University of Salford A Greater Manchester University
University of Essex ESSEX BUSINESS SCHOOL
Centre for Entrepreneurship Research
The General Jonas Žemaitis Military Academy of Lithuania
Ministry of National Defence Republic of Lithuania
Vilnius Gediminas Technical University
RISEBA
Estonian Business School
NATO Energy Security Centre of Excellence
ENTREPRENEURSHIP AND SUSTAINABILITY CENTER
AVADA

Journal of Security and Sustainability Issues *www.lka.lt/index.php/lt/217049/*
ISSN 2029-7017/ISSN 2029-7025 online
2013 Volume 2(4): 5–11
http://dx.doi.org/10.9770/jssi.2013.2.4(1)

GLOBALIZATION DRIVERS IN DEVELOPED AND LESS DEVELOPED COUNTRIES: IF CONSISTENT PATTERNS CAN BE TRACED*

Manuela Tvaronavičienė[1], Virginija Grybaitė[2], Živilė Tunčikienė[3]

[123]Vilnius Gediminas Technical University
Saulėtekio ave. 11, LT-10223 Vilnius, Lithuania
[1]The General Jonas Žemaitis Military Academy of Lithuania, Šilo Str.5A, LT-10322 Vilnius, Lithuania
E-mails: [1]manuela@vgtu.lt; [2]virgi@vgtu.lt; [3]Zivile.Tuncikiene@vgtu.lt

Received 10 December 2012, accepted 20 March 2013

Abstract. Globalization processes are widely discussed in scientific literature. In our research we adopt an approach, according which globalization; especially in form of inward foreign direct investment (FDI) is one of sources of innovative technologies and proxy of sustainable development of industries and countries' economies. In order to design efficient government policies in the field of FDI attraction, such globalization drivers have to be revealed and their importance evaluated. In presented paper we raise and verify hypotheses about importance of the following globalization drivers: tax burden, institutional performance and market consumptive capacity. Regression analysis tool, we believe, allows revealing if those drivers are equally important for developed and less developed countries (LDC). Economic interpretation and generalization of obtain results, we believe, would allow indicating if consistent patterns can be traced. If so, more efficient government policies, allowing attract innovative technologies, especially to LDC can be suggested.

Reference to this paper should be made as follows: Tvaronavičienė, M.; Grybaitė, V.; Tunčikienė, Ž. 2013. Globalization drivers in developed and less developed countries: if consistent patterns can be traced, Journal of Security and Sustainability Issues 2(4): 5–11. http://dx.doi.org/10.9770/jssi.2013.2.4(1)

JEL Classifications: O1, O19, O40, F63

1. Introduction

Globalization may be defined as the broadening and deepening linkages of national economies into a worldwide market for goods, services and especially capital. The current wave of globalization has seen Multinational Enterprises (MNEs) playing a leading role in shaping and driving cross-border integration through the transfer of production facilities, functions and/or technology across space (Baldwin and Martin, 1999; OECD, 2007). Globalization processes can obtain variety of forms. From countries economic development point of two the foreign trade and foreign direct investment (inward and outward) are seen as the most important ones. In this research inward FDI is in the focus. Inward FDI is seen as source of foreign capital, which enhance country's capital saturation and plus serves as driver of innovative technologies into destination industries (Adekola *et al.* 2008; Tvaronavičius, Tvaronavičienė 2012). Before developing this research we need to admit, that role of inward FDI in sustainable economic development of countries in scientific literature is treated rather controversially (Tvaronavičienė, Grybaitė 2007; Tvaronavičienė, Kalašinskaitė 2010). Nonetheless, positive approach towards inflow of foreign capital prevails, and in this paper we assume, that inward FDI positively contributes to sustain-

* Research prepared within framework of Long-term Economic Research Program, topic "Energetically secure and sustainable restructuring of Lithuanian industry sectors in the context of world economy development tendencies´ confirmed by Research Council of Lithuania, (IEP-01/2012).

able development of host countries (Lankauskienė, Tvaronavičienė 2012).

