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SHOULD CONSISTENT PATTERNS BE TRACED: IMPACT OF GLOBALIZATION ON CERTAIN SUSTAINABLE DEVELOPMENT FACETS

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Abstract. *The aim of this article is to formulate hypotheses about interrelations of selected globalization and sustainable development indicators of differently developed countries. The concept of globalization and sustainable development and their aspects, are presented. After a review of relevant scientific literature, a special approach has been adopted, which has given rise to hypotheses about the impact of foreign direct investments on those two phenomena. Authors elaborate questions related to FDI performance peculiarities, which differ in developed and developing countries. In order to trace consistent patterns of FDI impact on specific aspects of sustainability during the process of development, countries have been attributed to respective groups according to their level of development. A set of sustainable development indicators has been selected according provided sustainable development aspects for the formulation of certain hypotheses. The following indicators are considered: GDP, exports, life expectancy at birth, primary school pupils, infant mortality, internet users, and residential consumption of electricity. Performed research enables verification of formulated hypotheses and discloses if consistent patterns of sustainable development could be traced as a result of countries' globalization through inflows of foreign direct investments.*

Keywords: *globalization, sustainable development, sustainable development indicators, foreign direct investments (FDI); gross domestic product (GDP); developed, developing and underdeveloped countries.*

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Introduction

Globalization is an important phenomenon within contemporary business and public environment. It has resulted in significant changes to individual countries in terms of economic development. Globalization refers to the integration of local and international economies into a globally unified political, economic, cultural order and is not a singular phenomenon. It also embraces freer movement of trade, investment, labour and capital. The process of globalization spurred economic growth globally.[1]

The concept of sustainable development is an alternative to globalization and is the most popular concept of economic development today. Two immediate aims are related in this concept: to ensure proper, safe and good life for all people (this is the aim of development), and to live and work according to the biophysical boundaries of the environment (this is the aim of sustainability). The above-mentioned aims may seem contradictory, but still they can be achieved simultaneously.[2] Moreover, an ethical necessity emerges: to ensure the same opportunities for future generations, which have been used by earlier generations. The ethical necessity with the scientific base is regarded to be the normative frame for sustainable development. It allows perception of sustainable development ethics as a new ethics.[3]

The inflows of foreign direct investments (FDI) had been increasing during the last three decades. Moreover, the issue of their performance gained more popularity.[4] There are many attitudes towards performance of foreign direct investments and their determinants.[5] After review of relevant scientific literature it has been noticed, that FDI are of vital importance for globalization and sustainable development phenomena,

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1 Sliburyte, L.; Masteikiene, M. Impacts of globalization on Lithuanian economic growth. *Economics and management.* 2010, 15.

2 Ciegis, R., *et al*. Technological and economic development of economy. *Baltic journal of sustainability*. 2008, 14(1): 29–37.

3 *Ibid.*

4 Hansen, H.; Rand, J. On the Causal Links Between FDI and Growth in Developing Countries. *World Economy*. 2006, 29(1): 21–41; Armbruster, W. Foreign investment spurs economic growth. *Shipping Digest*. 2005, 82(4306): 90; Lee, M.; Tcha, M. The Color of Money: The Effects of Foreign Direct Investment on Economic Growth in Transition Economies. *Review of World Economics.* 2004, 140(2): 211–229; Tvaronavicienė, M.; Kalesinskaitė, K. Whether globalization in form of FDI enhances national wealth: empirical evidence from Lithuania. *Journal of Business Economics and Management.* 2010, 11(1): 3–18; Tarzi, S. Foreign Direct Investment Flows into Developing Countries: Impact of Location and Government Policy. *Preview Journal of Social, Political & Economic Studies.* 2005, 30(4): 497–515.

5 Bedell, D. The Investment Magnet. *Global Finance.* 2005, 19(9): 91–94; Head, T. C.; Sorensen Jr., P. F. Attracting Foreign Direct Investment: The Potential Role of National Culture. *Journal of American Academy of Business*, *Cambridge.* 2005, 6(1): 305–308; Hoi Ki Ho, D.; Tze Yiu Lau, P. Perspectives on Foreign Direct Investment Location Decisions: What Do We Know and Where Do We Go from Here? *International Tax Journal*. 2007, 33(3): 39–48; Ismail, Ç.; Burak, Ç. *e-Journal of New World Sciences* 2009, 4(3): 3C0015; Jackson, S.; Markowski, S. The attractiveness of countries to foreign direct investors. *Australian Journal of Management*. 1996, 21(2):113–139; Robertson, J. C. Nation-States and the Multi-National Corporation: A Political Economy of Foreign Direct Investment. *Journal of Social, Political & Economic Studies.* 2006, 31(3): 370–371; Tvaronaviciene, M.; Grybaite, V. Impact of FDI on Lithuanian economy: insight into development of main economic activities. *Journal of Business Economics and Management.* 2007, 8(3): 285–290.

furthermore, their impact differ in differently developed countries. The aim of this article is to formulate and verify hypotheses about globalization impact on certain sustainable development indicators through inflows of FDI in differently developed countries.

1. Globalization Process

1.1. Globalization Concept Description

Globalization is considered to be a harsh challenge to the national countries' cultural identity and economy. Moreover, it creates new challenges to diverse cultures, nations and societies. The economy is becoming more integrated worldwide during the process of globalization. This sudden change has already become a precondition for liberalization of capital flows and the acceptance of an open trade policy. As a result of this phenomenon comes increased international competition and an accelerated shift from national to global markets. If a country allows free flow of capital, liberalizes trade, facilitates conditions of migration, then it accepts the possibility of being inside the process and enjoys the fruit of economic and technological progress. This leads to the idea that a country's wealth directly depends on the state of sustainable development and participation in international economic relations. The ability of local producers to compete and find a niche in the world market, the conformity of national laws in the international level, stimulates faster integration and sustainable development. Furthermore, the openness, competitiveness and ecological ethics are crucial components for successful and harmonious integration into the world economy.[6]

Globalization is an inevitable process that embraces practically every field in today's life. This process, which is driven by rapid and largely unrestricted flows of information, goods, ideas, cultural values, capital, services and people leads to the more integrated world economy creating common wealth worldwide.[7]

1.2. Dimensions of Globalization

Globalization is an enormously wide concept. For this reason, in relevant scientific literature, it is usually divided into the following dimensions provided in some literature sources: psychological, industrial, financial, informational, political, economic, technical, competitive cultural/social, ecological, legal/ethical, English language.[8]

There are different kinds of discussions about accelerators of globalization. Dreher and others (2007) propose the three main drivers that are of vital importance to the process of globalization:

– the liberalization of capital movements and deregulation of financial services;

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6 Ciegis, R. *et al., supra* note 2.

7 Sliburyte, L.; Masteikiene, M., *supra* note 1.

8 *Ibid.*

- the further opening of markets to trade and investment, spurring the growth of competition;
- the pivotal role played by information and communication technologies (ICT) in the economy.

