing decisions and show that Shariah firms have greater tendency for short-term debt than their non-Shariah counterparts. Secondly, our comparative approach facilitates to highlight some of the unique features of Shariah firms that distinguish them from their conventional counterparts. Finally, our findings may also prove valuable for the Shariah firm clientele to make better investment decisions. The paper is organized as follows. Section 2 contains literature review. Section 3 presents the implication of Shariah compliance on firm's capital and debt maturity structure and develops testable hypotheses for various firm-level determinants of debt maturity choice. Data and methodology are discussed in Section 4. Section 5 reports empirical results and analysis of findings. Section 6 concludes the study

Conclusion

Debt maturity gains importance for issues like financing flexibility, cost of financing, and refinancing risk. Although this issue has gained much attention in conventional corporate finance in both theoretical and empirical literature, rarely has it been addressed from the perspective of Shariah compliance and resulting effects on the debt maturity structure of these firms. This study fills that gap by empirically analyzing the firm-level factors influencing the debt maturity structure among Shariah firms in Pakistan

We applied univariate and multivariate analysis to investigate whether debt maturity structure varies across Shariah and non-Shariah firms. We also studied how firm level characteristics affect debt maturity choice of Shariah firms in contrast with the non-Shariah firms. The descriptive statistics indicated that Shariah firms had relatively shorter debt maturity structure than non-Shariah firms. The significance of t test result rejected the null hypothesis that the two groups have common debt maturity choice, supporting our first hypothesis that Shariah firms are likely to have shorter maturity than non-Shariah firms. This conforms to the earlier findings that firms usually having lower debt ratios tend to borrow on shorter term basis. Based on this argument one can argue that restricted use of debt owing to Shariah compliance yields shorter debt maturity structure for these firms.

Next, the study tested various firm level determinants of debt maturity structure among Shariah and non-Shariah firms and compared the findings. In a univariate analysis, we first sorted firms on all the possible influencing firm level determinants drawn from debt maturity structure theories and divided the Shariah non-Shariah sample into equal quartiles and compared the debt maturity structure of each characteristic quartile for Shariah and non-Shariah sample separately. Our findings reveal some notable differences among the Shariah and non-Shariah firms sample especially for size and growth. As for size, Shariah firms tend to have shorter debt maturity as their size quartile increases, while non-Shariah firms have longer maturity for larger firms. Being significant, these results show contrasting empirical facts about the two types of firms. The similar tendency but with lack of statistical significance was emerged in case of growth quartile indicating that higher growth non-Shariah firms borrow on longer term basis, while higher growth firms in Shariah camp tend to have lower debt maturity. On other variables, our results showed similarities of varying patterns of debt maturity across various quartiles of these variables. Asset maturity, tangibility, tax shield, and leverage showed positive and increasing trend of longer term maturity in higher quartiles of these characteristics. While risk, tax rate, and profitability showed the inverse pattern of debt maturity pattern in their quartiles.

Amid the dearth of studies investigating the relationship between Shariah compliance and firm's choice of financial decisions, our study would be a source of unfolding the debate and understanding the nature of capital and debt maturity structure of Shariah firms. The research findings are also expected to benefit large and growing clientele of the Shariah firms by providing better insights on the capital and debt maturity structure of these firms.

Reference

- [1] Bacha, O. I. 1999. Derivative Instrument and Islamic Finance: Some Thoughts for a Reconsideration. *International Journal of Islamic Financial Services*, 1(1): 1–17. Available at: <http://doi.org/10.5897/JAERD12.088>
- [2] Barclay, M.J., and Smith, C.W. 1995. The maturity structure of corporate debt. *the Journal of Finance*, 50(2): 609-631. DOI: 10.1111/j.1540-6261.1995.tb04797.x
- [3] Barnea, A., Haugen, R. A., and Senbet, L. W. 1980. A rationale for debt maturity structure and call provisions in the agency theoretic framework. *The Journal of Finance*, 35(5): 1223-1234. DOI:10.1111/j.1540-6261.1980.tb02205.x
- [4] Bevan, A.A., and Danbolt, Jo. 2002. Capital structure and its determinants in the UK-a decompositional analysis. *Applied Financial Economics*, 12(3): 159-170. <http://dx.doi.org/10.1080/09603100110090073>
- [5] Billett, M.T, King, T.-H. D., and Mauer, D. C. 2007. Growth opportunities and the choice of leverage, debt maturity, and covenants. *The Journal of Finance*, 62(2): 697-730. DOI: 10.1111/j.1540-6261.2007.01221.x