In order to reveal drivers of globalization in form of inward FDI we will raise and verify four hypotheses. Eleven differently developed countries are selected. For our analysis we used the 6 developed countries: Austria, Belgium, Estonia, Netherlands, Slovakia and Slovenia and 5 LDC: Bulgaria, Hungary, Latvia, Lithuania, Romania data sources for analysis are taken from UNCTAD, World Bank and Euro stat for years mainly for 2000-2010 year period).

2. Hypotheses about driving forces

There is separate strand of literature devoted to FDI driving forces' (e.g. Dunning 1997; Tvaronavičienė *et al.* 2008*;* Grybaitė, Tvaronavičienė 2008; Tvaronavičienė *et al.* 2009 etc.). With reference to various theories (e.g. Trade Theory, Theory of the Firm and Theory of Industrial Organization) the eclectic paradigm states that FDI emerges if a firm has an Ownership-advantage (e.g. a patent) combined with a Location-advantage (e.g. low production costs; large market size) and an Internalization-advantage (e.g. economies of interdependent activities). According e.g. Sahoo, all the determinants of FDI can be grouped under two categories (i) economic conditions and (ii) host country policies. Economic conditions include market size, growth prospect, rate of return, urbanization/industrialization, labor cost, human capital, physical infrastructure, and macroeconomic fundamentals like inflation, tax regime, external debt, etc. Host country policies include the promotion of private ownership, efficient financial market; trade policies/free trade policy/regional trade agreements, FDI policies, and perception of country risk, legal framework, and quality of bureaucracy. Empirical research suggests that FDI is sensitive to the host country's overall economic policies, including its tax policy (Sahoo 2006).

Our empirical analysis is based on a regression model, which tests hypotheses raised. The relationship between dependent variable Y (inward FDI) and independent variables X (indicated in hypotheses) can be estimated by simple linear regression model equation of the form $Y = a + b*X$.

As it was indicated above, in scientific literature we can find variety of FDI driving factors (globalization drivers, as we call them). In our paper we will focus the following ones: *tax burden* (country policy), *performance of institutions, market consumptive capacity* (economic conditions). We will examine if distinguished driving forces demonstrate similar effect on inward FDI attraction in developed and LDC; i.e. if consistent patterns can be traced.

We formulate the following hypotheses:

Hypothesis 1. *Low tax burden in the country attracts more FDI.* Indicator of tax burden is calculated as ratio of total taxes and GDP, expressed in percentage terms. Regression analysis results are presented in Table 1.

Table 1. Regression analysis results between FDI and Total Taxes and GDP ratio in % (years 2000-2009)

	Observations	R^2	R^2_{adj}	*F*	*P-value*	t_{stat}	t_{table}
Austria	10	0,51	0,45	8,39	0,02	-2,90	2,26
Belgium	10	0,64	0,60	14,48	0,01	-3,80	2,26
Bulgaria	10	0,01	-0,11	0,11	0,75	0,33	2,26
Estonia	10	0,36	0,28	4,54	0,07	2,13	2,26
Hungary	10	0,21	0,11	2,07	0,19	1,44	2,26
Latvia	10	0,00	-0,12	0,004	0,95	0,06	2,26
Lithuania	10	0,23	0,13	2,33	0,17	1,53	2,26
Netherlands	10	0,00	-0,12	0,008	0,93	-0,09	2,26
Romania	10	0,07	-0,04	0,62	0,45	-0,79	2,26
Slovakia	10	0,92	0,91	89,34	1,29	-9,45	2,26
Slovenia	10	0,10	-0,01	0,93	0,36	-0,97	2,26

In order to interpret the obtained results economically, we should provide the countries' characteristic in terms of level of tax burden. Hence, less developed countries (in our analysis Bulgaria, Hungary, Latvia, Lithuania and Romania) have lower tax burden compared to more developed countries. According advocates for lowering taxes in order to attract capital of foreign origin it would mean that those countries should display strong relationships between tax burden and inward FDI. Our sample of countries and the period during which the relationship is being investigated does not verify the statement. It means, the hypothesis about low tax burden attracting FDI has not been verified. We do not claim, that foreign investors do not take into account tax burden in countries into which investments are being channeled. What we claim is: tax burden does not play a crucial role in making the decision to invest or not to invest. Other factors outperform this important facet of institutional environment. Most likely, opportunities of another character make the heavier impact on choosing capital destination. This finding we consider as very important, since many countries, especially in the earlier stages of their development emphasize necessity of tax burden relieving, since there is rather strong believe among academicians, practitioners and politicians that diminished taxes would attract FDI. As we see, evidences about such relationship are lacking.