Hence, globalization is a very important phenomenon in business and public environment.[9] It embraces the freer movement of trade, investment, labour and capital.[10]

1.3. Advantages and Disadvantages of Globalization

There are many different attitudes towards the globalization process and its benevolence. People who consider globalization to be a positive phenomenon state that it enhances economic prosperity and leads to more efficient allocation of resources. As a result of this come higher rates of employment, output, standard of living and lower prices. Some proponents indicate the result of outsourcing and off-shoring, which benefit more developed than less developed country manufacturing sectors.

The main advantages of globalization could be indicated: highly increased rates of trade and inflows of foreign direct investments (that result in rapid economic growth), increased flow of communications (that allow the information of vital importance to be easily shared between individuals and corporations), greater ease and speed of transportation for goods and people.

The main drawback of globalization could be named as increased likelihood of economic disruptions in one nation together affecting other nations, and greater risks of diseases being transported unintentionally between nations. There are some "soft factors" as well, i.e. greater chances of reactions for globalization being violent in an attempt to preserve cultural heritage, spread of a materialistic lifestyle and an attitude that sees consumption as the path to prosperity.[11]

In this particular research we will concentrate on the positive globalization impacts, i.e we will consider globalization as a beneficial phenomenon for humanity.

1.4. Scientists Approach towards Globalization

An uncountable number of definitions about the concept of globalization can be found in relevant scientific literature. Most scientists refer to globalization as an increasing integration of the world's economies and societies, overstepping the boundaries of separate countries through international trade, flow of capital, goods and investment, ideas and people, transfer of culture, diffusion of technology and information. One of the patterns for the phenomenon of globalization to take action and elaborate worldwide is considered to be foreign direct investments.

Suttclife (2001) in his World System Theory defines globalization as:

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9 Gronskas, H. Y.; Streimekiene, D., *et al*. Economy, anti-economy and globalization. *Transformations in business & Economics*. 2008, 7(2): 166–168.

10 Sliburyte, L.; Masteikiene, M., *supra* note 1.

11 *Ibid*.

- the process of creating a more interconnected world;
- the process of making the world economy dominated by capitalist models;
- the process whereby an increased portion of economic or other activities is carried out across national borders.

Croucher (2004) defines globalization as a combination of economic, technological, socio-cultural and political forces. Podobnik (2008) states that globalization refers in general to the worldwide integration of humanity and the compression of both the temporal and spatial dimensions to the planet-wide human interaction. Friedman (2008) is of the opinion that when trade was globalized, outsourcing supply-chaining and political forces changed the world permanently, for better and for worse. The author states that the pace of globalization is quickening and will continue to grow, impacting business organization and practice. Palmer (2004) defines globalization as "the diminution or elimination of state-enforced restrictions on exchanges across borders and the increasingly integrated and complex global system of production and exchange that has emerged as a result." Globalization is "...a widening, deepening and speeding up of interconnectedness in all aspects of contemporary social life from the cultural to the criminal, from the financial to the spiritual" state scholars Douglas and Wind (2001). Osterhammel J. & Petersson (2005) define globalization as the increasing integration of economies and societies around the world, transcending the boundaries of the nation state, particularly through international trade and the flow of capital, ideas and people, the transfer of culture and technology, and the development of transnational regulations. The scholar Yip (2003) emphasizes an economic meaning of globalization: worldwide economic integration of many national economies into one global economy, mainly through free trade and free movement of capital and uncontrolled migration. Ciegis and others (2008) identify globalization as a trend increasing the flow of goods, services, money, and ideas across national borders and subsequently integrating the global economy. To summarize, globalization is an increasing integration of the world's economies and societies, transcending the boundaries of separate countries through international trade and the flow of capital, ideas and people, the transferring of culture and technology, creating and developing transnational regulations.

From the above-mentioned statements referring to scientists' approaches we can notice the same idea that the free flow of trade, capital, labour and investments is the crucial component for the globalization process to expand and elaborate. The hypothesis can be stated as follows: we hypothesize that foreign direct investments are one of key factors for globalization phenomenon.

1.5. Globalization Alternative – Sustainable Development

Three alternative strategies concerning the development of humanity could be distinguished: anti-globalism, alter-globalism and sustainable development. The above mentioned concepts have been created in opposition to the globalization processes. Anti-globalism is presented as a criticism of globalization, while alter-globalism indicates the importance of social sensibility towards globalization processes and sustainable development reveals that a profound reconstruction of present economic and political structures is needed. However, all of the above-mentioned trends share a common purpose for benevolence of humanity.[12]

While anti globalism and alter globalism are movements that contest globalization, the most theoretically serious alternative to globalization is the idea of sustainable development, formulated in the late 1980s. In most general terms, sustainable development is a type of socio-economic development that is purposed to meet the needs of the present society without compromising the needs of future generations.

Initially, the definition of the idea of sustainable development was accepted during the UN Earth Summit conference in Rio de Janeiro in 1992. It accentuated first of all counteraction against the ecological crisis (largely arisen as a result of economic globalization). The most essential constituent of it is the demand for a harmonious, closely interrelated and balanced combination of three basic areas of the social world: economic development, social progress and relations with the natural environment. The implementation of the idea of sustainable development (particular objectives) focuses on the following elements: economic growth (combating poverty through fair income distribution on a world scale), environmental protection (reduction of the excessive use of non-renewable resources, reduction of emission of harmful substances into the atmosphere), and implementation of new technologies (in order to diminish environmental degradation).

Sustainability is the normative ethical principle for further development of society, speaking not about what the society is, but about what it should be. Morality is becoming the crucial factor for the community of people.[13]

Sustainable development is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only for the present, but also for future generations. The Brundtland Commission defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."[14]

From the above-mentioned statements the following presumption can be made: the concept of sustainable development is a proposal offering a vision of a social world arising from globalization processes.

2. Foreign Direct Investments Role for Sustainable Development

Every country has its own level of development which is best characterized by development indicators for countries. Furthermore, every nation tries to put all efforts in order to reach maximum results and improve its developmental level, because all human well-being depends on this.

12 Gawor, L. Globalization and its alternatives: anti globalism, alter globalism and the idea of sustainable development. *Sustainable development.* 2008, I6: 126–134.

13 Ciegis, R., *et al., supra* note 2.

14 Anagnoste, S.; Agoston, S. Sustainable development in the global economy. *Economic science series.* 2009.

Foreign direct investments more or less contribute to a country's development.[15] Foreign Direct Investment (FDI) addresses an investment in one economy by a multinational or transnational corporation based in another. It involves a long-term relationship and either a full or partial managerial control of real assets, production facilities, and real estate or an equity investment exceeding 10% of market funds of the firm. FDI includes all funds provided by an investor, either directly or through an affiliate, a large part of these inflows comprise retained profits. It also includes low interest rate loans provided by parent enterprises, which are usually rolled over, thereby forming a part of the affiliate's funds base. Another form of FDI is long-term trade credits. In rare cases, inward investment involves licensing or management/subcontracting arrangements involving no equity participation.

