PLAUSIBLE FOREIGN DIRECT INVESTMENT’ IMPACT ON SUSTAINABLE DEVELOPMENT INDICATORS OF DIFFERENTLY DEVELOPED COUNTRIES

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Abstract. The aim of this article is to formulate hypotheses about the impact of the foreign direct investment (FDI) on sustainable development indicators of differently developed countries with reference to the relevant scientific literature. The impact of foreign direct investment on development and facets of sustainable development has been discussed in this article. After the review of the relevant scientific literature some consistent patterns have been identified, what, finally, led to the formulation of initial hypotheses. The countries were grouped according to the level of their development. A set of sustainable development indicators reflecting different facets of sustainability and sensitive to countries’ development level has been distinguished. The following indicators have been considered as relevant for inclusion into the set, which would be used for estimation of FDI impact on enhancing well-being in the unevenly developed countries: GDP, exports, inflation, population, life expectancy at birth, primary school pupils, infant mortality, total health expenditure per capita, total tax rate, internet users, and residential consumption of electricity. As this article is focused for the long-term perspective of FDI impact on sustainable development, it was based on three aspects of sustainable development: economic, social and environmental. Series of hypothesis have been formulated in this paper.

Keywords: Foreign Direct Investment (FDI), Development, Sustainable Development, Sustainable Development Indicators, Gross Domestic Product (GDP), Developed, Developing and Underdeveloped Countries.


1. Introduction

The term “sustainable development” emerged in the context of development and growing awareness of the imminent ecological crisis. This concept became rather widespread at the end of the 20th century. It was realized that the economic growth is of vital importance, but it has to be of a different kind, i.e. targeted to the combined needs of the environment and people. Development has to be sensitive to the needs of environment and people. Sufficiency but not economic efficiency becomes an ultimate priority. A distinction has to be made between the growth – quantitative change – and development – qualitative change (Du Pisani and Jacobus 2006).

At the same period of time the concept of the foreign direct investment (FDI) emerged. As their inflows have been increasing during the last three decades, the issue of their performance gradually has been transforming into more urgent issue tackled in scientific discussions. Now almost every region of the world is revitalizing the long and contentious debate about the costs and benefits of the FDI inflows (Hansen and Rand 2006). On one hand, given the appropriate policies and basic development, the FDI can play a key role in the process of creating a better economic environment (Armbruster 2005; Lee
and Tcha 2004). On the other hand, the potential drawbacks do exist. They include the deterioration of the payment balance as the profits are repatriated having negative impacts on the competition in the national markets (Tvaronavičienė and Kalašinskaitė 2010). Some countries even eased the restrictions on the repatriations of dividends by the foreign companies (Tarzi and Shah 2005).

There are many attitudes towards the performance of the foreign direct investment and their determinants (Bedell 2005; Head et al. 2005; Hoi Ki Ho and Tze Yiu Lau 2007; Ismail and Burak 2009; Jackson and Markowski 1996; Robertson 2006; Tvaronavičienė and Grybaite 2007). Furthermore, if the FDI seems to be beneficial in one country, it does not mean it will be beneficial and in another one (Pecaric et al. 2005; Vissak and Tonu Jun 2005). There are many discussions in the relevant scientific literature about negative or positive impact of the foreign direct investment on the host countries’ development (e.g. Tvaronavičienė and Kalašinskaitė 2010). Moreover, if foreign direct investment, as it is indicated in many literature sources (e.g. Nunnenkamp 2004), more or less contribute to the improvement of the countries’ development, what will their influence be in terms of sustainable development? The above mentioned two issues are very popular nowadays, so what possible consequences of the FDI performance on sustainable development could be? We are interested in the impact of the foreign direct investment on sustainable development of differently developed countries (Changwen and Jiang 2007; Hermes and Lensink 2003; Jensen 2006; Lall and Bora 2002; Sumner 2005; Sylwester 2005). Our objective is to formulate the hypotheses about the impact of the foreign direct investment on the selected indicators of sustainable development.