Developed countries (Austria, Belgium, Estonia, Netherlands, Slovakia and Slovenia in our case) have the higher tax burden compared to LDC. Obtained results of performed analysis indicate that higher tax burden does not hinder inflow of FDI: it appears that the highest coefficients of correlation have two developed heavily taxed countries – Austria and Belgium, and one developed moderately taxed country- Slovakia. To conclude, findings suggest, that lowering of tax burdens having purpose to attract FDI is not reasonable nor in developed nether in LDC.

Hypothesis 2. *Countries with more favorable institutional environment attract more FDI.*

In order to test this hypothesis we will employ two variables typically characterizing institutional performance: The Corruption Perceptions Index and The Index of Economic freedom. Regression analysis results are presented in Table 2 and Table 3.

Table 2. Regression analysis results between FDI and The World Corruption Index (years 2000-2010)

	Observations	R^2	R^2_{adj}	*F*	*P-value*	t_{stat}	t_{table}
Austria	11	0,03	-0,08	0,29	0,60	0,54	2,23
Belgium	11	0,06	-0,05	0,56	0,47	0,75	2,23
Bulgaria	11	0,07	-0,03	0,72	0,42	-0,85	2,23
Estonia	11	0,83	0,81	42,49	1,09	6,52	2,23
Hungary	11	0,38	-0,11	0,02	0,89	-0,15	2,23
Latvia	11	0,79	0,77	33,85	2,54	5,82	2,23
Lithuania	11	0,26	0,18	3,21	0,11	1,79	2,23
Netherlands	11	0,01	-0,10	0,08	0,79	0,27	2,23
Romania	11	0,94	0,93	136,94	9,54	11,70	2,23
Slovakia	11	0,74	0,72	26,22	6,30	5,12	2,23
Slovenia	11	0,83	0,81	43,17	1,03	6,57	2,23

Interpretation of obtained results requires an overview of prevailing opinions about this classical interrelation between corruption level and FDI. Almost unanimous belief exists that higher transparency leads to higher investments, especially from abroad. In our case, we get that in some countries, which are characterized by relatively high corruption index (e.g. Romania and Latvia) relationship between FDI and institutional environment is positive, but not negative, as expected. Recall, that expectations were expressed in hypothesis raised. Hence, despite expectation was that not transparent institutional environment and FDI flows had to display negative interrelation, we had not receive statistical evidences for supporting that expectation.

Again, we do not advocate for neglecting corruption. We claim that globalization drivers in contemporary world are rather different and outperform classical factors, captured by formal statistics.

Table 3. Regression analysis results between FDI and The Index of Economic Freedom (years 2000-2010)

	Observations	R^2	R^2_{adj}	*F*	*P-value*	t_{stat}	t_{table}
Austria	11	0,81	0,79	38,32	1,61	6,19	2,23
Belgium	11	0,39	0,33	5,87	0,04	2,42	2,23
Bulgaria	11	0,56	0,51	11,43	0,01	3,38	2,23
Estonia	11	0,12	0,02	1,21	0,30	1,10	2,23
Hungary	11	0,23	0,15	2,74	0,13	1,66	2,23
Latvia	11	0,54	0,49	10,49	0,01	3,24	2,23
Lithuania	11	0,50	0,44	8,85	0,02	2,98	2,23
Netherlands	11	0,61	0,57	14,10	4,52	3,75	2,23
Romania	11	0,95	0,95	180,09	2,95	13,42	2,23
Slovakia	11	0,81	0,79	38,14	1,64	3,18	2,23
Slovenia	11	0,33	0,25	4,35	0,07	2,080	2,23

The second, the most important characteristics of institutional environment is economic freedom, formally statistically estimated by composite indicator of The Index of Economic Freedom. We do not go into composition of the index itself, as all indexes, which are composed in one way or another have their advantages and disadvantages. We adopt approach, that this formal and officially used index reflects quality of institutional environment (equally as we admitted that The World Corruption Index reflects lack of quality of institutional environment in separately taken country).