Following the United Nations document, private international funds flows, and, particularly, foreign direct investments are vital complements to national and international development efforts. Foreign direct investments contribute toward financing sustained economic growth over the long term. It is especially important because of its potential to transfer knowledge and technology, create jobs, boost overall productivity, enhance competitiveness and entrepreneurship, and ultimately eradicate poverty through economic growth and development.

From the above presented statements the presumption could be made: we hypothesize that foreign direct investments are one of the key factors for sustainable development phenomenon.

It was presumed above that foreign direct investments are one of the key factors for the globalization process. Hence, the following logical generalization could be stated: we hypothesize that foreign direct investments are one of key factors for globalization and sustainable development phenomena.

Analysis of foreign direct investment flows confirms that international investors firstly seek growth opportunities. Practice shows that foreign direct investments mostly go where there is growth. Maximum foreign direct investments flow between developed, high-income countries. Investments in developing countries are implemented for big market, cheap labour force or cheap resources. But in poor countries, even for those motives, foreign investors are not investing. They concentrate in middle income countries with good infrastructure and a qualified labour force.[16]

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15 Tvaronaviciene, M.; Lankauskiene, T. Plausible foreign direct investment impact on sustainable development Indicators of differently developed countries. *Journal of Security and Sustainability Issues*. 2011, 1(1): 25–36; Tvaronavičienė, M.; Kalasinskaitė, K., *supra* note 4; Changwen, Z.; Jiang, D. Causality Between FDI and Economic Growth in China. *Chinese Economy*. 2007, 40(6): 68-82; Hermes, N.; Lensink, R. Foreign Direct Investment, Economic Development and Economic Growth. *Journal of Development Studies*. 2003, 40(1): 142–163; Jensen, C. Foreign Direct Investment and economic transition: Panacea or pain killer? *Europe-Asia Studies*. 2006, 58(6): 881–902; Lall, S.; Bora, B. Part III: Analytical and policy issues: FDI and development. *Foreign Direct Investment*. 2002, p. 325–345; Sumner, A. Is foreign direct investment good for the poor? A review and stocktake. *Development in Practice*. 2005, 15(3/4): 269–285; Sylwester, K. Foreign direct investment, growth and income inequality in less developed countries. *Preview*, *International Review of Applied Economics*. 2005, 19(3): 289–300.

16 Dunning, J. H. *The Globalization of Business*. London: Routledge, 1993.

In order to formulate certain hypotheses about the impact of foreign direct investments on certain globalization and sustainable development indicators, the peculiarities of FDI performance will be presented from relevant scientific literature. We have noticed an indication in relevant scientific literature that differently developed countries have different foreign direct investment attraction perspectives. For this reason we will try to observe foreign direct investment performance peculiarities through a developmental prism. We will overview the impact of foreign direct investments on various facets in differently developed countries.

2.3. The Impact of Foreign Direct Investments on Various Facets in Developed, Developing and Underdeveloped Countries

Most of all our analyzed outlined the positive points of foreign direct investments in developed countries.

According to Ashegrian and Parviz, foreign direct investment growth had a significant impact on the United States' economic growth. Additionally, foreign direct investments had a significant impact on the total factor of productivity in the United States, further contributing to U.S. economic growth.[17]

Foreign direct investments in the southeastern U.S. have been a key contributor to the region's economic growth and international trade. Ray Owens, an economist with the Federal Reserve Bank of Richmond, VA, said that the Southeast has received a disproportionate amount of total foreign investment in the U.S. relative to its size because of relatively low land and labor costs, the low proportion of unionized labor and business-friendly state and local governments are what lead to beneficial subsequences of FDI.[18]

The large inflows of FDI allowed the rapid privatization of state-owned enterprises in Hungary. Furthermore, foreign direct investments ensured the reorientation of the Hungarian economy from a centrally planned economy characterized by labour intensive agriculture and heavy industry, to a funds-intensive export economy specializing in high technology manufacturing products. This has enabled a more stable economic growth process with high productivity levels and lower levels of unemployment in Hungary than its regional neighbours.

A research "Determinants of foreign direct investment in Spain" also clearly indicates the positive influence of foreign direct investment inflow in Spain. The results provide evidence that economic policy in Spain is orientated towards attracting FDI focusing on boosting labour productivity, education, research, innovation and technology.[19]

Differently from developed countries, FDI has a controversial impact on developing and underdeveloped countries; this approach has been accepted after a review of relevant

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17 Asheghian, P. Determinants of economic growth in the USA: The Role of Foreign Direct Investment. *International Trade Journal*. 2004, 18(1): 63–83.

18 Armbruster, W., *supra* note 4.

19 Rodriguez, X. A.; Pallas, J. Determinants of foreign direct investment in Spain. *Applied Economics*. 2008, 40(19): 2443–2450.

scientific literature. On the whole it is considered that most developing countries and governments tend to attract FDI because of the emphasis on the positive aspects of FDI.

The assets that FDI comprises are:

a) *Funds*. FDI brings financial resources to countries. The inflows are more stable and easier to service than commercial debt or portfolio investment.
b) *Technology*. Developing countries tend to lag behind in the application of technology. Many technologies are old or may be outdated. More importantly, the efficiency of technologies used in these countries are often relatively low. Even if a part of their productivity gap is compensated for by lower wages, technical inefficiency and obsolescence affect the quality of their products and limit their ability to compete in international markets. FDI can bring modern technologies and raise their efficiency. They adapt technologies to local conditions, drawing on their experience in other developing countries.
c) *Skills and management*. FDI can transfer experts to host countries and set up training facilities (the need for training is often not recognized by local firms). They also possess new, presumably best, management techniques, whose transfer to host countries offers enormous competitive benefits.
d) *Market access*. FDI can provide access to export markets, both for existing activities and for new activities.
e) *Environment*. FDI often possess advanced environmental technologies. They can be used in all countries in which they operate.[20]

It is respected that conditions of the host country may be improved by the influence of FDI. Better education and training would add to the qualified labour supply in developing countries and improve prospects to benefit from technology transfers and spillovers. More sophisticated local financial markets enhance the capacity of host countries to absorb FDI inflows.[21]

The effect of FDI on economic growth is positive and statistically significant in transition economies in Europe. The results indicate that the entry of foreign banks in the banking market of Bosnia and Herzegovina has caused an increased level of competition on the supply side of financial services. Moreover, the quality of services offered to clients has increased as well. There is a long-run relationship between FDI and quality of institutions and the causality is bidirectional.[22]

Furthermore, foreign direct investments affect Lithuanian economic growth, a strong positive relationship between FDI inflows and GDP growth exists.[23]

In research "FDI, openness and income" it is stated that income and FDI are positively correlated, and the positive correlation is robust in developing countries.