2. Impact of the Foreign Direct Investment on Sustainable Development Indicators

2.1. Foreign Direct Investment

Before the World War II, direct investment had been considered as a special case of portfolio investment, i.e. appeared when parent companies were lending (investing) to (into) subsidiaries. However, when such flows of funds began to cross national boundaries to the foreign territories, markets, and cultures, this phenomenon acquired a different significance. There were many difficulties, which the source firms encountered: distance, language, culture, market, time, personnel, currency, government and other obstacles which all favour the local competitors under normal circumstances. The theory of the foreign direct investment, then, must explain why firms can, do and go against this tide of market elements to conduct business in the foreign markets and nations. The portfolio investment theory did not reflect the above mentioned issues. It was need for a creation of a new theory, and the foreign direct investments theory emerged. The FDI theory has been evolving over the past 30 years (Rayome and Baker 1995).

The inflows of the foreign direct investment increased rapidly during the late 1980s and the 1990s in almost every region of the world revitalizing the long and contentious debate about the costs and benefits of the FDI inflows (Hansen and Rand 2006).

Foreign Direct Investment (FDI) addresses the investment in one economy by a multinational or transnational corporation based in another economy. It involves a long-term relationship and either full or partial managerial control of real assets, i.e. production facilities, real estate or an equity investment exceeding 10% of the market funds of the firm. The FDI include all funds provided by an investor, either directly or through an affiliate; the retained profit comprise a large part of these inflows. It also includes low interest rate loans provided by the parent enterprises, which are usually rolled over, thereby forming a part of the affiliate’s funds base. Another form of the FDI is long-term trade credits. In rare cases, investment comprises licensing or management/subcontracting arrangements without equity participation.

The FDI stock indicates the value of the share of the affiliate enterprise at book value or historical cost (prices at the time when investment was made), plus reserves (including retained profits) attributed to the parent enterprise, as well as the net indebtedness of the affiliate to the parent company.

There can be three types of the FDI distinguished according to their objective performance in the host country:

a) ‘Horizontal’ or market-seeking FDI, which contains building duplicate production facilities in the host country for supplying local and/or regional markets. The main criteria of such investments are market size, growth prospects, tariffs and transport costs.

b) ‘Vertical’ or asset-seeking FDI is usually export-oriented and entails relocating parts of the production chain to low-cost locations. Available cheap la-
bour force, natural resources or raw materials (not available in the home country) are the prime drivers, particularly in the manufacturing sector when transnational corporations invest directly instead of exporting into particular country. Thus factor-cost considerations are of major importance.

The output is mainly exported to the investor's home market and other industrialized countries, therefore, the export oriented FDI are not affected by the host country's market size.

c) Efficiency-seeking FDI occurs when the direct investors can benefit from the common governance of geographically-dispersed activities in the presence of economies of scale and scope (Campos and Kinoshita 2004).

The expected side of the investment’s profitability plays a significant role while distinguishing the type of the FDI. Potential ‘market-seeking’ investors target a country with a large and vibrant local market. ‘Asset-seeking’ investors prefer a country with abundant natural endowments. Whereas ‘efficiency-seeking’ investors are largely influenced by the geographical proximity to their home country, in order to minimize transportation costs (Lall and Bora 2002).

Attraction of the foreign direct investments is one the essential indicator in the countries’ development. Investment encouraging policy is one of the major state policy aspects in every country.

2.2. Foreign Direct Investment' Impact on Development

Most generally, the economic development is perceived as the increased standards of living and the sustained growth. That perception of economic development is valid for both, underdeveloped and to the modern, high-income economy. Its scope includes the processes and policies by which a country improves the economic, social and political well-being of its people.

The economic development embraces extensive (output enlargement using more resources) and intensive (increase of productivity, implementation of innovations) economic growth. Economic development is a process which can be defined as the mobilization of appointive human, financial, organizational, physical and natural resources in order to expand the quality and quantity of the provided competitive services and products for the community. The main goal of the economic development is to enlarge the speed of the asset creation (Clarc 1990).

Foreign direct investment is supposed to contribute to the countries’ development.