Obtained results indicate, that consistent patterns of some type of relationships in developed countries and LDCs are hardly traceable. We see that both, strong and weak relationships equally can be found in developed and less developed countries, generally characterized by lower economic freedom.

Obtained results are consistent with above provided results, when corruption facet of institutional environment was investigated. Once more we state, that that globalization drivers in contemporary world are rather different and outperform classical factors, captured by formal statistics.

That insight has to be kept in mind when we try to estimate role of institutions. We do not deny importance and impact of institutional performance on globalization processes. Our insight is different: conventional indicators do not capture processes and do not provide straightforward evidences of rather classical hypotheses. More complicated institution performance methodologies have to be discussed and agreed on (Tvaronavičienė, Grybaitė 2012). This is an important area of investigation, which have not provided unanimously agreed answers yet.

Hypothesis 3. *Countries with higher market consumptive capacity are likely to receive larger amounts of FDI.*

For this hypothesis testing the following indicators will be taken: GDP and population size in respective chosen country. Regression analysis results are presented in Table 4 and Table 5.

Table 4. Regression analysis results between FDI and GDP (years 2000-2010)

	Observations	R^2	R^2_{adj}	*F*	*P-value*	t_{stat}	t_{lent}
Austria	11	0,93	0,92	116,91	1,86	10,81	2,23
Belgium	11	0,60	0,56	13,55	0,01	3,68	2,23
Bulgaria	11	0,96	0,96	236,02	9,16	15,36	2,23
Estonia	11	0,95	0,94	167,22	4,06	12,93	2,23
Hungary	11	0,91	0,90	91,77	5,11	9,58	2,23
Latvia	11	0,91	0,90	158,75	5,08	12,60	2,23
Lithuania	11	0,92	0,91	97,05	4,05	9,85	2,23
Netherlands	11	0,89	0,88	74,07	1,23	8,61	2,23
Romania	11	0,95	0,94	166,71	4,12	12,91	2,23
Slovakia	11	0,99	0,99	717,39	6,82	26,78	2,23
Slovenia	11	0,96	0,96	223,40	1,16	14,95	2,23

Table 5. Regression analysis results between FDI and population size (years 1995-2010)

	Observations	R^2	R^2_{adj}	*F*	*P-value*	t_{stat}	t_{lent}
Austria	16	0,94	0,94	237,74	3,53	15,42	2,16
Belgium	16	0,71	0,69	3,43E	4,19	5,85	2,16
Bulgaria	16	0,75	0,73	40,92	1,66	-6,40	2,16
Estonia	16	0,65	0,62	25,47	1,78	-5,05	2,16
Hungary	16	0,93	0,92	183,19	1,97	-13,53	2,16
Latvia	16	0,79	0,77	52,18	4,40	-7,22	2,16
Lithuania	16	0,86	0,85	83,93	2,73	-9,16	2,16
Netherlands	16	0,92	0,91	161,57	4,45	12,71	2,16
Romania	16	0,77	0,75	47,02	7,85	-6,86	2,16
Slovakia	16	0,85	0,84	81,67	3,22	9,04	2,16
Slovenia	16	0,90	0,90	129,86	1,81	11,40	2,16

The third hypothesis about interrelation of FDI and consumptive capacity of country was verified for all analyzed countries irrespective of their level of development. Economic interpretation of obtained results could be the following. Economic growth and increase in consumption capacity, caused by both, increase in earnings or increase in population is followed by capital movement. Globalization processes are very closely related to consumptive capacity in developed and less developed countries. The third hypothesis raised has been verified. We expect the tendency to by sustainable in long-term range.