- [6] Brick, I. E., and Ravid, S.A. 1985. On the relevance of debt maturity structure. *The Journal of Finance*, 40(5): 1423-1437. DOI: 10.1111/j.1540-6261.1985.tb02392.x
- [7] Cai, K., Fairchild, R., and Gunev, Y. 2008. Debt maturity structure of Chinese companies. *Pacific-Basin Finance Journal*, 16(3): 268-297. <https://doi.org/10.1016/j.pacfin.2007.06.001>
- [8] Chittenden, F., Hall, G., and Hutchinson, P. 1996. Small firm growth, access to capital markets and financial structure: Review of issues and an empirical investigation. *Small Business Economics*, 8(1): 59-67. DOI: 10.1007/BF00391976
- [9] Deesomsak, R., Paudyal, K., and Pescetto, G. 2009. The determinants of debt maturity structure: evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 19(1): 26-42. DOI: [10.1016/j.mulfin.2008.03.001](https://doi.org/10.1016/j.mulfin.2008.03.001)
- [10] Diamond, Douglas W. 1991. Debt maturity structure and liquidity risk. *The Quarterly Journal of Economics*, 709-737. <https://doi.org/10.2307/2937924>
- [11] Elgari M. A. 1993. Towards an Islamic stock market. *Islamic Economic Studies*, 1(1): 1-20. Available at: www.irti.org/English/Research/Documents/IES/158.pdf
- [12] Flannery, M. J. 1986. Asymmetric information and risky debt maturity choice. *The Journal of Finance*, 41(1): 19-37. DOI:10.1111/j.1540-6261.1986.tb04489.x
- [13] Friend, I., and Lang, L.H. P. 1988. An Empirical Test of the Impact of Managerial Self-Interest on Corporate Capital Structure. *The Journal of Finance*, 43(2): 271–281. <http://doi.org/10.2307/2328459>
- [14] Guedes, J., and Opler, T. 1996. The determinants of the maturity of corporate debt issues. *The Journal of Finance*, 51(5): 1809-1833. DOI: 10.1111/j.1540-6261.1996.tb05227.x
- [15] Gunn, T., and Shackman, J. 2014. A comparative analysis of the implications of the Islamic religion on corporate capital structures of firms in emerging market countries. *International Journal of Islamic and Middle Eastern Finance and Management*, 7(3), 277. <http://dx.doi.org/10.1108/IMEFM-02-2013-0025>
- [16] Hart, O., Aghion, P., and Moore, J. 1995. Insolvency reform in the UK: a revised proposal. *Insolvency Law and Practice*, 11.
- [17] Iqbal M. 1992. Organization of Production and Theory of Firm Behaviour from an Islamic Perspective. *Lectures on Islamic Economics*. IRTI, Islamic Development Bank, Jeddah, Saudi Arabia.
- [18] Jun, S. G., and Jen, F. C. 2003. Trade-off model of debt maturity structure. *Review of Quantitative Finance and Accounting*, 20(1): 5–34. <http://doi.org/10.1023/A:1022190205033>
- [19] Kale, J.R, Noe, T. H, and Ramirez, G. G. 1991. The effect of business risk on corporate capital structure: Theory and evidence. *The Journal of Finance*, 46(5): 1693-1715.
- [20] Kane, A., Marcus, A. J., and McDonald, R. L. 1985. Debt policy and the rate of return premium to leverage. *Journal of Financial and Quantitative Analysis*, 20(4): 479–499. <http://dx.doi.org/10.2307/2330763>
- [21] Katper, N. K., Madun, A., & Syed, K. B. S. (2015). Does shariah compliance lead to managerial trustworthiness? Evidence from empirical analysis of capital structure of shariah and non-shariah firms in Pakistan. *Journal of Applied Economic Sciences*, 10(7): 1028–1045.
- [22] Kim, C.-S., Mauer, D. C., and Stohs, M. H. 1995. Corporate debt maturity policy and investor tax-timing options: theory and evidence. *Financial Management*, 33-45. Available at: <http://www.jstor.org/stable/3665875>
- [23] Kirch, G., and Terra, P. R. S. 2012. Determinants of corporate debt maturity in South America: Do institutional quality and financial development matter? *Journal of Corporate Finance*, 18(4): 980-993. <https://doi.org/10.1016/j.jcorpfin.2012.05.004>