There are two general attitudes towards the foreign direct investment’s impact on host countries’ economies. The most widespread and known one is presented below. Demand for the foreign direct investment is conditioned by its ‘expected impact on gross domestic product (GDP), income, unemployment level, poverty, total productivity, quality of services, incentives for innovation, manufacturing trends, funds mobility, trade, exports orientation, etc. Investment is considered to be a very important factor, encouraging competitive ability of the manufactured production or provided services in every country. Moreover, it is commonly supposed, FDI dynamic tendencies reflect the prospects of the countries’ development perspectives.

According to another attitude, FDI have a controversial or even negative impact. Short-term effect on the indicators of the countries’ development is considered as more plausible. It is emphasized that FDI may crowd out domestic investments, repatriate profits to home-country add up to the inflation rate, increase negative balance, political instability, force fluctuation in exchange rates, etc. To generalize, both approaches and variety of effects has to be taken into account. Peculiarities of the FDI performance in countries of different development have to be tackled in order hypotheses about consistent patterns could be formulated.

Following the United Nations private international funds flows’ accounts, foreign direct investment appear to be vital, as they complement to national and international development efforts. Approach represents the idea that foreign direct investment contribute towards sustained economic growth in the long run. They are remedy of big importance, which facilitate knowledge and technology transfer, create jobs, boost overall productivity, enhance competitiveness and entrepreneurship, and ultimately eradicate poverty through economic growth and development (Nunnenkamp 2004).

Since the debt crisis in the 1980s, the main trend of the development theories have been closely associated with the market liberalism. It emphasizes the development policies directed towards the strengthening of the market forces in order to create open free economy and allow participation in the global trade
flows. This development way has been promoted by the series of agreements (Washington Consensus, World Trade Organization agreements stipulating adherence to the global trade norms, etc.). Successful cases of the late industrialization represent USA and Germany in the 19th century, and the more recent - first generation of the East Asian Tiger economies - used funds control, periods of trade protectionism and backward engineering strategies to foster national development capabilities – instruments which are now tightly related. The international development agenda has conditioned the need for the increased trade liberalization and private funds in order to create the economic development. Therefore, one of the main resources of the private funds of development inputs is seen to rely on foreign direct investments.

During the Conference on Financing for Development held in Monterrey in 2002, Mexico proposed foreign direct investments as one of the main supplements for successful development and the combat against poverty. The conference asserted that the inflows of the foreign direct investment could facilitate the transmission of knowledge and technology, improve employment, boost productivity and enhance entrepreneurship as well as ultimately contribute to the alleviation of poverty by encouraging economic development and growth (Fink 2006). To generalize, official countries’ and institutions’ position coincides with the first, simplistic approach towards FDI role in sustainable development.

3. Sustainable Development Implications

3.1. Sustainable Development

By the late 1960s and early 1970s the melting pot of different ideas about progress, sustainability, growth and development which have developed over years started pointing in a new direction – sustainable development (Du Pisani and Jacobus 2006).

The concept of sustainable development is more profound and comprehensive than the concept of economic growth.

The essence of sustainable development most generally is perceived as economic development meeting human needs at present and not reducing its wealth opportunities in the future (Ciegis and Ramanauskiene 2009). According to the definition of the World Bank of the year 1992, “sustainable development is development that continues”. Another source describes sustainable rather similarly: “sustainable development is development that meets the needs at present without compromising the ability of future generations to meet their own needs” (Du Pisani and Jacobus 2006). Robert Allen (1980) defined sustainable development as “development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life”. J. Coomer (1979) provided the definition of sustainable society – a society that recognized the limits to growth and looked for the alternative ways of growing.

The first publications on the theory and practice of sustainable development have emerged because of the conjunction of negative effects of human evolution and development progress (Stanciu et al. 2010). These changes influence negatively the human health, life duration and economic development. These statements prove that the society has reached the critical point that can be followed by the irreversible processes able to put in danger the existence of the mankind. To avoid this sombre perspective and assure the mankind’s survival and wealth, more and more representatives of the society get the conviction that it is necessary to solve the problems of the environmental protection and economic development in the reciprocal correlation with the interest of the entire contemporary and future human society (Ciegis and Ramanauskiene 2009).