Before final summary of the results, which will be provided below, we wanted to clarify an extent of the input of the insights into economic science and outline directions of the further research in the area of globalization drivers and prospects in separately taken countries.

Hence, this paper is devoted to elaboration of globalization processes, which are expressed in form of inward FDI. Besides outward FDI, foreign trade and, particularly, export extends globalization and supports sustainable development of each individually taken country (Lapinskienė, Tvaronavičienė 2009). It has to be pointed that a couple of decades ago globalization issues were seen in export-import processes. As relevant example of that approach Kobrin (1991) globalization index (GI) can be provided:

$GI = 1 - [\,|X\,it - M\,it\,|\,] / (X\,it + M\,it)$,

where GI – globalization (global integration) index, branch of economics, t-year;

$X\,it$ – export; $M\,it$ – import;

$|X\,it - M\,it\,|$ - absolute difference between export and import

Kobrin GI value can be between 0 and 1. Value, which is equal to 0 means that products within considered sector is purely imported or purely imported, and value added is created just in one country. If globalization index (Kobrin GI) is equal to 1, it means, that economy's sector's import is equal to its import. Intensive exchange among different countries reflects level of international integration, or level of globalization. Hence, exploration of countries' abilities to export has to be taken into account when globalization processes are under elaboration. Here inevitably another, very much related and important strand of research related to globalization pace and mode has to be devoted to analysis of economic structures, i.e. identification which economic areas, i.e., branches of industry, services or agriculture are to be globalized in broader scope, and which would produce for inward consumption. Hence structural analysis of economics, evaluation of potential international competiveness of separate branches of economics has to be undertaken.

As it was mentioned above aim of this paper is to focus on other drivers of globalization: we consider inward FDI, what from economic point of view is treated as nearest alternative to export-import activities (FDI origin country outward FDI is export alternative).

Since globalization processes inevitably will expand in short, and especially long-term, all globalization forms and driving forces have to be considered.

3. Conclusions about obtained results and insights about consistent patterns

Globalization process is seen through different economic processes, one of which is movement of capital and goods processes. Hence, globalization can be analyzed through lenses of movement of foreign direct investments (inward or outward) or trade activity (import and export). In this paper we target inflow of capital of foreign origin into selected, i.e. concentrate on processes of movement of inward FDI. Different countries attract rather different quantities of foreign capital inflows. Economic consequences of that attraction can be positive and, in some cases negative. In this paper we make an assumption that positive effects prevail, hence consider inward FDI as desirable from host countries economic development point. We raise hypotheses about inward FDI driving forces and test them by adopting classical statistical analysis method, in our case is regression analysis.

The first hypothesis about interrelation of low tax burden and inflow of FDI has not been verified.

The less developed countries (in our case Bulgaria, Hungary, Latvia, Lithuania and Romania) have the lower tax burden if to compare to developed countries (in our case Austria, Belgium, Estonia, Netherlands, Slovakia and Slovenia). It appeared that the highest coefficients of correlation have two developed heavily taxed countries – Austria and Belgium, and one developed moderately taxed country- Slovakia.

It means that inward FDI are insensitive to lowering of tax burden. In its turn, findings suggest, that lowering of tax burdens having purpose to attract FDI is not reasonable nor in developed nether in LDC.

The second hypothesis about impact of favorable institutional environment was verified for two developed countries: Slovenia and Slovakia. It appeared that LDCs with relatively high corruption indexes (Romania, Latvia, and Estonia) attract FDI more than developed countries with low corruption indexes.

Interpretation of obtained results might be as follows: LDC attract is being globalized irrespective of their corruption index; i.e. other factors than good institutional performance attract foreign capital inflows.

On the contrary, index of economic freedom appears to be significant driver of globalization, especially in LDC (cases of Romania and Slovenia verifies the hypothesis). For developed countries index of economic freedom is of less importance in the field of FDI inflows.

The third hypothesis about interrelation of FDI and consumptive capacity of country was verified for all analyzed countries irrespective of their level of development.