20 Lall, S.; Bora, B., *supra* note 15.

21 Nunnenkamp, P. To What Extent Can Foreign Direct Investment Help Achieve International Development Goals? *World Economy*. 2004, 27(5): 657–677.

22 Hea-Jung Hyun. Quality of institutions and foreign direct investment in developing countries: causality tests for cross- country panels. *Journal of Business Economics & Management*. 2006, 7(3): 103–110.

23 Tvaronaviciene, M.; Grybaite, V., *supra* note 5.

Overall, the evidence tends to suggest a potentially important role of FDI in a country's living standards augmentation.[24]

FDI played an important role in leading Chinese export growth.[25] Conversely, in another article it is stated that the development of China's economy attracts FDI, demonstrates the validity of "the market-size hypothesis" and indicates that output and its growth are determinants of FDI; that FDI does not have an obvious booster effect on the development of China's economy means that previous research has overestimated the positive effect of FDI on economic growth.[26]

As we perceive some inadequacies, different opinions arise in scientific articles while talking about the same country and the same issue, but during different periods of time.

It is generally stated that FDI minimize the level of poverty. But contrary to other literature sources it is stated that the poverty-alleviating effects of FDI may also be limited because FDI benefits more skilled workers in developing countries, and worsens the relative income position of the poor.[27] Therefore, the idea proves that if FDI seems to be beneficial in one country does not mean that it will be beneficial in another country as well.

For FDI to help achieve the international development goals of reducing absolute poverty and raising average incomes, two conditions have to be met. First, developing countries need to be attractive to foreign investors. Second, the host-country environment in which foreign investors operate must be conducive to favorable FDI effects with regard to overall investment, economic spillovers and income growth. To a certain extent, these two requirements involve similar policy challenges for developing countries. The driving forces of FDI include the development of local markets and institutions, an investment-friendly policy and administrative framework, as well as the availability of complementary factors of production. The discussion in the previous sections provided various indications that these factors would also help to ensure favorable effects of FDI in the host countries.[28]

Estonia's case could be regarded as an example for many developing countries in order to have a beneficial impact of FDI. In Estonia there have been proposed many potential problems related with FDI, such as the possible withdrawal of investments, uneven regional development, fiscal and balance of payments deficits, cultural conflicts, and increased unemployment. Moreover, the negative side also represents the following ideas: there is no guarantee that investors will transfer the necessary technology and knowledge and increase the competitiveness of the affiliates. Moreover, local enterprises

24 Ting, G. FDI, openness and income. *Journal of International Trade & Economic Development.* 2004, 13(3): 305–323.

25 Haishun, S. Impact of FDI on the foreign trade of China. *Journal of the Asia Pacific Economy.* 1999, 4(2): 317.

26 Changwen, Z.; Jiang D., *supra* note 15.

27 Nunnenkamp, P. How to improve developmental impact of FDI: a review. *Review of World Economics.* 2004, 140(3): 526–534.

28 *Ibid.*

can suffer damaged: their dependence on the foreign owner can grow, considerably reducing their rights and freedom in solution making. Furthermore, they can be forced to produce less profitable goods, stop exporting to certain countries, or end relationships with former buyers and suppliers. Their innovativeness and competitive advantage can decrease and their image could worsen. It could be stated that Estonia's foreign direct investment needs must be carefully considered. For example, a cheap labor force and low production costs are attractive for investments with low added value. Nevertheless, even advertising the country's favorable economic conditions, liberal economic policy, and low taxes can be insufficient. One of the solutions stated is that Estonia should invest more in infrastructure, education, and research and development (R&D), give potential investors more information about local business possibilities, and improve its image. Moreover, it should create clusters that involve both domestic and foreign-owned enterprises, improve the monitoring of large investors' backgrounds, and be more selective in attracting them, considering the potential long term implications of proposed investments. Only then can it attract FDI that brings along modern technology, knowledge, and skills, and, as a result, increase its exports. Although companies can lose from foreign direct investment inflows, this does not mean that they should avoid involving foreign partners at any cost. If they can gain in terms of knowledge, market access, or new technologies, then foreign ownership might be reasonable. At the same time, they have to take into account all the negative effects and select investors carefully. It is also important to communicate with foreign owners frequently, learn as much as possible from them, and try to increase freedom mainly in decision making. Then, the positive impacts of FDI should dominate.[29] Estonia's case could be regarded as an example for many developing countries in order to have a beneficial impact of FDI. As we perceive, more friction arises about the positive impact of FDI when talking about developing countries.

Literature and empirical studies indicate that productivity spillovers from FDI in developing countries are generally not significant, and are less than in the developed countries. This is due to the lack of competition, the weak capabilities of local firms, as well as the weakness of human funds in the developing countries.[30]

The rules created in the developed economies cannot be efficiently applied in the developing countries. Embodied in the process of globalization, many of these countries have therefore been lagging behind the more developed countries. Aiming to change such a trend, from the standpoint of the countries in transition, each of these countries should be allowed to create its own country-specific development strategy.[31]

Most economists would probably agree that it is not sufficient for developing countries to attract more foreign direct investments. Even for host countries with

29 Vissak, T.; Tõnu, R. The Negative Impact of Foreign Direct Investment on the Estonian Economy. *Problems of Economic Transition*. 2005, 48(2): 43–66.

30 Wu, X. The impact of foreign direct investment on the relative return to skill. *Economics of Transition*. 2001, 9(3): 695.

31 Akhter, S. H. FDI in the developing countries: the openness hypothesis and policy implications. *International Trade Journal*. 1993, 7(6): 655–672.

high attractiveness to FDI, the challenge remains to ensure that FDI fosters economic development, e.g., by inducing technological and managerial spillovers, generating additional employment and income opportunities, and alleviating world-market integration. However, the consensus hardly goes further than this. It continues to be highly controversial what, if anything, host-country governments can and should do to improve the developmental impact of FDI in Third World economies.[32] For poor underdeveloped countries, in particular, it appears much more difficult to derive macroeconomic benefits from FDI than to attract FDI. Consequently, it is mainly in African countries that FDI may have limited effects on economic growth and poverty alleviation.[33]

All the above presented statements of relevant scientific articles propose: FDI generally is regarded mostly to have a positive impact on developed countries. When talking about developing countries more frictions arise about the developmental impact of FDI, proposing even some inadequacies stated in different literature sources. Lastly, talking about the underdeveloped group of countries, scientific articles outline the negative tendencies of FDI on development.

From the above presented statements referring to relevant scientific articles some consistency can be noticed: we presume that foreign direct investments influence differs in developed, developing and underdeveloped countries, i.e. depends on the level of development: developed countries benefit most, developing less and underdeveloped least.

The following research will enable an estimation of how FDI performance peculiarities differ in developed and underdeveloped countries. Moreover, it will enable the measurement of our adopted specific approach: some consistent patterns could be traced about the impact of FDI on certain globalization and sustainable development facets in differently developed countries.