The concept of sustainable development has been created for more sophisticated society which cares about the wellbeing of the next generations. There are some opponents about that issue. The term “sustainable development” is criticized by others because of its vagueness. According the philosopher Luc Ferr the term is obligatory but also absurd or vague, and says nothing. He added that “sustainable development” is trivial by a proof, by contradiction and presented the idea of sustainable development as untenable development, as this term is more charming than meaningful (Ruchi 2009).

Another approach is represented French geographer Sylvie Brunel. He claims that the ideas of sustainable development can hide a will of protectionism from the developed country, what consequentially can impede the development of other countries. He holds the idea that sustainable development serves as a pretext for the protection and contributes perfectly to the capitalism ideas denial as. Contrary, another scientist sees sustainable development as the ultimate test of a moral society and the kind of the world that
it leaves to its children (Ruchi 2009).

In the declaration of the United Nations Conference on Human Environment held in Stockholm in 1972 as the first in a series of international conferences on the threatening ecological crisis, it was stated: “A point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment on which sustainable development – historical roots of our life and well-being depend. Conversely, through fuller knowledge and wiser actions, we can achieve for ourselves and our posterity a better life in an environment more in keeping with human needs and hopes . . . To defend and improve the human environment for present and future generations has become an imperative goal for mankind” (United Nations 1972).

3.2. Facets of Sustainable Development

Sustainable development means different things to different people. Five typical views of sustainable development depending on adopted philosophical platform can be distinguished: socialist (humanity is just a part of nature and completely depends on it; everybody should take responsibility for the planet and its health), ecologist (humans are the species that depend on environment, everybody should realize the humanity’s place in the universe), realist (humanity is totally dependent on nature, and has responsibility to manage; everybody should take responsibility for solving the environmental problems), futurist (humanity is totally dependent on nature; everybody should take long-term responsibility for the wellbeing of the planet to ensure the survival of humanity), individualist (nature is a resource to achieve quality of life, everybody should maintain the supply of resources) (Byrch et al. 2009).

Concept of sustainable development can be used in a broader sense. Some authors introduce concept of sustainable world instead of sustainable country (Clifton 2010)

The main threats, which are being tackled by putting emphasis on sustainable development are presented below.

- The accentuated poverty that involves one person from five in the developing countries, enclosing diseases, delinquencies and drug abuses that are increasing in many countries; the medium income of the 30 richest countries surpasses 37 times the one of the poorest 20 countries (World Development Report).

- The political instability that sometimes brings violent conflicts, impeding the socio-economic progress in different countries and regions. After 1990, the questions related to the international peace and security have perished ample transformations compared to the period of the Cold War, and made important new approaches and solutions that need the reinforcement of the international institutional mechanisms and the international communities’ abilities to combat threats. The concepts rarely used in the past are circulating intensively nowadays, as well as the conflict prevention, pacification of peace keeping operations, or post-conflict rehabilitation and peace construction.

- The continuous deterioration of environment - the exhaustion of the natural resources can be distinguished (erosion of soil, deforestations, destruction of habitats and biodiversity, exhaustion of fish resources, decline and exhaustion of the global oil resources in 25-30 years) as well as the issue of pollution for the majority of countries; influencing the surrounding environment and extinction of many species of plants and animals, leading to the deregulation of the nature’s balance.

- The threat of the climatic changes (tropical cyclones, floods, draughts and heat waves from some parts of the world). Developing countries are the most vulnerable to the effects of the climatic changes worldwide, even though it contributes little to the problem. The threats can affect the rain level and wind orientation, transform the climacteric areas and lead to the increase of sea level. Such changes might have a devastating effect on the natural ecosystems and the humankind.

- The HIV/SIDA virus and other serious illnesses influence directly the well-being of humans and make social relations fragile.

- The isolation. Many countries fight against the effects determined by the slow economic growth and external overwhelming debt, corruption, violent conflicts and social uncertainty (Stanciu et al. 2010).

Referring to the idea that sustainable development can prevent some less developed countries from reaching the level of the developed countries, for further formulation of hypotheses we will focus on the countries of different development. The objective of sustainable development differs across differ-
ently developed countries. The developed countries are mostly concerned with the GDP growth with the least negative impact on the environment and environment protection. The developing countries target economic growth and their concerns about environment are quite vague or only verbal. The underdeveloped countries tackle more serious problems, such as poverty alleviation and treatment of different diseases (e.g., Barnes 2010).