To generalize, conventional globalization drivers, such as low tax burden, transparent and favorable institutional performance are not necessarily efficient

drivers for LEC globalization. It seems that inward FDI are stipulated by more by market niches and unexploited opportunities rather than conventional factors of FDI. That conclusion we believe is valid for LDC located in the EU.

As concerns developed European countries, their globalization is conditioned by market consumptive capacity, mainly. Here we need to recall, that foreign trade, which is very significant globalizing process in this paper has not been elaborated. All insight provided above relates globalization through movement capital, but not goods or services. Inward FDI is seen as positive factor of globalization and economic development of host countries, which are attracted according specific consistent patterns partly revealed in this paper.

Literature:

Adekola, A.; Korsakienė, R.; Tvaronavičienė, M. 2008. Approach to innovative activities by Lithuanian companies in the current conditions of development, Technological and economic development of economy 14(4): 595-612. ISSN 1392-8619.

Baldwin, R., Martin, P. (1999). *Two waves of globalization: Superficial similarities and fundamental differences, in H. Siebert (ed.).* Globalization and Labour, J.C.B. Mohr for Kiel Institute of World Economics, Chapter 1, pp. 3-59, Tubingen.

Dunning, J.H. (1997). Alliance Capitalism and Global Business, London and New York: Routledge.

OECD. 2008. Tax Effects on Foreign Direct Investment.

Grybaitė, V.; Tvaronavičienė, M. 2008. Estimation of sustainable development: germination on institutional level, *Journal of Business Economics and Management* (9)4: 327-335. ISSN 1611-1699.

Kobrin, S. J. 1991. An Empirical Analysis of the Determinants of Global Integration, *Strategic Management Journal* (12)1. Chicago: Wiley-Blackwell.

Lankauskienė, T., Tvaronavičienė, M. 2011. Interrelation of countries‘ development level and foreign direct investment performance, *Journal of Business Economics and Management* 12(3): 546-565. doi:10.3846/16111699.2011.599412

Lapinskienė, G.; Tvaronavičienė, M. 2009. Sustainable development across Central and Eastern Europe: key factors driving the economic growth of the countries. Verslas: teorija ir praktika 10(3): 204-2013. doi: 10.3846/1648-0627.2009.10.204-213

Lankauskienė, T.; Tvaronavičienė, M. 2012. Security and sustainable development approaches and dimensions in the globalization context, *Journal of Security and Sustainability Issues* 1(4): 287-297.

Sahoo, P. 2006. Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants, ADB Institute Discussion paper No. 56.

Tvaronavičienė, M.; Grybaitė, V. 2012. Sustainable development and performance of institutions: approaches towards measurement, *Journal of Security and Sustainability Issues* 1(3): 167-175.

Tvaronavičienė, M.; Grybaitė, V. 2007. Impact of FDI on Lithuanian economy: insight into development of main economic activities, *Journal of Business Economics and Management* 8(3): 285-290. ISSN 1611-1699.

Tvaronavičienė, M.; Grybaitė, V.; Korsakienė, R. 2008. Foreign capital destinations: Baltic States versus India, *Journal of Business Economics and Management* (9)3: 227-235. ISSN 1611-1699.

Tvaronavičiene, M.; Grybaite,V.; Tvaronavičiene, A. 2009. If Institutional Performance Matters: Development Comparisons of Lithuania, Latvia and Estonia, *Journal of Business Economics and Management* 10(3): 271 – 278. ISSN 1611-1699.

Tvaronavičienė, M., Kalašinskaitė K. 2010. Whether globalization in form of FDI enhances national wealth: empirical evidence from Lithuania, *Journal of Business Economics and Management* 11(1): 3-18. ISSN 1611-1699.

Tvaronavičius, V.; Tvaronavičienė, M. 2012. Innovations, Fixed Investment and Economic Growth: the EU context. Monography, *edited by Evelyn Wamboye, Pennsylvania State University*, LAP LAMBERT Academic Publishing, Germany, p.324. ISBN 978-3-659-00122-2.