Influence of Foreign Direct Investments on the Environment

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Abstract: *The aim of this paper is to determine the influence of FDI on the environment. To get an insight how FDI affect the environment, the development of an enterprise is analysed, as well as the way how the reasons and opportunities for FDI even occur. The first instance in the process of the evolution of the enterprise is capital accumulation, in other words, transfer of the part of capital back to the production process. Accumulation of capital determines the importance of profit and validates the need for cost cutting in all spheres, including the protection of the environment. The aforementioned necessity is caused by competition taking action on the market, which forces the enterprises to constant growth and progress, otherwise, it disappears. Together with the enterprise growth, there come new opportunities, such as economies of scale, and when the country`s borders become too narrow for further growth, the enterprises reach for foreign investments. That is how the FDI occur and affect the country and the environment. The analysis of practical examples certifies that the enterprises are still guided by basic principles of concentration of the capital. Not only guided, but they also use their competition advantages, which they realised by growth and development of technologies, as the levers of power, in order to make even bigger profits, not paying attention to the consequences they leave behind. The whole process is caused by a special law of surviving on the market which justifies all the sources.*

Keywords: *accumulation of capital, free competition, cost efficiency, transnational corporations – TNC, foreign direct investments - FDI, pollution haven hypothesis – PHH.*

1. INTRODUCTION

Within globalisation processes, modern economic reality is written by the activities of the current key economic subjects - TNC. TNC have gone way beyond borders and exactly in the sense of FDI. Their power and their influence very often exceed the strength of many countries, even the most developed ones. That power comes from accumulation and concentration of sources for production and thus is reflected in the form of market shares. Besides, mainstream economics discarded theories of the countries` development through planned and state-controlled development. The actual answers to the development processes from the mainstream economics were FDI and TNC. Unlike the developed countries, this answer usually refers to underdeveloped countries, due to lack of capital assets. The problem is also deepened by undeveloped regulations, by which the developing countries would protect their economic interests and their environment. Faced with the shortage of capital assets and undeveloped regulatory rules, the underdeveloped countries represent a *fertile soil* for the investments that will not be within the *social* and *environmental* frame of business. If there is a question why corporations conduct business in such manner, the answer could be found in additional costs that such form of doing business most often causes. Apart from that, extraction industries are very big polluters and in the form of FDI they come to acquire raw materials needed. However, even that is not the whole answer and it is necessary to complete it with market regulations of ruthless competition and accumulation of capital, which played the key role in the enterprise`s growth and development, defining it even today. While the competition between large enterprises is gradually disappearing and a new form of competition is appearing, which is a competition between the countries. This competition between the countries happens in order to attract the holders of the fresh capital in the form of FDI, no matter the consequences they could leave behind.