- [24] Leland, H. E, and Toft, K. B. 1996. Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads. *Journal of finance*, 987-1019. DOI: 10.1111/j.1540-6261.1996.tb02714.x
- [25] Lewis, C. M. 1990. A multiperiod theory of corporate financial policy under taxation. *Journal of Financial and Quantitative Analysis*, 25(01): 25-43. DOI: 10.2307/2330886
- [26] López-gracia, J., and Mestre-barberá, R. 2011. Tax Effect on Spanish SME Optimum Debt Maturity Structure. *Journal of Business Research* 64 (6): 649–55. DOI:10.1016/j.jbusres.2010.06.001
- [27] Lucas, D. J, and McDonald, R. L. 1990. Equity issues and stock price dynamics. *The journal of finance*, 45(4): 1019-1043. DOI: 10.1111/j.1540-6261.1990.tb02425.x
- [28] Modigliani, F., and Miller, M. H. 1958. The cost of capital, corporation finance and the theory of investment. *The American economic review*, 261-297. Available at: <http://www.jstor.org/stable/1809766>
- [29] Morris, J.R. 1992. Factors affecting the maturity structure of corporate debt. *University of Colorado at Denver. Unpublished Manuscript*, 39p
- [30] Myers, S. C. 1977. Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2): 147-175. DOI: [http://dx.doi.org/10.1016/0304-405X\(77\)90015-0](http://dx.doi.org/10.1016/0304-405X(77)90015-0)
- [31] Omran, MF. 2009. Examining the effects of Islamic beliefs on the valuation of financial institutions in the United Arab Emirates. *Review of Middle East Economics and Finance*, 5(1): 72-79. DOI: [10.2202/1475-3693.1127](https://doi.org/10.2202/1475-3693.1127)
- [32] Ozkan, A. 2002. The determinants of corporate debt maturity: evidence from UK firms. *Applied Financial Economics*, 12(1): 19-24. Available at: <http://dx.doi.org/10.1080/09603100110102691>
- [33] Renato, P. et al. 2011. Determinants of corporate debt maturity in Latin America. *European Business Review*, 23(1): 45–70. Available at: <http://doi.org/10.1108/09555341111097982>
- [34] Robbins, E. H., and Schatzberg, J. D. 1986. Callable Bonds: A Risk-Reducing Signalling Mechanism. *The Journal of Finance*, 41(4): 935-949. DOI: 10.1111/j.1540-6261.1986.tb04558.x
- [35] Sarker M. A.A. 1999. Islamic business contracts, agency problem and the theory of the Islamic firm. *International Journal of Islamic Financial Services*, 1(2): 12-28. Available at: <http://www.iiibf.org/journal.html>
- [36] Sayilgan, G., Karabacak, H., and Küçükkocaoğlu, G. 2006. The firm-specific determinants of corporate capital structure: Evidence from Turkish panel data. *Investment Management and Financial Innovations*, 3(3): 125-139.
- [37] Sharp, K. 1991. Incorporating solvent and ion screening into molecular dynamics using the finite-difference Poisson–Boltzmann method. *Journal of Computational Chemistry*, 12(4): 454-468. DOI: 10.1002/jcc.540120407
- [38] Stephan, A., Talavera, O., and Tsapin, A. 2011. Corporate debt maturity choice in emerging financial markets. *The Quarterly Review of Economics and Finance*, 51(2): 141–151. Available at: <http://doi.org/10.1016/j.qref.2010.12.003>
- [39] Titman, S., and Wessels, R. 1988. The Determinants of Capital Structure Choice. *The Journal of Finance*, 43(1): 1-19. DOI: 10.1111/j.1540-6261.1988.tb02585.x
- [40] Whited, T. M. 1992. Debt, liquidity constraints, and corporate investment: Evidence from panel data. *The Journal of Finance*, 47(4): 1425-1460. DOI: 10.1111/j.1540-6261.1992.tb04664.x