The preoccupations regarding sustainable development in the countries of any level focus on complex problems, such as poverty, unemployment, education, inflation, tax rates, population, etc. (Stanciu et al. 2010).

In the relevant scientific literature the conception of sustainable development is being analysed from the economic, social and environmental prospective (e.g., Ciegis and Ramanauskiene 2009, Ciegis et al. 2009, Ciegis and Simanskiene 2010). In other words, sustainable development is a certain compromise among environmental, economic and social goals of the community, claiming necessity of the wellbeing for the present and future generations. Ghosh (2008) the concept of sustainable development can be presented as a geometric shape, i.e. a triangle encompassing three main areas: economic, social and environmental.

The objective of this article is to focus on the long-run implications of the FDI impact on sustainable development; therefore, we will focus on all three its facets. We rely on the idea that the analysis of sustainable development should be based on the assumption developed by H. R. Jiliberto (2003). He indicates that sustainable development is not based on the economic, social and environmental dimensions separately; it is based on the system integrating all the dimensions (Ciegis and Ramanauskiene 2009).

4. Scientists’ Attitude towards the Peculiarities of the Foreign Direct Investments Performance

Scientists and politicians unanimously admit that the objective of all the economies worldwide is to ensure the developmental impact of the FDI. In order to reveal consistent patterns and peculiarities of the processes related to the FDI impact on host economies, a vast amount of relevant scientific literature has been critically reviewed focusing on the scientists’ attitude to the issue.

Ample experiences of the developed countries lead to the following ideas. A fairly comprehensive survey was made by De Mello concluding that the country must be highly developed for foreign direct investment to have a beneficial impact on the economic growth. Several other studies (Hermes et al. 2003; Alfaro et al. 2004) investigated the role of the economic markets in the FDI and economic growth and discovered that well-developed countries’ economies gained significant benefits from the FDI (Jackson and Markowski 1996). The impact of the FDI depends on the development stage of the country in which the FDI take place. Blomstrom et al. (1994) finds that the positive impact of the FDI on the economic growth is confined to the higher-income developing countries. Borensztein et al. (1998) concludes that the FDI enhance growth only in the countries with sufficiently qualified labour force while other researchers claim that countries with cheaper labour force are more competitive in attracting the FDI (Tvaronavičienė et al. 2008). Researches performed by Alfaro et al. (2001) suggest that the FDI is associated with the faster growth in host countries with comparatively well-developed economic markets. Likewise, Hermes and Lensink (2003) observe positive growth effects of the FDI only after developing host countries have improved their domestic economic systems (Nunnenkamp 2004).

The following ideas are most commonly spread while talking about the countries of lower development level. Blomstrom et al. (1994) states that the FDI have no positive impact on the economic growth mostly in what these authors define as “low-quality data” countries (Campos and Kinoshita 2002). The main observation is that it is much more difficult for the poor developing countries to derive macroeconomic benefits from the FDI. African countries may serve as example, where the FDI it is supposed to have limited effects on the economic growth and poverty alleviation (Nunnenkamp 2004).

Referring to the above presented scientists’ statements, some consistency can be noticed. We presume that the influence of the foreign direct investment differs in the developed, developing and underdeveloped countries and depends on the development level of the country: the developed countries benefit most, developing ones benefits less and underdeveloped benefits least.

5. Countries Representatives and Sustainable Development Indicators used for the Hypotheses Formulation

As it was indicated, in this particular article, we will not focus on sustainable development in the international context; we will concentrate mainly on
sustainable development in the countries of different level of development, i.e. on sustainable development at distinguished groups of countries. In order to raise the following hypotheses, the countries have to be grouped according to chosen criterion or criteria. For classifying countries, e.g. the World Bank uses income indicator. With reference to the above mentioned criteria, chosen countries will be grouped for further research. High-income economies will be attributed to the developed countries group, upper-middle-income and lower-middle-income to the developing countries group and low-income economies, attributed respectively, to the underdeveloped countries group (see Appendix) (World Bank).