2. TRANSFORMATIONAND DEVELOPMENT OF THE ENTERPRISE

In economics, a great deal of attention is paid to perfect competition, although the market economy is also aware of the other market structures. Perfect competition and monopoly represent extreme conditions on the market and a very rare occurrence in reality. Modern economic science has to face that fact and stop observing economic occurrences within narrow frame of perfect competition. It is important to mention that still, all market forms actually evolved from the frame of perfect competition, which is disappearing as the category from the practice with the enterprise development in more mature phases of capitalism. Therefore, the development of the enterprise represents a starting point for the analysis of modern market functioning and subjects that dominate over it. In this process, profit is the key determiner of enterprise development that has to be realised at any costs (work exploitation and/or nature destruction/exploitation). Within the enterprise development in capitalism, capital accumulation represents the first stage of development. That is to say, within capitalistic way of production there appears a conflict of interest between numerous entrepreneurs (capitalists), in which each of them tends to take as much profit for themselves as they can. Faced with the free competition law, entrepreneurs are forced to modernise and perfect their sources for production in compliance with the advancement of science and technology (Lavčević, 1953).They realise their interests based on existing sources for production and/or by perfecting of the production process by using new, more improved production sources. Therefore, capitalism was also revolutionary at the beginning and thus it gave its brightest results. For that reason, *young* Marx introduces capitalism in Germany of that time in order to break up with the obsolete production relationships of feudalism (Lukács, 1976). Unlike other systems of doing business (slavery or feudalism), capitalism indeed brought about the greatest era of enlightenment and development to the mankind (Fiamengo, 1973). However, free competition upon which it is being developed, even then started developing in two ways. In the beginning, it was defined by a large number of competitors and it was based on work, knowledge and innovations that improved production processes (Velić, Cerović and Maradin, in press). Simultaneously, it is followed by another dimension of competition which is predatory and is based on concentration of capital. Ruthless competition implies that any stagnation in development processes for a capitalistic enterprise means its definite destruction by greater and competitively more capable enterprises (Velić, Cerović and Maradin, in press). Process of accumulation of the capital represents successive capitalisation of produced values surplus (Lavčević, 1953), i.e. a certain piece of appropriated value surplus turns into an additional production form of capital belonging to capitalistic enterprise. Capital accumulation growth leads to the second instance, which is an increase of capital concentration, namely, collecting even greater amount of both production sources and hired labour of the few. Concentration of capital assets and production through accumulation, i.e. capitalising of the values surplus enlarges both individual and entire social capital (Lavčević, 1953). Within this process, implementation of the new technologies and knowledge is crucial. However, they require more and more sources in realisation of the new production processes. The process of capital enlargement is complemented by centralisation of capital, i.e. by leaving individuality of already existing individual capitals by merging or their absorption by larger enterprise (Lavčević, 1953). This process within modern economic reality is getting a form of direct investments of merging – *mergers* (Salvadore, 2003) and annexation – acquisition. Merging represents joint appearance of two or more competitors on the market, whereas acquisition represents destroying and merging of capital of the lesser competitors. In the latter, competition represents the most efficient tool of enlargement of capital, because in the competitive game, the one whose labour productivity is higher wins - lower expenses, which is reflected in lower prices. In view of that, large enterprises realise far higher labour productivity (production of larger quantities of products reduces production costs per production unit - economies of scale), whereas smaller enterprises do not survive market battle and get *swallowed* by larger enterprises (Lavčević, 1953). The final way of centralisation of capital is the process of merging of independent capitals into large capitalistic enterprises, which gets the form of joint-stock, or holding companies (Lavčević, 1953). This form of capital enlargement represents an important progressive dimension as well, without which capitalism would develop with difficulties, and that is the occurence of limited liability in business. The significance of the process of capital enlargement Marx underlined with the sentence: *''Accumulate, accumulate! This is Moses and the Prophets''* (Marx and Engels, 1977). In other words, Marx (1977) wants to say: *''Save, save, i.e. turn the larger part of surplus value or product surplus into capital again''* (Marx and Engels, 1977). Globalised world of today marginalises labour and nature to a greater extent than Marx could have anticipated, and that is the reason why Santini (2007) considers his work unavoidable in solving growing problems of Man and Earth. Capital letters M and E refer to devising of coexistence between work and capital, since at the moment our planet is working against itself hand in hand with human activities (Santini, 2007). The aforementioned processes imply diverting attention to regulations in view of domestic enterprises as well as the FDI mergers and acquisitions. This implies that the enterprises will most likely be encouraged by cost efficiency to use lower environmental standards or lenient regulations. In regard with former analysis, primary work hypothesis is stated:

H1: The nature of free competence forces enterprises to do business which is constantly directed on cost cutting, including the costs of protection of the environment.