Evaluation Method for Efficiency of Financial and Innovative Activities in Commercial Organizations Based on Stochastic Modelling

Viktoriya Valeryevna MANUYLENKO
North-Caucasus Federal University⁸, Russia
vika-mv@mail.ru

Andrey Aleksandrovich MISHCHENKO
Stavropol University⁹, Russia
andrewmish@mail.ru

Olga Borisovna BIGDAY
Stavropol University, Russia
rektorat@ncgti.ru

Tatyana Andreevna SADOVSKAYA
Rostov State University¹⁰, Russia
sadtan@list.ru

Tatyana Sergeevna LISITSKAYA
Rostov State University, Russia
tania_lisitskaia@rambler.ru

Suggested Citation:

Manuylenko, V.V. *et al.* 2017. Evaluation method for efficiency of financial and innovative activities in commercial organizations based on stochastic modelling. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4 (50): 1226-1246.

Abstract

The research revealed financial instability at the internal level of commercial organization development, which allowed confirming that quantitative assessment in the system of their financial management is preferable. Nonconventional method was developed to provide for assessment of the efficiency of financial and innovative performance in commercial organizations in the system of their financial management; the method provides for determination of the modified projected value of financial results and considers risk profile of commercial organizations, as well as of the anticipated efficiency of financial and innovative development.

The method is grounded in both: Monte Carlo approach and special author's software product. Its application is notable by a universal character; it allows the following: expanding the list of the evaluation financial and innovative indicators that are risk inclusive; create a tool kit to provide a multiple set of scenarios in projected financial and innovative performance development; thus, developing risk-oriented vector for the system of financial management. Approval of the method was carried out in systems of financial management in the following corporation: SevKavNIPIgaz PJSC, Anda Technology LLC, "C-Soft Rostov-on-Don" NPJSC.

Key words: financial and innovative performance; efficiency; projected financial result; scenarios; risk oriented vector; evaluation.

JEL Classification: O10; O31

Introduction

In the environment of economics instability, limited state support to development of innovations in commercial corporations, and lack of financial provisions the system of corporations' financial management should ensure such setting for shaping financial interrelations of commercial corporations that evolve innovation processes in economics. Transition to the intensive path of development that reinforces innovative component of commercial organizations predetermines the need for development of an innovative trend in the system of their financial management.

⁸ 355009, Russia, Stavropol, Pushkin Street, 1

⁹ 355029, Russia, Stavropol, Kulakova Prospect, 8

¹⁰ 344000, Russia, Rostov-on-Don, Gagarin Square, 1

Conclusions

So, a method for evaluation of efficiency of financial and innovation activities was developed, which suggests definition of a modified financial result from financial and innovation activities and index of financial and innovation development effectiveness based on the method of simulation modeling that allows to take into account the specific feature of innovations, i.e. uncertainty.