The efficiency of the FDI policies also depends on the fact whether or not they are a part of a broader strategy to improve the developmental impact of the FDI. Critical elements include the development of the local complementary factors of production (e.g., education and skills, local suppliers, infrastructure and business services, approach to innovations (Tvaronavičienė and Degutis 2007) and institutional performance (Tvaronavičienė et al. 2009)). Before we start raising the following hypothesis, the indicators of sustainable development have to be distinguished. Here an important note has to be made: sustainable development is a complex and differently treated notion. On one hand, it is very broad as may be related to competitiveness of the country (Balkytė and Tvaronavičienė 2010). On the other hand, various organizations and institutions, actually standing on slightly different philosophical platforms, offer a very broad array of indicators’ sets devised for sustainable development estimation (Grybaite and Tvaronavičienė 2008).

The stages by which the evaluation sequence of sustainable development is possessed consist of: formulation of reasonable objectives for sustainable development evaluation, means, and feasibility of their adoption. One of the means used for the evaluation of sustainable development is the index of sustainable development that is used in some of the scientific articles (e.g. Čiegis and Řamanauskienė 2008, Čiegis and Řimanskienė 2010). However, in this article we adopt different approach. We join opponents, who claim that specific indicators can be affected differently by certain processes. Hence we will select specific indicators embraced by various sets of sustainable development indexes and estimate their reaction to the FDI inflows. Hence, we adopt approach, according which the following six main facets of sustainable development have to be taken into consideration: economy, population, education, innovation, infrastructure and environment (Corina et al. 2009). In this article focus is put on the indicators, which can measure features and processes of living conditions improvement influenced by foreign direct investment. Indicators which are considered to have a positive impact on the long term sustainable development in the fields of economic, human and environment will be selected.

Hence, for our hypotheses formulation we selected indicators, which are sensitive to the development level of a country and obtain rather differing values in the developed, developing and underdeveloped countries. The below listed selected indicators, which in this case would let introduce differences in the countries’ development through particular sustainability facets. The following indicators were chosen as the ones capable of reflection the FDI impact on enhancing well-being in the unevenly developed countries: GDP, exports, inflation, population, life expectancy at birth, primary school pupils, infant mortality, total health expenditure per capita, total tax rate, internet users, and residential consumption of electricity. As it was mentioned above, selected indicators are seen of vital importance while reflecting the differences between the developed and underdeveloped countries in economic, social and business environment fields.

6. Foreign Direct Investments Influence on Sustainable Development Indicators of Differently Developed Countries

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

According to Asheghian, the FDI had a significant impact on the United States’ economic growth (Asheghian 2004). The positive influence of the FDI on the economic growth in Spain was revealed as well (Rodriguez and Pallas 2008). Moreover, foreign direct investments affected the Lithuanian economic growth (Tvaronavičienė 2006). The effect of the FDI on economic growth in transition economies is positive and statistically significant in Europe (Hannula et al. 2004). Several other literature sources indicate that the growth from FDI in developing countries is not generally significant, and is lower than in the developed countries (Wu 2001). Moreover, the rules
created in the developed economies cannot be efficiently applied in the developing economies (Akhter 1993). Another scientific article states that the FDI does not have an obvious booster effect on the development of China’s economy (Changwen and Jiang 2007). Eventually, it is supposed, that the FDI may have limited effects on the economic growth and poverty alleviation in the underdeveloped countries (Nunnenkamp 2004).

From the above presented affirmations the following hypotheses could be raised.

We hypothesize that sustainable development level enhancement is strongly dependant on GDP growth. Impact of the FDI on the GDP growth differs in the developed, developing and underdeveloped countries.

Exports reflect competitiveness of a country in the international market and are related to GDP growth. Bigger inflows of the FDI contribute to the growth of quality and quantity of labour resources, capital availability, therefore can affect exports growth. Moreover, most of the literature sources indicate positive FDI impact on the export growth. That can be detected in each group of countries. The FDI played an important role in leading Chinese export growth (Haishun 1999), they also contributed to the competitiveness of the Polish exports (Tiits 2007). We assume that the FDI have a strong impact on the exports growth.