In the necessary process of improving and broadening of production the additional sources are key factor in order for production to be realised. For that reason, credits have an important role in functioning of the economy and credit instruments are more easily acquired by larger enterprises (Velić, Cerović and Maradin, in press). At a certain time of broadening of capitalistic production, the phenomenon of economies of scales appears, which is the basis for production in large enterprises, not only on the example of natural monopolies, but also in all other large serial production that is also used by TNC today. Caused by the imperative of growth which secures the survival on the market, all three processes of capital enlargement affect the decrease of number of competitors and increase of production of the enterprise itself and market shares as well. These processes initially lead to governing over a certain branch of industry within national scope, i.e. to monopolies and oligopolies. It is important to mention that at this stage of development, competition may become especially risky, since the enterprises have grown and have too large organic content of capital, so the battle between the giants might cause enormous damage of failing (Velić, Cerović and Maradin, in press). However, this process does not stop on national level, but based on the same principles, continues on the international market. That is the reason why it is considered that former national monopolies and oligopolies, by leaving the scope of national economy, evolved into TNC (Stojanov, 2012). This is why this analysis is a starting point, since the monopolistic position on the market represents an aspiration of all capitalistic enterprises, because it enables security, survival and the most efficient way of necessary realisation of even larger profits. The same thing is noticeable in concentration of capital on the international market between corporate giants of today.

2.1. Principles of production according to microeconomic analysis

Going on with the former analysis from microeconomic perspective, an efficient production implies enterprises of a large scale, standardised production lines and a large number of products. Growing incomes of scale (economies of scale) form when the increase of all inputs leads to more than proportional increase production level (Samuelson and Nordhaus, 2010). Such production requires enormous sources of large enterprises, which confirms validity of the former analysis concerning the growth of the enterprise. Having defined the economies of scale, it is now necessary to tackle the logic of costs, more precisely to tackle an average fixed cost of the enterprise, which is relevant for the topic. Fixed cost divided by input gives the average fixed cost:

$$\mathbf{AFC} = \mathbf{FC}/\mathbf{q} \qquad (1)$$

This equation implies that increase of production quantity **q** at constant fixed cost **FC** gives constantly failing curve of fixed cost (Samuelson and Nordhaus, 2010). In other words, if an enterprise sells more products, it can disperse its fixed costs on multiple units. Since the enterprise strives to profit, i.e. making money is their priority, companies survive by cutting costs in any way possible (within the law) (Stiglitz, 2009). The major idea of this way of production is production increase on the account of range income and dispersion of fixed costs on as many production units as possible. Furthermore, the enterprises that are able to realise the processes described are limited liability corporations, with a suitable management structure, which can attract large offers of private capital, produce a lot of similar products and join investors` risk (joint-stock company) (Samuelson and Nordhaus, 2010). This definitely implies that TNC also apply these and former principles in their functioning. Basic logic behind this way of doing business is cutting costs, since that means larger profit, and larger profit enables larger accumulation of sources for growth and survival on the market. If the same logic is applied between production costs and the costs caused due to environmental protection, it can be deduced that the enterprises will be more sensitive to increased environmental protection cost. Therefore, it can certainly be claimed that if costs can be avoided, they will be. The process of capital enlargement is a necessity defined by accumulation of the profit which is subsequently transferred back into the production, in order to realise the production based on the economies of scale principle and further development of the enterprise. Since the profit is determined by cost efficiency, cutting environmental protection costs is a natural and expected reaction of the enterprise in all development stages. Described principles and the logic of enterprises` growth confirm primary work hypothesis, meaning that the protection costs will be cut anyway, the additional reason would be that, for example, cutting environmental protection cost does not have an immediate opposite reaction as reducing of the salaries does.