Each commercial organization engaged in financial and innovative activities if applying suggested scientific and methodological toolset will be able to independently develop, modernize and upgrade alternative financial and innovative methods for assessing innovation in the financial management system considering its own functional characteristics. The results of the assessment will contribute to the following justified set of actions:

- selection of management methods through identification of various options for financial and innovation performance based on simulation (simulation results are collected and analyzed for further risk assessment);
- formation of a theoretical and methodological grounds for further researches on development of financial and innovative methods for assessing innovation in the financial management of commercial organizations in conditions of uncertainty;
- conduct of an external economic assessment of the conditions to identify feasibility of an innovative business project: Manuylenko V. V., Mishchenko A. A. (2016);
- Monte Carlo measurement of the potential financial and innovation risk in the financial management system of commercial organizations, taking into account the assumption of the stochastic nature of the impact of endogenous and exogenous variables on the financial and innovative activity of organizations;
- complete reflection of all possible uncertainties arising during implementation of financial and innovation activities, for each of the possible scenarios with a probabilistic nature;
- development of new types of financial risks insurance in the insurance services market: Rusetskaya, Rusetskiy, Rybina, G. K., Rybina, Y.V., Sazhneva (2015);
- creation of scenarios for development of financial and innovation activities (simulation models) implemented in organizations;
- optimal combination of financial and innovative methods of evaluation, aimed at synergistic effect in the financial management system of commercial organizations;
- development of a risk-oriented policy in finances and innovations that determines development of financial and innovation activities in the financial management system of commercial organizations;
- development and implementation of: alternative financial and innovation strategies, including those of risk-oriented nature, development programs, financial and innovation policies for current moment and future;
- development of priority areas for development of financial and innovation activities of a commercial organization, improvement of its management;
- designation of areas for subsequent financial and innovative development of organizations.

References

- [1] Anshin, V.M. and Dagaev, A.A. 2007. *Innovative management: concepts, multi-level strategies and innovative development mechanisms*: Textbook, 3rd edition. revised. Moscow: Delo, pp. 584.
- [2] Avagumyan, A. 2015. *Innovative activities of enterprises*. Donetsk: Donetsk National University of Economics and Trade after M. Tugan-Baranovsky.
- [3] Chistyakova, O. V. 2010. The Role of Technoparks in the Development of Innovative Infrastructure in Regions. *Izvestiya of Irkutsk State Economic Academy*, 3: 103 - 106.
- [4] Ivasenko, A.G., Nikonova, Ya.I., and Sizova, A.O. 2009. *Innovative management*. Moscow: KnoRus, pp. 418.
- [5] Galkina, A. V. and Nazarova, V.S. (2010). Innovations at the enterprise. Problems of the development of

innovative and creative economy: a collection of reports on the results of the international scientific-practical conference. Moscow: Creative economy, pp. 384