3. Foreign Direct Investments Influence on Sustainable Development Indicators Evaluation Model

In order to raise the following hypotheses, groups of countries have to be attributed to respective groups. For operational and analytical purposes, the World Bank's main criteria for classifying countries are income categories. With reference to the above-mentioned criteria countries will be grouped for further research. High income economies will be ascribed to developed countries; upper-middle-income, lower-middle-income to developing countries, and low income economies to underdeveloped countries (see Appendix 1).[34]

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32 Nunnenkamp, P., *supra* note 27.

33 *Ibid*.

34 World bank database [interactive]. [accessed 19-05-2009]. <www.worldbank.org>.

The effectiveness of FDI policies also depends on whether they are part of a broader strategy to improve the developmental impact of FDI. Critical elements include the development of local complementary factors of production (e.g., education and skills, local suppliers, infrastructure and business services), approach to innovations[35] and institutional performance.[36]

Here an important note has to be made: sustainable development is a complex and differently-treated concept. On the one hand, it is very broad and may be related to the competitiveness of the country,[37] and on the other hand, to adopt a very practical approach, sustainable development is being estimated by a broad array of indicators.[38] We will consider sustainable development in terms of economic viewpoint, as an entity ensuring the elaboration of an environment meeting human needs at present, not reducing human wealth opportunities in the future. It is necessary to maintain the approach that the sustainable indicators reflecting the betterment of humanity should improve. Before we start raising the following hypotheses, indicators of sustainable development, which would be considered in this particular investigation, have to be distinguished. Hence, for our research we selected indicators that are sensitive to the development level of a country and obtain rather differing values in developed, developing and underdeveloped countries. For the selected, below-listed indicators, which in our case would allow the introduction of differences in country development through particular sustainability facets, hypotheses are to be formulated and tested.

Furthermore, the following indicators have been chosen as ones capable of reflecting FDI impact on enhancing well-being in unevenly developed countries: GDP, exports, life expectancy at birth, infant mortality, primary school pupils, internet users, residential consumption of electricity. Moreover, selected indicators are seen as being of vital importance while reflecting the differences between developed and underdeveloped countries and belong to the following dimensions of globalization: economic, social, informational and technical.

Relations will be tested in the following sequence during an indicated period of time (Figure 1).

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35 Tvaronaviciene, M.; Degutis, M. If approach to innovations differs in locally and foreign owned firms: case of Lithuania. *Journal of Business Economics and Management*. 2007, 8(3): 195–203.

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

37 Balkyte, A.; Tvaronaviciene, M. Perception of competitiveness in the context of sustainable development: facets of "Sustainable competitiveness". *Journal of Business Economics and Management.* 2010, 11(2): 341–365.

38 Grybaite, V.; Tvaronaviciene, M. Estimation of sustainable development: germination on institutional level. *Journal of Business Economics and Management*. 2008, 9(4): 327-335; Tvaronaviciene, M.; Lankauskiene, T., *supra* note 17.

In order to adopt the approach presented in Figure 1 towards research of how FDI flows directed into countries of different development level affect selected indicators, representative countries have to be selected. FDI flow into countries, which are to be considered in current research, is reflected in Figure 2.

USA, UK, Finland, Hungary, Spain represent developed countries. Lithuania, Estonia, China, Turkey, Poland represents a group of developing countries. And, respectively, Senegal, Nigeria, Tanzania, Benin, Ghana are grouped to underdeveloped countries.

As the data presented below suggests, USA and UK are recipients of the largest FDI inflows. Then goes China, Spain, Hungary, Poland, and Turkey. To generalize, the recipients of the largest FDI inflows are developed and developing countries. Underdeveloped countries attracted significantly lower flows of FDI.

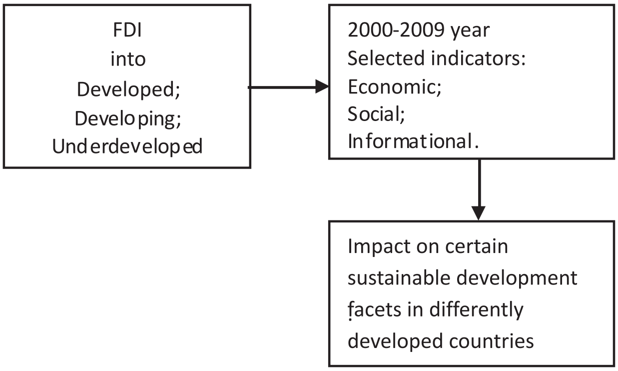

Figure 1. Research sequence

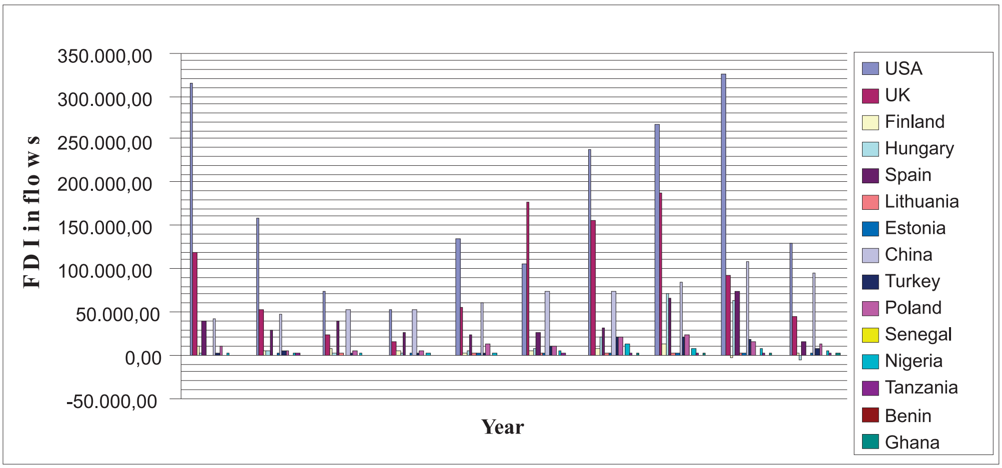

Figure 2. FDI inflows during 2000-2009 year period into countries chosen for the research

4. Assumptions about FDI Impact on Sustainable Development Facets

FDI more or less contribute to developed, developing and underdeveloped countries economic growth.

According to Asheghian, FDI had a significant impact on the United States' economic growth.[39] The positive influence of FDI on growth in Spain has been revealed as well.[40] Moreover, foreign direct investments affect Lithuanian economic growth.[41] The effect of FDI on economic growth in transition economies is positive and statistically significant in Europe.[42] Several other literature sources indicate that growth from FDI in developing countries is generally not significant, and is less than in developed countries.[43] Moreover, the rules created in developed economies cannot be efficiently applied in the developing economies.[44] Next, the scientific article states that FDI does not have an obvious booster effect on the development of China's economy.[45] Eventually, FDI may have limited effects on economic growth and poverty alleviation in underdeveloped countries.[46]

From the above presented affirmations a hypothesis can be raised.