2.2. Bearers of FDI – TNC

Within former analysis, the idea of corporations and their limited liability have been mentioned, but what are corporations in fact? Today`s multinational company is an enterprise which broadens its business within many countries in order to get closer to its clients, cheaper sources of production factors or competition (Lovrinović, 2015). TNC expand their business to all continents through enlarging their network of affiliates, branches, offices, distribution, clients and all other things connected to their activities, including production (Lovrinović, 2015). Corporation is an enterprise owned by many individual shareholders, which has legal individuality, so it is really *a person* who can buy, sell, borrow money, produce goods, provide services and make contracts on their behalf (Samuelson and Nordhaus, 2010). Corporations enjoy the benefits of the right of limited liability, under which the investment of each owner and his financial exposure are strictly limited to a specific invested amount of money (Samuelson and Nordhaus, 2010). In principle, shareholders control the company, while managers run the company and make business decisions. Limited liability has a great advantage since it enables collecting of large amounts of capital, bearing in mind that each shareholder knows the most he can lose is his investment. On the other hand, limited liability may signify large expenses to society. A mining company can excavate gold and make an enormous profit for the shareholders, but it can also leave poisonous remnants from processed ore, which contains toxic substances like arsenic (Stiglitz, 2009). From both social and financial aspects, the costs of purifying such environmental problem may exceed the value of what is excavated. But, when the problem is notified and the government of the country where the corporation does business demands purification, the mining company declares bankruptcy. The problem is left to the society and its citizens who suffer both from destruction of the environment and purification costs (Stiglitz, 2009). This is validated by numerous examples from the practice, e.g. the explosion of Union Carbid factory in Bhopal, in 1984, which caused over 30 000 dead and 100000 sick people for which nobody was prosecuted for; oil spilling from Exxon Valdez ship, in 1989, with the given fine of $51,000 and 1000 hours of trash collecting for the skipper; oil spilling on the British Petroleum platform in the Gulf of Mexico scooped 180,000 square metres of the sea, with the $20 billion compensation for environmental damaging (Lovrinović, 2015). Although it is very difficult to find the perpetrator in these cases and penalties are in discrepancy with the performed damage, they are still considered as accidents. However, practice shows deviant behaviour of TNC in regular business too, therefore there is another definition of corporation, according to Stojanov (2013), who describes TNC and transnational banks as fundamental economic subjects of our time and mirror image of globalisation process. Their microeconomic principle of behaviour is the principle of growing incomes and falling costs. Furthermore, Stojanov claims that transnationalisation of world economy forms a global market, whose main characteristic is an imperfect competition with dominant oligopolistic morphology. In oligopolistic conditions large corporations are not only a price makers but a rule makers as well, i.e. the enterprises not only dictate the prices, but also make the rules of the *game* (Stojanov, Jakovac, 2013).The size of TNC represents a special comparative advantage (WWF-UK,1999). That very size gives certain power, so apart from demanding and charging the rent from exploitation, they even demand entrance barriers for other competitors, lower environmental standards and concessions, ergo, TNC become the rule maker in practice as well.

3. MOVEMENT TRENDS OF FDI - POLLUTION HAVENHYPOTHESIS (PHH)

Influences of FDI on the environment of a country are usually observed from the perspective of *pollution haven hypothesis* (PHH). PHH assumes that polluting industries will look for the appropriate ground for relocation of their sections in the countries with lower environmental standards and turn them into pollution havens (PH) (Copeland and Taylor, 2004). PHH also assumes that the industries like mining and raw material processing will be motivated to relocate their production where they will be relatively free to do business the way they see fit and will not have to pay purification cost for their activities (Farlex Financial Dictionary, 2012). For that reason, PHH is usually observed three-dimensionally:

- *Dirty production* transfer into underdeveloped countries with lower environmental standards,
- Toxic waste disposal from developed into underdeveloped countries,
- Excessive exploitation of resources of underdeveloped countries, e.g. oil/ore or forest exploitation (WWF-UK, 1999).

Literature that studies PHH always leaves some open space for the debate on micro-influences of FDI since it is difficult to identify and aggregate their negative influences and verify the hypothesis (WWF-UK, 1999). Apart from that, PHH is additionally blurred by enormous amount of FDI which goes between the developed countries with strict environmental standards. At the beginning of 2000, PHH was considered an urban myth, with no adequate empirical confirmations. There are two major arguments for such suppositions:

- Environmental standards do not represent sufficiently large costs to affect the decision on production relocation (Levinson and Taylor, 2008),
- Polluting industries are capital intensive and represent comparative advantages of highly industrialised countries which are difficult to relocate (Candau and Dienesch, 2017).