- [6] Gokhberg, L.M. 1998. Statistics of science and innovation. Brief terminological dictionary. Moscow: CSRS.
- [7] Khomkin, K. A. 2009. *Innovative business: formation of models for the commercialization of promising developments*. Moscow: Delo ANH, pp. 49.
- [8] Knight, F.H. 2003. *Risk, uncertainty and profit; translation, English*. Moscow: Delo, pp. 360
- [9] Krasnikova, E.O., and Evgrafova, I. Yu. 2011. Innovative management. Moscow: Science book, pp. 122.
- [10] Manuylenko, V.V., et al. 2016. Creating Methodological Instruments for Innovation Project Assessment under Uncertainty Conditions. *Journal of Applied Economic Sciences*, 4(42): 747– 761.
- [11] Manuylenko, V.V. and Mishchenko, A.A. 2016. Software for determining the effectiveness of financial and innovation activities of commercial organizations (computer software): a. from. / (RF).
- [12] Morozov, Yu. P. 1997. *Innovative Management: Textbook*. N. Novgorod: Publishing house of the UNN.
- [13] Novikov, V.S. 2010. *Innovations in tourism: Textbook for university students*. 3rd edition updated. Moscow: Publishing center "Academy", pp. 208
- [14] Ogoleva, L.N. 2004. *Innovative management: Textbook*. Moscow: Infra-M, pp. 238
- [15] Rusetskaya, E. A., Rusetskiy, M.G., Rybina, G. K., Rybina, Y.V. and Sazhneva, S.V. 2015. Problems and prospective lines of development of the liability insurance system. *International Business Management*, 9(6): 1079–1085.
- [16] Surin, A. V., and Molchanova, O.P. 2008. *Innovative management: Textbook*. Moscow: INFRA-M, pp. 368.
- [17] Tikhonov, A.N. 2003. *Management of innovative organizations: Textbook*. Moscow: European Center for Quality.
- [18] Vinokurov, V.I. 2005. Basic terms and definitions in innovations. *Innovations*, 4: 6 - 22.
- [19] Zasimenko, B.V. 2007. Determination of the innovative potential of the enterprise. *Entrepreneurship*, 7: 74 - 77.
- [20] Zharikov, V.V., Zharikov, I.A., Odnolko, V.G. and Evseichev, A.I. 2009. Management of innovative processes: Textbook. Tambov: Publishing and printing center of Tambov State Technical University. University, pp. 180
- *** Development strategy of the Russian Federation for science and innovations for the period up to 2015: approved. Interdepartmental Commission for Science and Innovation Policy (protocol as of 15 December. 2006 #1). Reference and legal system "Consultant-plus". Available at: <http://base.consultant.ru/cons/cgi/online.cgi?req=doc;base=LAW;n=101907>. (accessed May 17, 2017).
- *** Fundamentals of the Russian Federation policies in the field of science and technology development for the period until 2010 and beyond: Letter of the President of the Russian Federation No. Pr-576 as of March 30, 2003 (expired).
- *** Main trends in the Russian Federation policies on development of the innovational system for the period up to 2010: approved by the Government of the Russian Federation as of 05 August. 2005 No. 2473п-П7 (expired).
- *** On science and state scientific and technical policy: Federal Act as of 23 August, 1996 # 127-Federal Law. Reference and legal system "Consultant-plus". Available at: http://www.consultant.ru/document/cons_doc_LAW_11507. (accessed May 17, 2017).
- *** Oslo Guidelines. 2010. *Recommendations for the collection and analysis of data on innovation*. 3rd edition, Moscow: CICON: Joint publication of OECD and Eurostat, pp. 107

The Effect of Minimum Wages, Inflation Rate, Human Resources Quality, Economic Growth Toward Productivity of Labor Force and Its Implication to Education Unemployment Rate in South Sulawesi-Indonesia

Fattah SANUSI

Department of Economic, Faculty of Economic and Business
University of Hasanuddin, Makassar, Indonesia

sanusi.unhas.jp@gmail.com

Suggested Citation:

Sanusi, F. 2017. The Effect of minimum wages, inflation rate, human resources quality, economic growth toward productivity of labor force and its implication to education unemployment rate in South Sulawesi-Indonesia. *Journal of Applied Economic Sciences*, Volume XII, Summer, 4 (50): 1247-1254.

Abstract

A study carried out in order to know the effect of directly or indirectly between the minimum wage, inflation, human resources and economic growth of the productivity of labor and educated unemployment rate is implemented in the province of South Sulawesi in September-November 2014. Data collection method used is library research is research through several books, literature or scientific explanations to obtain underlying theories in analyzing the data obtained from the study site. Search data is done by using the documentation by way of recording data reports that have been published and literature. For estimation models used in this study is a model of simultaneous equations using path analysis (Path Analysis) to see the effects of direct and indirect effects of the minimum wage, inflation, human resources and economic growth on work productivity and the unemployment rate of educated using WarpPLS. Analysis result concluded that the minimum wage, inflation rate and quality of human resources (HR) effect on the rate of educated unemployment in the province of South Sulawesi, either directly or indirectly through labor productivity. While economic growth variables did not provide significant direct effect on the unemployment rate of educated, but the indirect effect through productivity.