Empirical evidences could be found that lower inflation rates coincide with higher FDI inflows into countries (Makki and Somwaru 2004). We assume that the FDI inflows have an indirect significant influence on lowering inflation rate.

Overall, the evidence tends to suggest a potentially important role of the FDI in countries’ living standards benevolence (Ting 2004). Countries’ living standards will be expressed in terms of population and life expectancy rates. We assume that the FDI have an indirect positive impact on population augmentation. Furthermore, we assume that the 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 recognize the importance of creating a global partnership for the development. The goals have been commonly accepted as a framework for measuring development progress.

The second Millennium Development Goal encourages achieving universal primary education (World Bank). Under usual circumstances, if the FDI contribute to the benevolence of people’s living, it should also contribute to the increase in number of primary school pupil. We assume that the FDI have a benevolent impact on the increase in number of primary school pupils.

The fourth Millennium Development Goal tackles reducing of child mortality (World Bank). Under normal circumstances the improvement of living should be expressed in the given way as well. We assume that the FDI inflows have a beneficial impact on decrease of occurrences of infant deaths.

Taking into account the fifth Millennium Development Goal which strives to improve maternal health and the sixth which encourages combating HIV/AIDS, malaria and other diseases, we make the following hypothesis. We assume that the FDI inflows have a positive influence on the total health expenditure increase.

The theoretical and empirical evidence stress out the following three main qualitative relations between the FDI and growth (UN Commission for Europe, 2000a, 2000b): FDI-led growth, growth-driven FDI and bi-directional causal process (Akhter 1993). Business environment is one of the location factors taken into account by the investors while investing abroad (Witkowski 2007). We will consider if there is a growth-driven FDI or bi-directional causal processes, higher estimated FDI inflows should indirectly make total tax rates diminish under normal circumstances. We assume that the FDI inflows might have a beneficial impact on the total diminution of the tax rate.

The created well-being should also force people to involve into business and communicate more. The above mentioned operations cannot be conceived without the Internet. The heavier FDI inflows, the bigger number of the Internet users is expected.

The reached welfare should force higher energy consumption. We assume that bigger FDI inflows contribute to the increase of the residential electric power consumption.

Basing on critical analysis of provided sources, the following hypothesis might be formulated. We hypothesize that maintaining adopted theoretical approach in terms of the listed aspects of sustainable development the indicators of sustainable development improve in the developed, developing and underdeveloped countries due to
the FDI. Nevertheless, developed countries benefit most, developing less and underdeveloped least.

7. Conclusions

Economic development is perceived as the increase of the countries residents’ standards of living with long term growth from a simple, low-income economy to the modern, high-income economy. The essence of sustainable development is economic development meeting human needs at present not reducing its wealth opportunities for future generations.

Foreign direct investment affects countries’ economic growth and sustainable development.

After the relevant scientific literature review towards the FDI impact on development and their performance peculiarities, some consistency has been noticed. FDI impact on the following sustainable development indicators was considered: GDP, exports, inflation, population, life expectancy at birth, primary school pupils, infant mortality, total health expenditure per capita, total tax rate, internet users, and residential consumption of the electricity.

The main hypotheses have been formulated. To conclude, FDI impact on GDP growth differs in the developed, developing and underdeveloped countries. Summing up, developed countries benefit most, developing less and underdeveloped least.

References


Hannula, H.; Mannik, K.; Varblane, U. 2004. 3. Research method, University of Tartu - Faculty of
M. Tvaronavičienė, T. Lankauskienė

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Ruchi, M. 2009. Sustainable development- how far is it sustainable? Proceedings of World Academy of Science: Engineering & Technology (51): 754-757


Stanciu, M.; Mangra, M.; Daea, A. 2010. The concept and the strategy of sustainable development, Young Economists journal Special Issue (8): 125-136


The three types of FDI explained. 2007. Middle East, 376: 34


Tvaronavičienė, M.; Grybaitė, V.; Tvaronavičienė, A.


### Appendix

#### Classification of the countries

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<td>Afghanistan</td>
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**High-income economies**

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