Reasons for transfer of industries between developed countries are: more developed infrastructure, larger market and better educated labour. On the other hand, the countries with bad and/or no regulations regarding environmental protection do not have afore-mentioned characteristics and they are governed by incompetent governments, which may cause even larger costs to the enterprise. According to Candau and Dienesch (2017), the debate on PHH was mostly based on data collected in the USA, whereas it was neglected in Europe and the rest of the world at the same time. However, entering of post communist countries of Europe, Russia and China in free capital flow makes PHH the attractive field of research again. Candau and Dienesch (2017) claim, that PHH is almost always followed by corruption, which blurs real results of the research. According to the research of Kolstad and Wiig based on a sample of 81 countries that received FDI in exploitation of natural resources in the period between 1996 and 2009, econometric analysis confirmed positive correlation between the increase of corruption and foreign investments in this sector. Shaxson (2007) found similar evidence having exposed corruption of oil industries in Africa. Therefore, it can be concluded that the countries susceptible to corruption are considerably attractive to foreign capital in this area, since it enables making of huge profits, as well as that Stiglitz (2009) was also right with statements on inevitability of corruption, if it enables additional profits without any fines. In order to determine actual reasons why capital is moving and when it influences the environment in a negative way, it is necessary to classify movement trends of FDI, and these are: new markets, production platforms and search for resources (Aliyu, 2015). According to Esty and Gentry (1997), investments within first two categories are the least sensitive to growth of environmental standards. However, when FDI are in search for resources, it is considered that they can be sensitive to the change of law on protection of the environment

(Aliyu, 2015). Movement trends of FDI should also be complemented with the search for low costs of: labour, doing business and production factors, which may be sensitive to growing environmental standards. This sensitivity is caused by growth of competition on the world market and growth of corporate power in global economics (Aliyu, 2005). On the other hand, modern economics characterised FDI as generators of development, which countries can really benefit from, regarding increase of production capacities, technological transfers, training of domestic enterprises and improvement of their export sector. However, are benefits of FDI real, is the question that is very difficult to answer, because companies tend to extract bigger part of the profit and that development is considerably slow. To attract and keep foreign investments, a lot of countries are ready to make more and more concessions (WWF-UK, 1999). Therefore, taking into account the previous analysis and movement trends of FDI, as well as conclusions of the previous hypothesis, second hypothesis is set:
H2: If the motive for transfer of industries is a search for resources or lower environmental standards, FDI will move in accordance with suppositions of PHH, since it is the necessity which results from concentration of capital and market competition.

3.2. Influence of FDI on the environment

Official viewpoint of *mainstream* economics on environmental influences of FDI is defined by following argumentation:

- Countries have comparative environmental advantages, i.e. countries with low income should use the opportunity to tolerate pollution and excessive exploitation of resources and set low standards in order to attract FDI.
- FDI increase the tendency for improvement of environmental standards, i.e. together with the development that comes with them, the population`s awareness of protection of the environment will also rise and performed damage will be restored.
- FDI possess and brings more developed and cleaner technologies from those which are used by local manufacturers, which is why it is important to attract foreign investments, in order to accelerate environmental performances of doing business in these countries (WWF-UK,1999).