Keywords: path; unemployment rate; work productivity; human resources; inflation; minimum wages; economic growth

JEL Classification: B4; J3; J6; J8; R1

Introduction

Unemployment is one of the problems facing all countries in the world as a result of the gap between the numbers of working age population entering the labor force with the availability of jobs. Unemployment educated workforce is highly educated upper middle (SMA, Diploma and Degree) and does not work (Tobing 2004). The unemployment rate of educated (Educated Unemployment rate) is the ratio of the number of job seekers to the top high school education (as a well-educated group) to the size of the labor force in that group (BPS 2009). Every year colleges produce graduates whose numbers continue to rise. Moreover, some economists predict unemployment in developing countries are generally dominated by youth unemployment and educated unemployment (Todaro 2004).

The unemployment rate relatively young group with an unemployment rate higher than the population caused by several factors: First, the structural factors. These factors consist of lack of skills of young groups in the appeal of a more mature, inaccuracies or geographical constraints and the scarcity of information that hamper the labor market, and the age factor when leaving school, usually leave school at an earlier age to experience higher levels of unemployment. Second, the factors of non-structural consists of the increase in worker wages that encourage employers to terminate the employment relationship or do not accept the new employees, increased participation of women, including those who are married to the labor force, perceptions of youth against the available jobs among others, about the level of wages low, as well as perceptions of career and work environment. The rising trend in unemployment of educated labor is due to that the higher the education the higher the aspiration to get a position or employment is more appropriate (Sutomo *et al.* 1999).

In 2012, South Sulawesi province has a labor force of 3.6 million. Amounting to 94.13% of the working

population and the remaining 5.87% is unemployed. The unemployment rate in South Sulawesi province has decreased from year to year. Most people who are unemployed are not the poor, even from families who are very capable. Poor people tend to sustain life with work of any kind, although only by working odd jobs because basically they needed food. Based on the statement, in terms of education, most of which turned out to be 53.08% of the unemployed in South Sulawesi province has a high school education / vocational upwards. While nearly half of which is 47.91% of the people who work have an elementary education down in the province of South Sulawesi.

Education has always been a strategic place in developing human resources as a form of development agenda and the future establishment of a country. A good education will produce a professional workforce that can meet the needs of a country's workforce. Unemployment is often associated with level of education. The higher a person's education, the greater the chances of getting a decent job. This means that if the quality of human resources the higher the employment also increased, thereby reducing the rate of educated unemployment. This is consistent with what previous research, which says that by improving the quality of human resources it will reduce the level of unemployment of educated, because the quality of the resources owned by university graduates with the skills, knowledge and technology that they have the employment opportunities for the educated unemployed is huge absorbed in major industries (Cahyani 2014).

The level of wages of all workers is always different. A key to the difference in wage levels lies in the very different qualities among the workforce. The cause of the most influential are graduates of education, training and experience of someone who is different in each person's ability and contribution to the revenue it receives. The higher the quality of a person, the greater the contribution to the company, so the wages are also getting bigger. Besides differences in areas or regions became the cause of differences in wage levels. Region that has a high-income area that would create income effects for the workforce because of a growing company in the area.

Another factor that can contribute to the unemployment rate is inflation. Inflation has two sides of the same coin. According to Philips curve, there is a negative relationship between the unemployment rate and the inflation rate. This means that the higher the unemployment rate results in the lower rate of increase in wages, in the sense that the rate of inflation pressure. On the other hand, the high inflation rate but can worsen the purchasing power of people can also increase the cost of production. The increase in production costs will have an impact on the reduction of labor which resulted in an increase in the number of unemployed.

Aside from inflation and human resources, economic growth also affects the level of educated unemployment. Economic growth reflects the state of the economy in a region. The economic situation will affect the growth and condition of the company that operates the relevant area. The higher the economy in a region, the higher the growth opportunities for the company and the creation of employment opportunities for the people of the concerned area. Economic growth also shows the extent to which economic activity can generate additional income or welfare of society at a certain period. Besides economic growth through increased GDP is expected to absorb the labor force in the region, due to the increase in the GDP is likely to increase production capacity.