Hypothesis 1: We hypothesize that economic growth generally is mostly perceived as GDP growth. Moreover, impact of FDI on GDP growth differs in developed, developing and underdeveloped countries. Summing up, developed countries benefit most, developing less, and underdeveloped the least.

From our point of view, globalization and sustainable development is being estimated by an array of upgrading indicators. If globalization and sustainable development progressed, sustainable development indicators should revive and enhance the well-being in each group of differently developed countries. Maintaining an adopted approach, other hypotheses will be raised and obtained results will enable revealing the peculiarities of FDI performance in developed, developing and underdeveloped countries.

Exports reflect the competiveness of the country in an international extent and are a constituent of GDP. The bigger inflows of FDI force expansion of labour resources amount and quality, capital amount and quality and can be effective for exports growth. Moreover, most literature sources indicate the FDI's positive impact on export growth,

39 Asheghian, P., *supra* note 17.

40 Rodriguez, X. A.; Pallas, J., *supra* note 19.

41 Tvaronaviciene, M. Investment driving forces affecting Lithuanian economic growth. *Journal of Business Economics & Management.* 2006, 7(2): 69–76.

42 Hannula, H.; Männik, K.; Varblane, U 3. Research method. *University of Tartu - Faculty of Economics & Business Administration Working Paper Series.* 2004, 27: 20–29.

43 Wu, X., *supra* note 30.

44 Akhter, S. H., *supra* note 31.

45 Changwen, Z.; Jiang D., *supra* note 15.

46 Nunnenkamp, P., *supra* note 27.

what can be detected in each of country groups: FDI played an important role in leading Chinese export growth,[47] they contributed to the competiveness of Polish exports.[48]

We assume that FDI have a strong impact on exports growth.

Overall, the evidence tends to suggest a potentially important role of FDI for the benevolence of a country's living standards.[49] A country's living standards will be expressed in terms of life expectancy rates.

We assume that FDI inflows have a beneficial influence on the elongation of life expectancy rates.

The Millennium Development Goals commit the international community to an expanded vision of development, one that vigorously promotes social development as the key to sustaining social and economic progress in all countries, and recognizes the importance of creating a global partnership for development. The goals have been commonly accepted as a framework for measuring development progress.

The second Millennium Development Goal encourages "achieving universal primary education."[50] Under usual circumstances if FDI contribute to welfare of people's living, it should also contribute to the increase in the number of primary school pupils.

We assume that FDI have a beneficial impact on the increase of the number of primary school pupils.

The fourth Millennium Development Goal implies "Reduce child mortality."[51] Under normal circumstances the betterment of living should be expressed in the given way as well.

We assume that FDI inflows have a beneficial impact on fewer occurrences of infant deaths.

Also, the created well-being should stimulate people to make more business or communicate with each other. The above-mentioned operations cannot be conceived without the Internet.

The bigger the FDI inflows, the bigger the number of internet users is expected to be. The new welfare state should equal more consumption of energy. We assume that the bigger FDI inflows contribute to residential electric power consumption increase.
From above presented statements the 2nd hypothesis can be proposed.

Hypothesis 2: We hypothesize that maintaining an adopted theoretical approach, in terms of sustainable development and globalization listed aspects, the indicators of sustainable development improve in developed, developing and underdeveloped countries.

In order to detect the strength of FDI impact on selected sustainable development indicators, the following approach is being adopted. For each country group (developed, developing and underdeveloped) a number of strong relationship between FDI and

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47 Haishun, S. Impact of FDI on the foreign trade of China. *Journal of the Asia Pacific Economy.* 1999, 4(2): 317.

48 Tiits, M. Technology-intensive FDI and economic development in a small country- the case of Estonia. *A Journal of the Socialities & Social Sciences*. 2007, 11(3): 324–342.

49 Ting, G., *supra* note 24.

50 World bank database, *supra* note 34.

51 *Ibid.*

selected indicators is being indicated. According to the adopted view, the stronger the relationships, the stronger the impact of FDI on sustainable development. In case the number of strong relationships is not considerable or non-existent, it is considered that FDI do not affect sustainable development in target countries group.

2.1 FDI have a positive impact on exports growth.

2.2 FDI inflows have a beneficial influence on the elongation of life expectancy rates.

2.3 FDI have a beneficial impact on number of primary school pupils increase..

2.4 There is a connection between FDI inflows and less occurrences of infant deaths.

2.5 The bigger FDI inflows, the bigger the number of internet users is expected to be.

2.6 The bigger FDI inflows contribute to residential electric power consumption increase.

Research will enable to see which group of countries targeted by FDI have most impact on sustainable development.

5. Impact of Foreign Direct Investments on Sustainable Development Indicators Evaluation

With the intention to verify raised hypothesis, research has been done. The method of research is correlation regression analysis. Conveyed research method will allow determining strong connections between FDI and selected sustainable development indicators.

While testing all hypotheses, a number of strong connections between FDI and indicators will be evaluated in each of the country groups. The stronger the relations, the bigger the FDI impact on sustainable development is revealed.

Statistical data from 2000 till the year 2009 has been used for analysis.[52] With the help of correlation regression analysis connections have been investigated between FDI and GDP while testing the first hypothesis and between FDI and 6 indicators while testing the second (indicators used for analysis are presented in Table 1 and countries in Table 2). In cases when $0,5 < r < 0,75$ there is a medium connection, and when $0,75 < r < 0,95$, there is a strong connection, only those indicators have been chosen, which $r > |0,7|$ (Appendix B). For the following indicators r have to be positive: GDP, exports, life expectancy at birth, primary school pupils, internet users, residential consumption of electricity and respectively negative for infant deaths in order to have a beneficial influence on sustainable development. Furthermore, in order to see if the correlation coefficient is significant, calculated estimated t observed have to be bigger than t statistics (by 7 degrees of deg freedom using 0,05 % probability) (Appendix B). Let us look deeper into what the results indicate.

52 Euromonitor International [ointeractive]. [accessed 03-10-2011]. <www.euromonitor.com>.

Strong connections are sorted out, considered to have a beneficial impact on sustainable development and which r is significant, are presented in Table 3. The results of research while testing the 1st hypothesis indicate (Table 3) that developing and underdeveloped countries benefited most (4 strong relations of FDI with GDP) and developed least (none of the strong relations) during 2000-2009 year period. While testing the 2nd hypothesis a finding was made that the biggest number of affected indicators is in the underdeveloped countries group (17 indicators), then goes the developing countries group (14 indicators) and eventually the group of developed countries takes third place (1 indicator).