During reconsideration of the economic development which is based on the aforementioned principles, there is a quotation from Business Week (02.08.1993.) on the subject of bearers of FDI – TNC and the economic growth: *"Free market and free trade in new global economic system are things which will end slow economic growth and high rate of unemployment in industrial world. This is what new economic order really is."* (Stojanov, 2012). Almost 25 years have passed since this euphoric boom of liberalism and the slow economic growth has not been ended yet. Nevertheless, it seems that apart from Asian tigers and China, other countries do not mark significant growth and development, whereas the differences between developed and underdeveloped countries deepen even more and are followed by rapid destruction of the environment. While the competition between enterprises is decreasing, mobility of the capital brought the competition for FDI even between the developed countries is intensified every day to such an extent that the developed countries compete in, for example, by lowering the income tax in order to attract and keep TNC but in more sophisticated industries. There is also a similar competition between the underdeveloped countries regarding lowering the environmental standards and labour rights. There are also practical examples in favour of these claims, especially in the extraction sector, for example, countries of Asian-Pacific region were competing in the middle of the 1990s in order to attract investors to the mining sector (copper, iron, gold, coal and aluminium). More precisely, in 1985, when the Philippine government cut concession costs through financial and technical agreements, investments started coming, and within a year, there were 16 FDI in this sector (Mining Policy Institute, 1998). The other example is Papua New Guinea and Indonesia, whose governments drastically lowered control over protection of the environment in the mining sector. All mining operations in this area did business under privileged conditions of minimum or no control (Mining Policy Institute, 1998). In Indonesia, all mining corporations got the immunity on environmental laws according to Contracts of Work (Mining Policy Institute, 1998). Facilitating or no laws on environmental protection caused very serious environmental damage. An imposing question arise: why do countries tolerate this kind of behaviour and why do they compete? The answer to this question lies in the fact that extraction industries demand enormous investments and technologies, owned by large enterprises. Since very few countries have enough sources for investments to such extent. They are forced to indulge the demands of TNC, which is confirmed by previous claims that TNC have comparative advantages that enable them to become rule makers. However, it also partly confirms the second set hypothesis, because TNC were willing to invest in countries with lower environmental standards. For that reason, critics of globalisation, such as Hermann (1995), Gissinger and Gleditsch (1999), Kaplinsky (2000) and Shiva, (2004) describe TNC as the key active participants and winners of globalisation process that cause inequality and injustice, whereas Wettstein (2009) defines them as symbols of false promises of neo-liberal project (Giuliani and Macchi, 2013). According to Brecher and Costello, fall of wages, social and environmental conditions are the result of global production strategies of TNC, that lead the world towards the *"race to the bottom"* (Giuliani and Macchi, 2013; Stojanov, 2012). In favour of this debate also comes the announcement of the Philippine government in Fortune magazine from 1975: *“In order to attract the company like yours, we levelled the mountains, cut down the jungles, drained the marshes, redirected the rivers and relocated the villages, so that you can do your business more easily.”* (Stojanov, 2012). The phrase *race to the bottom* is very often mentioned in researches connected to PHH, and the words of the Philippine government bear a special weight today. Indeed the liberalisation played a great role in global economic development if the results are aggregated. Productivity *per capita* rose from 614 to 4908 billion dollars in the period from 1970 to 1999 (WWF-UK, 1999). However, economic trends disguise the accumulation of social and environmental problems. The position of World wildlife fund – WWF is stated in favour of the penultimate claim, estimating that the world`s potable water supplies decreased for 50% for the period stated, that ecosystem of the seas deteriorated for 30% and that forest areas are reduced for 10%. In the same period of time, global energy consumption rose over 70%, together with the rise of greenhouse gases emission (WWF-UK, 1999). Furthermore, in the period between 1960 and 1994, proportion of income between 20 richest and poorest countries rose from 30/1 to 78/1(WWF-UK, 1999). These devastating numbers question the validity of *pollute now* and *clean up later* thesis, as well as the neoclassical thesis on faster convergence of countries to FDI, thus throwing the light on PHH again.

3.3. PHH Ghana case

According to Appiah-Kondau (2013) in Ghana case study, trade was a great factor in damaging the environment, which is reflected in uncontrollable exploitation of natural resources (ores, forests). Adoption of Economic Recovery Program in 1983 poured a lot of FDI into the mining sector in Ghana. Due to production growth out of this platform, Ghana adopted the Investment Promotion Act in 1994 (Solarin, Mulali, Al-Musah and Ozturk, 2017). In the period between 1990 till the end of 1999, mining sector in Ghana attracted over 3 billion dollars of foreign investments, i.e. 60% of total influx of FDI into the country (Appiah-Kondau, 2013). Foreign investment trend in mining in Ghana continued in 2000s as well, so in the period from enactment of recovery platform in 1983 to 2011, mining sector attracted 11, 5 billion dollars in total or 65% of total FDI into the country (Appiah-Kondau, 2013). However, market liberalisation and influx of FDI brought with them brisk energy consumption, a large mercury pollution (Hg) and degradation of soil. According to Aragón and Rud research (2014), agricultural land situated in regions where mining activities are performed becomes infertile. Decline in fertility of the agricultural land is not insignificant, since in the period between 1997 and 2005 the fertility decreased for about 40%. Solarin, Mulali, Al-Musah and Ozturk (2017), got to the result that for every 1% rise of FDI influx there is 0,026 % rise of CO_2 emissions into the atmosphere. Out of total CO_2 emission, energy production is responsible for 41 %, mostly by thermal production of energy (Solarin, Mulali, Al-Musah and Ozturk, 2017). Appiah-Kondau (2013), while testing Ph hypothesis based on two regressive equations, come to conclusion that FDI attracted by lenient environmental laws in Ghana contribute to larger CO_2 emissions and exploitation of forest potentials in the country. Solarin, Mulali, Al-Musah and Ozturk (2017) came to similar conclusions and claim that in case of Ghana, PHH is valid and that FDI increases CO_2 emissions, as well as that Ghana developed comparative advantages in polluting industries and that Ghana became PH. By confirming PHH on the Ghana case, second set hypothesis in this paper has been confirmed as well. Apart from Ghana example, the research of Sapkot and Bastol (2017) also confirms the hypothesis. Testing the PHH validity on the example of South America, they got the results that for every 1% of FDI increase, there is a pollution of 0,036%. Looking into emissions of CO_2 in China in the period between 1980 and 2012, Sun, Zhang and Xu (2017) using ARLD method came to the results that by increase of FDI influx by 1 %, CO_2 emission rises by 0,058%, which ultimately cements second hypothesis.