In connection with this problem, the objectives determine the effect, directly or indirectly between the minimum wage, inflation, human resources and economic growth on labor productivity and the rate of educated unemployment in the province of South Sulawesi, either directly or indirectly through labor productivity. Originality of this study show as: This study was never examined the mediating effect influence labor productivity of the minimum wage, inflation, human resources and economic growth of the education level of unemployment, we examine the results of Cahyani (2012) about the unemployment of educated, Zulhanafi (2013) on productivity and unemployment, Sari (2011) on economic growth, educated unemployment. No similar studies that tested the model designated in the same location (in Sulawesi). It became the location of originality in this study and there are no previous studies that examined the effect of mediation in labor productivity in the influence of the quality of human resources to the education level of unemployment, especially in Sulawesi.

Conclusions and Recommendations

Based on the problems, objectives and discussion presented earlier, then from this study can be concluded that the minimum wage, inflation rate and quality of human resources (HR) effect on the rate of educated unemployment in the province of South Sulawesi, either directly or indirectly through labor productivity, While economic growth variables did not provide significant direct effect on the unemployment rate of educated, but the indirect effect through productivity.

Based on the conclusions, it is recommended: to reduce the level of educated unemployment, the government should further enhance employment opportunities for educated unemployed and improve the quality or the quality of education that is based on skill and technology in the face of the job market. For further research on the problem of educated unemployment is advisable to conduct further studies to include other independent variables.

References

- [1] Bellante, D. and Jackson, M. 2000. *Economy Employment*. Jakarta: Faculty of Economics, University of Indonesia.
- [2] Cahyani, I. G. 2014. *Analysis of Factors Affecting Educated Unemployment in South Sulawesi* (In Indonesian *Analisis Faktor-Faktor yang Mempengaruhi Pengangguran Terdidik di Sulawesi Selatan*). Makassar: Department Economics. Faculty of Economics and Business, University of Hasanuddin.
- [3] Notoatmodjo, S. 2003. *Human Resource Development* (In Indonesian *Pengembangan Sumber Daya Manusia*) Jakarta: PT Rineka Cipta.
- [4] Sari, A. K. 2011. *Analysis of Effect of Education, Economic Growth and Wages Against Unemployment Educated in West Sumatra* (In Indonesian *Analisis Pengaruh Tingkat Pendidikan, Pertumbuhan Ekonomi, dan Upah Terhadap Pengangguran Terdidik di Sumatera Barat*). *Jurnal Ekonomi Pembangunan*. Padang: Faculty of Economics, University of Negeri Padang.
- [5] Simanjuntak, P. J. 2001. *Introductory Economics Human Resources* (In Indonesian *Pengantar Ekonomi Sumber Daya Manusia*). Jakarta: Faculty Economics, University of Indonesia.
- [6] Sutomo, V. H. and Prihartini, BS. 1999. *Analysis of Factors Affecting Lama Seeking Work Educated in Klaten Regency, 1996* (In Indonesian *Analisis Faktor-Faktor yang Mempengaruhi Lama Mencari Kerja Terdidik di Kabupaten Klaten Tahun 1996*).
- [7] Tobing, E. 2004. *Unemployment Educated Workforce* (In Indonesian *Pengangguran Tenaga Kerja Terdidik*). Media Indonesia.
- [8] Todaro, M. P. 2004. *Economic Development in the Third World* (In Indonesian *Pembangunan Ekonomi di Dunia Ketiga*). Jakarta: Penerbit Erlangga.
- [9] Zulhanafi, O., Aimon, H., and Syofyan, E. 2013. *Analysis of Factors Affecting Productivity and Unemployment in Indonesia* (In Indonesian *Analisis Faktor-Faktor yang Mempengaruhi Produktivitas dan Tingkat Pengangguran di Indonesia*). *Journal of Economic Studies*, II(03): 85-109.

JOURNAL 
of Applied Economic Sciences

ISSN 2393 – 5162

ISSN - L 1843-6110