Table 1. Indicators used for analysis

Y- FDI (US \$ mln)
X_1 GDP (US\$ mln)
X_2 Exports (US \$ mln)
X_3 Life expectancy at birth: total population (years)
X_4 Infant mortality (deaths per '000 live births)
X_5 Primary school pupils ('000)
X_6 Internet users (number per '000 people)
X_7 Residential consumption of electricity ('000 Gwh)

Table 2. Countries used for analysis

Developed	
1.	USA
2.	UK
3.	Finland
4.	Hungary
5.	Spain
Developing	
6.	Lithuania
7.	Estonia
8.	China
9.	Turkey
10.	Poland
Underdeveloped	
11.	Senegal
12.	Nigeria
13.	Tanzania
14.	Benin
15.	Ghana

Table 3. Strong and significant connections of FDI and selected indicators

	Countries														
	Developed					Developing					Underdeveloped				
Ind.	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**
$\mathbf{X_1}$						■	■	■	■		■	■	■		■
$\mathbf{X_2}$				■		■	■	■	■	■	■	■	■	■	■
$\mathbf{X_3}$							■	■	■		■		■		
$\mathbf{X_4}$								■			■		■		
$\mathbf{X_5}$											■	■	■		■
$\mathbf{X_6}$							■	■			■		■		■
$\mathbf{X_7}$						■		■	■						■

From the group of developed countries only one FDI positively affected indicator can be noticed. We can notice that the impact of FDI on the well-being of a developed country residents is not significant. From the developing country group we can notice some of the most common FDI positively affected indicators: GDP, exports, life expectancy, residential consumption of electricity. The above-mentioned indicators are of vital importance and improve the aspects, which are considered to be significant for developing countries. In the group of underdeveloped countries, the following indicators are most general: GDP, exports, primary school pupils, internet users. The presented indicators are significant for improvement of developmental level of underdeveloped countries group.

The most positively influenced indicator by FDI is export in developing and underdeveloped country groups. It is an achievement of vital importance for the well-being creation in above-mentioned countries.

Conclusions

Globalization refers to the integration of local and international economies into a globally unified political, economic and cultural order. It is not an isolated phenomenon; it describes the forces that transform an economy embracing the freer movement of trade, investment, labour and capital. The process of globalization spurres greater economic development globally.

Sustainable development is a type of socio-economic development that meets the needs of the present society without compromising the needs of future generations.

Foreign direct investments (FDI) are inherent for both of the above-mentioned phenomena: globalization and sustainable development.

After a review of relevant scientific literature about foreign direct investment performance peculiarities in differently developed countries some consistency has been noticed: foreign direct investments influence differs in developed, developing and underdeveloped countries, i.e. depends on the level of development: developed countries benefit most, developing less and underdeveloped least.

In order to determine if the consistent patterns could be traced as a result of the countries' globalization through inflows of foreign direct investments, a research has been applied. The research methods are correlation regression analysis, significance evaluation method—student criterion. 15 countries, selected for investigation, are ascribed to respective country groups: developed, developing and underdeveloped (5 countries for each group) referring to the World Bank's main criteria for classifying countries under income categories. Selected indicators of sustainable development (GDP, exports, life expectancy at birth, primary school pupils, infant mortality, internet users, residential consumption of electricity) have been used for research and are seen as being of vital importance while reflecting the differences between developed and underdeveloped countries and belong to the following dimensions of sustainable development: economic, social, informational and technical.

The research revealed that consistent patterns can be detected, but in reality they differ from the adopted scientific literature approach. The underdeveloped group of selected countries during the researched period benefited most from globalization in the form of FDI improving certain sustainable development indicators, while developing countries benefited less and developed benefited least. In summarizing the results it can be stated that the impact of globalization on certain sustainable development facets is strongest in selected underdeveloped countries, less strong in developing countries and least strong in the group of developed countries.

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AR GALI BŪTI NUSTATYTI DĖSNINGUMAI: GLOBALIZACIJOS POVEIKIS TAM TIKRIEMS DARNIOS PLĖTROS ASPEKTAMS

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Santrauka. *Šio straipsnio tikslas – išsiaiškinti, ar gali būti nustatyti dėsningumai vertinant globalizacijos poveikį tam tikriems darnios plėtros aspektams skirtingai išsivysčiusiose šalyse, suformuluojant bei įvertinant hipotezes apie globalizaciją bei skirtingai išsivysčiusių šalių darnios plėtros rodiklius. Pateikiamos globalizacijos ir darnios plėtros koncepcijos bei jų aspektai. Po atitinkamos mokslinės literatūros peržiūros pastebimas tam tikras dėsningumas, kas paskatina iškelti pirminę hipotezę – tiesioginės užsienio investicijos turi įtakos minėtiems dviem reiškiniams, be to, tiesioginių užsienio investicijų veiklos ypatumai skiriasi skirtingai išsivysčiusiose šalyse: didžiausia teigiama tiesioginių užsienio investicijų įtaka pastebima išsivysčiusiose šalyse, mažesnė ar ginčytina – besivystančiose bei mažiausia ar net neigiama – neišsivysčiusiose šalyse (visi ypatumai detaliai pateikti straipsnyje remiantis moksline literatūra). Šalys suskirstomos į atitinkamas grupes pagal išsivystymo lygį remiantis „Pasaulio banko" pajamų metodu ir darnios plėtros rodikliai pasirenkami tolesnių hipotezių formulavimui pagal straipsnyje išplėtotus darnios plėtros aspektus. Tyrimui pasirinkti rodikliai priklauso ekonominei, socialinei bei verslo aplinkos sritims; atspindi tiesioginių užsienio investicijų galimybes didinti gerovę skirtingai išsivysčiusiose šalyse: bendrasis vidaus ūkio produktas, eksportas, vidutinė gyventojų gyvenimo trukmė, pradinių klasių mokinių skaičius, kūdikių mirtingumas, interneto vartotojų skaičius, elektros sunaudojimas, tenkantis gyventojui. Suformuluojama tolesnė hipotezių serija. Pirmoji hipotezė remiasi nuostata, jog ekonominis augimas dažniausiai suvokiamas kaip bendrojo vidaus produkto augimas. Be to, tiesioginių užsienio investicijų įtaka bendrajam vidaus ūkio produktui skiriasi išsivysčiusiose, besivystančiose bei neišsivysčiusiose šalyse. Išsivysčiusios šalys pasipelno daugiausiai, besivystančios – mažiau, o neišsivysčiusios – mažiausiai. Antroji hipotezė teigia, kad laikantis mūsų priimto pirminio teorinio požiūrio – pirminio dėsningumo, vykstant globalizacijos bei darnios plėtros reiškiniams, visi kiti rodikliai gerėja ir išsivysčiusiose, ir besivystančiose, ir neišsivysčiusiose šalyse: tiesioginės užsienio investicijos pozityviai veikia eksporto augimą, turi teigiamos įtakos gyventojų gyvenimo trukmės ilgėjimui, pradinių klasių mokinių skaičiaus augimui, maži-*

na kūdikių mirtingumą, didina interneto vartotojų skaičių, prisideda prie didesnio elektros suvartojimo skaičiaus. Bet vis dėlto kaip galutinis rezultatas didžiausia jų teigiama įtaka turėtų atsispindėti išsivysčiusiose, mažesnė – besivystančiose bei mažiausia – neišsivysčiusiose šalyse. Atlikta koreliacinė regresinė analizė įgalino įvertinti suformuluotas hipotezes, pristatyti rezultatus bei padaryti išvadas dėl tyrimui pasirinktų šalių.