4. CONCLUSION

Enlargement of the enterprise is based on three intertwined processes: accumulation, concentration and centralisation of capital. Initial process of accumulation of capital is based on transfer of the part of capital back to the production. During accumulation of adequate sources, a possibility for concentration and centralisation of capital is created. Since accumulation is defined by profit and profit is defined by costs, bearing in mind ruthless competition, enterprises are forced to reduce costs in all possible ways. Cutting the costs includes costs of environmental protection if it is legally possible. This process confirms first work hypothesis. Movement of capital in search for resources and lower environmental standards - PHH, is also based on the same principles of growing incomes and falling costs. If TNC are in search for resources and lower standards, their investments will be directed towards zones which are more lenient and where standards are lower. Besides, if TNC are large and strong enough, they will try to use their power in order to achieve their ultimate goal, regardless the consequences they leave behind. It is indeed confirmed on the example of extraction industries in Ghana and Asian-Pacific region, which empirically confirms second work hypothesis. It is important to mention that the process of moving of FDI towards PHH is not widespread yet, even if they are polluters, e.g. steel production is still kept in host countries of TNC, because it represents strategic interest (WWF-UK, 1999). Moreover, it is necessary to point out that aggregation of influx of FDI leads to yet inconclusive results, since the majority of FDI is motivated by conquering of new markets, hence the condition of motive in second work hypothesis. By growing environmental standards and laws, capital will be even more motivated to seek PH. More frequent positive results in testing the PHH validity, e.g. in Latin America and China speak in favour of that. It appears that in its practice TNC have support in theory with the principle: pollute first, clean up later, which the author of the paper does not approve of. This principle can endanger the fragile balance of ecosystems and cause irreparable consequences. Therefore, as much as the development and growth of the country are important, it is highly recommended that countries reconsider all possible negative consequences of FDI before they are accepted.

REFERENCES

Aragón , F.M. & Rud, J.P. (2014) Polluting Industries and Agricultural Productivity: Evidence from Ghana, International Growth Centre, 2018. Retrieved from: https://economics.ucr.edu/seminars_colloquia/2013-14/applied_economics/Aragon%20paper%20for%204%2023%2014%20seminar.pdf

Appiah-Kondau, P. (2013). The Efect of Trade Liberalization on the Enviroment: A Case Study of Ghna, *Thesis towards the award of Master of Philosophy Degree in Economics at the University of Ghana*, Department of Economics, Legon.

Aliyu, M. A. (2005). Foreign Direct Investment and the Environment: Pollution Haven Hypothesis Revisited, *Paper prepared for the Eight Annual Conference on Global Economic Analysis*, Lübeck, Germany.

Copeland, B.R., & Taylor, M.S., (2004). Trade, growth, and the environment. *J. Econ.,* Literature 42 (1), 7e71

Candau, F. & Dienesch, E. (2017). Pollution Haven and Corruption Paradise, *Journal of Environmental Economics and Management*, Volume 85.

Elisa Giuliani & Chiara Macchi (2013), Multinational Corporations' Economic and Human Rights Impacts on Developing Countries: A Review and Research Agenda, *Discussion Papers del Dipartimento di Economia e Management* – Università di Pisa, n. 158.

Esty, D.C. & B. S. Gentry (1997), Foreign Investment, Globalisation and Environment, *Globalisation and Environment: Preliminary Perspectives*, OECD, Paris.

Farlex Financial Dictionary (2012). Farlex: 2018. Retrieved from https://financial-dictionary.thefreedictionary.com/Pollution+Haven+Hypothesis

Fiamengo, A. (1973). Osnove opće sociologije*,* Vol. 9, Narodne novine, Zagreb.

Lavčević, G. (1953). Monopoli i financijski kapital, Rad, Beograd.

Levinson, A. & Taylor, S. (2008). Unmasking the Pollution Haven Effect, *International Economic Review*, Vol. 49. DOI: 10.1111/j.1468-2354.2008.00478.x

Lovrinović, I. (2015). Globalne financije, Accent d.o.o., Zagreb.

Lukács, G. (1976). Mladi Marks. Njegov filozofski razvitak, Beogradski izdavačko grafički zavod, Beograd.

Marx, K. & Engels, F. (1977). Kapital 1, Institut za izučavanje radničkog pokreta Prosveta, Beograd.

Mining Policy Institute, (1998). Trade Liberalisation, Mining Investment and the Impacts on the Enviroment and Related Social Issaues, MPI, Sydney.

Solarin, S.A., Al-Mulali, U., Musah, I. & Ozturk, I. (2017). Investigating the pollution haven hypothesis in Ghana: An empirical investigation, *Energy 124*, Elsevier.

Santini, G. (2007). RifiN: 2018. Retrieved from http://www.rifin.com/rifins-news/472-prolo-je-140-godina-od-izdanja-prvog-toma-kapitala-karla-marxa

Kolstad, I. & Wiig, A. (2013). Digging in the dirt? Extractive industry FDI and corruption, *Econ. Gov.,* Vol. 14., Springer-Verlag Berlin Heidelberg, DOI 10.1007/s10101-013-0133-2

Shaxson N (2007) Poisoned wells: the dirty politics of African oil. Palgrave MacMillan, New York.

Candau, F. & Dienesch, E. (2017). Pollution Haven and Corruption Paradise, *Journal of Environmental Economics and Management*, Volume 85.

Sapkota, P. & i Bastola, U. (2017). Foreigndirect investment, income, and environmental pollution in developing countries: Paneldata analysis of Latin America, *Energy Economics*, No. 64.

Salvatore, D. (2003). Microeconmics Theory and Applications, 4th edition, Oxford University Press, New York.

Samuelson, P.A & Nordhaus, W.D. (2009). Ekonomija, Vol. 19, Mate d.o.o., Zagreb.

Stiglitz, J.E. (2009). Uspjeh globalizacije, Algoritam, Zagreb.

Stojanov, D. (2012). Ekonomska kriza i kriza ekonomske znanosti, Ekonomski fakultet Sveučilišta u Rijeci, Ekonomski fakultet Univerziteta u Sarajevu, Rifin, Zagreb.

Stojanov, D. & Jakovac, P. (2013). Ekonomska znanost u zamci globalizacije, *Ekonomski pregled*, No. 64.

Sun, C., Zhang F. & Xu, M. (2017). Investigation of pollution haven hypothesis for China: An ARDL approachwith breakpoint unit root tests, *Journal of Cleaner Production*, No. 161.

Velić. I., Cerović, Lj. &Maradin, D. (in press). Monopoly Exploitation and Rent-Seeking as an Inevitability of Capital Concentration, *Asian Economic and Financial Review*, AESS Publications.

WWF-UK (1999). Foring Direct Investment and the Environment: From Pollution Havens to Sustainable Development, by Mabey, N. and McNally, R. WWF-UK Report.