Reikšminiai žodžiai: *globalizacija, darnioji plėtra, darnios plėtros rodikliai, tiesioginės užsienio investicijos (TUI), bendrasis vidaus ūkio produktas (BVP), išsivysčiusios, besivystančios ir neišsivysčiusios šalys.*

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Appendix A

Country classification

Low-income economies		
Afghanistan	Guinea-Bissau	Rwanda
Bangladesh	Haiti	Senegal
Benin	Kenya	Sierra Leone
Burkina Faso	Korea, Dem Rep.	Somalia
Burundi	Kyrgyz Republic	Tajikistan
Cambodia	Lao PDR	Tanzania
Central African Republic	Liberia	Togo
Chad	Madagascar	Uganda
Comoros	Malawi	Uzbekistan
Congo, Dem. Rep	Mali	Vietnam
Eritrea	Mauritania	Yemen, Rep.

Ethiopia	Mozambique	Zambia
Gambia, The	Myanmar	Zimbabwe
Ghana	Nepal	
Guinea	Niger	

Lower-middle-income economies		
Albania	Honduras	Paraguay
Angola	India	Philippines
Armenia	Indonesia	Samoa
Azerbaijan	Iran, Islamic Rep.	São Tomé and Principe
Belize	Iraq	Solomon Islands
Bhutan	Jordan	Sri Lanka
Bolivia	Kiribati	Sudan
Cameroon	Kosovo	Swaziland
Cape Verde	Lesotho	Syrian Arab Republic
China	Maldives	Thailand
Congo, Rep.	Marshall Islands	Timor-Leste
Côte d'Ivoire	Micronesia, Fed. Sts.	Tonga
Djibouti	Moldova	Tunisia
Ecuador	Mongolia	Turkmenistan
Egypt, Arab Rep.	Morocco	Ukraine
El Salvador	Nicaragua	Vanuatu
Georgia	Nigeria	West Bank and Gaza
Guatemala	Pakistan	
Guyana	Papua New Guinea	

Upper-middle-income economies		
Algeria	Grenada	Peru
American Samoa	Jamaica	Poland
Argentina	Kazakhstan	Romania
Belarus	Latvia	Russian Federation
Bosnia and Herzegovina	Lebanon	Serbia
Botswana	Libya	Seychelles
Brazil	Lithuania	South Africa
Bulgaria	Macedonia, FYR	St. Kitts and Nevis
Chile	Malaysia	St. Lucia
China	Mauritius	St. Vincent and the Grenadines

Colombia		
Costa Rica	Mayotte	Suriname
Cuba	Mexico	Turkey
Dominica	Montenegro	Uruguay
Dominican Republic	Namibia	Venezuela, RB
Estonia	Palau	
Fiji	Panama	

High-income economies		
Andorra	France	New Caledonia
Antigua and Barbuda	French Polynesia	New Zealand
Aruba	Germany	Northern Mariana Islands
Australia	Greece	Norway
Austria	Greenland	Oman
Bahamas	Guam	Portugal
Bahrain	Hungary	Puerto Rico
Barbados	Iceland	Qatar
Belgium	Ireland	San Marino
Bermuda	Isle of Man	Saudi Arabia
Brunei Darussalam	Israel	Singapore
Canada	Netherlands	Antilles
Cayman Islands	New Caledonia	Slovak Republic
Channel Islands	New Zealand	Slovenia
Croatia	Northern Mariana Islands	Spain
Cyprus	Norway	Sweden
Czech Republic	Oman	Switzerland
Denmark	Portugal	Trinidad and Tobago
	Puerto Rico	United Arab Emirates
Equatorial Guinea	Qatar	United Kingdom
Faeroe Islands	San Marino	United States
Finland Saudi Arabia	Virgin Islands (U.S.)	Singapore

Source: World bank database [interactive]. [accessed 19-05-2010]. <www.worldbank.org>.

Appendix B

Correlation regression analysis results

Results of analysis: correlation coefficients

	X_1	X_2	X_3	X_4	X_5	X_6	X_7
1.	0,31	0,62	0,33	-0,47	-0,19	-0,05	0,19
2.	0,57	0,63	0,42	0,16	0,04	0,11	0,16
3.	-0,27	-0,11	-0,28	-0,03	0,20	-0,24	-0,29
4.	0,66	0,75	0,49	-0,39	-0,54	0,55	0,42
5.	0,37	0,49	0,29	-0,29	0,40	0,17	0,35
6.	0,70	0,72	-0,73	-0,04	-0,59	0,60	0,70
7.	0,76	0,79	0,70	-0,22	-0,78	0,76	0,62
8.	0,95	0,97	0,93	-0,87	-0,92	0,94	0,97
9.	0,83	0,82	0,70	-0,10	0,20	0,64	0,86
10.	0,67	0,72	0,53	-0,15	-0,66	0,61	0,66
11.	0,86	0,77	0,83	-0,80	0,82	0,81	-0,21
12.	0,70	0,71	0,66	-0,22	0,81	0,69	0,39
13.	0,83	0,85	0,86	-0,95	0,79	0,71	0,48
14.	0,65	0,72	0,61	-0,46	0,55	0,61	0,58
15.	0,87	0,94	-0,42	-0,21	0,94	0,94	0,70

t statistics of FDI and sustainable indicators interrelationship

t statistics	2,364624

t observed values

	X_1	X_2	X_3	X_4	X_5	X_6	X_7
1.	0,85	2,10	0,91	1,43	0,51	0,14	0,52
2.	1,85	2,15	1,23	0,43	0,11	0,28	0,42
3.	0,74	0,29	0,76	0,07	0,55	0,65	0,79
4.	2,35	2,97	1,47	1,12	1,70	1,74	1,23
5.	1,06	1,5	0,79	0,80	1,16	0,46	1,00
6.	2,60	2,74	2,83	0,10	1,95	1,96	2,57
7.	3,09	3,36	2,57	0,60	3,35	3,12	2,11
8.	8,43	11,49	8,90	4,75	6,10	7,07	9,84
9.	3,97	3,84	2,59	0,27	0,55	2,22	4,48
10.	2,40	2,76	1,66	0,41	2,35	2,06	2,3
11.	4,43	3,17	3,92	3,47	3,85	3,69	0,56
12.	2,62	2,67	2,35	0,59	3,61	2,51	1,13
13.	3,96	4,20	4,50	7,68	3,39	2,68	1,44
14.	2,25	2,71	2,03	1,36	1,76	2,04	1,87
15.	4,75	7,42	1,24	0,56	7,15	7,63	2,56