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THE IMPACT OF FDI ON THE ECONOMIC DEVELOPMENT OF SERBIA[1]

Uticaj stranih direktnih investicija na ekonomski razvoj Srbije

Abstract

Previous studies that attempted to answer whether FDI contributes to economic development of the host economy came up with conflicting results. Scientific community is still divided over the very concept of spillover effects, which is based on the thesis that FDI has a positive effect on local companies, thus stimulating the host economy. According to this theory, employment growth is among the main benefits of FDI inflow for the host country. Given that unemployment is the biggest problem of the Serbian economy, FDI is perceived by the public as the best remedy for alleviating the consequences of the transition period and rapid privatisation. Convinced in the omnipotent effect of FDI on the economy of the host country, the Republic of Serbia has invested significant resources in their subsidising. This policy of attracting foreign direct investments was implemented through non-transparent measures, which resulted in the inflow of FDI whose main purpose was to obtain the share of the market or provide lower operating costs through privatisation. It was unclear whether the FDI inflow of over 20 billion euros contributed to the economic development of Serbia in the2001–2013 period. The author attempted to provide an answer to this question by using correlation analysis, in order to determine whether there is a relation between FDI inflow and eleven selected indicators of economic development of Serbia.

Keywords: *FDI, Serbia, economic development, spillover effects, employment, wages, GDP*

Sažetak

Sva dosadašnja istraživanja koja su pokušala da pruže odgovor na pitanje da li strane direktne investicije doprinose ekonomskom razvoju zemlje domaćina, dala su različite rezultate i suprotne odgovore na postavljeno pitanje. Stručna i naučna javnost se i dalje spori oko samog koncepta efekata prelivanja, koji se zasniva na tezi da strane direktne investicije pozitivno deluju na domaća preduzeća, pospešujući time razvoj privrede zemlje domaćina. Među osnovnim prednostima priliva stranih direktnih investicija za zemlju domaćina, prvenstveno se navodi rast zaposlenosti. S obzirom na to da je nezaposlenost rak rana srpske privrede, strane direktne investicije percipirane su u javnosti kao najbolji lek za ublažavanje posledica tranzicionog perioda i nagle privatizacije. Uverena u svemoćno dejstvo stranih investicija na privredu zemlje domaćina, Republika Srbija je u posmatranom periodu uložila značajna materijalna sredstva u njihovo subvencionisanje. Ova politika privlačenja stranih direktnih investicija sprovodila se netransparentno, što je za posledicu imalo priliv onih investicija čiji je cilj bio privatizacijom pridobiti tržište ili obezbediti niže troškove rada. Ostalo je nejasno da li su strane direktne investicije uopšte doprinele ekonomskom razvoju Srbije u periodu koji karakteriše priliv od preko dvadeset milijardi evra. Autor je u radu pokušao da pruži odgovor na ovo pitanje koristeći se korelacionom analizom kako bi utvrdio postoji li kvantitativno slaganje između priliva stranih direktnih investicija i jedanaest izabranih indikatora ekonomskog razvoja Srbije.

Ključne reči: *strane direktne investicije, Srbija, ekonomski razvoj, teorija efekata prelivanja, zaposlenost, zarade, BDP*

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Introduction

Foreign direct investment (FDI) has become a phrase that Serbian politicians often repeated during the past decade, almost like a mantra, in order to rescue the ailing economy and to win votes, in a way that any review of the effects of these investments on the domestic economy was a sort of blasphemy. FDI was attributed with almost fantastic performances, and its magical effect on economic development was accepted as an axiom. From 2000 to 2013, Serbia introduced a number of measures which facilitated and liberalised the inflow of FDI and the transfer of capital, while privatisation was the main form of investing in Serbia. Subsidies for foreign investments were the highest in the region. The conditions under which these subsidies were granted remained non-transparent, while the most valuable contracts with foreign investors remained secret. In the decade in which Serbia attracted substantial foreign investments, it is unclear how much of this investment really affected the country's economic development.

The main research question was: Did FDI stimulate economic development of Serbia from 2001 to 2013? The basic assumption is that FDI creates jobs, but it should be noted that the most significant investments in Serbia came through privatisation, which included layoffs, while green-field investments were an exception rather than the rule. Therefore, the author was interested in finding out whether there was a causal link between FDI and local economic development. In other words, in the case study of Serbia, the author attempted to provide an answer to the question of whether foreign direct investments promote the economic development of the host country. The research was time-limited to the period from 2001, when the country began to liberalise its investment and trade policy, until the end of 2013.

In this research, a correlation analysis was employed – a technique by which correlation between FDI inflow and indicators of economic development is determined. The author wanted to prove that the theory of spillover effects has its limitations and that it is fundamentally misplaced. The defects of this theory were visible to the naked eye in the case of Serbia, which attracted, from 2001 until the end of 2013, about twenty billion euros of FDI. This FDI did not produce the desired effects on the domestic economy. The negative indicators of economic development in Serbia mostly relate to the number of employees and the unemployment rate, which was higher in 2013, than in 2005. Therefore, the author's argument is based on the thesis that FDI did not cause significant spillover effects on the Serbian economy, and that it didn't contribute to the economic development of Serbia.

FDI and economic development of the host country

There are many definitions of foreign direct investment (FDI). Oskar Kovač claims that direct investment is any form of capital investment in an enterprise that acquires ownership control over it[10, pp.280–281]. The International Monetary Fund (IMF) states that foreign direct investment is investment undertaken abroad by a direct investor, resident of one economy/country in order to take control or permanent stake in a company that operates in a different economy/country[9, p.101].The Organisation for Economic Co-operation and Development (OECD) points out that FDI is created when a company resident in one country is establishing a lasting interest in enterprise which is a resident of another country[19, p.48]. The United Nations Conference on Trade and Development (UNCTAD) defines FDI as an investment involving a long-term relationship and reflecting a lasting interest and control of the company which is a resident of one country by a parent company resident in another country. Since the main feature of FDI is taken to be the lasting interest of a direct investor in an enterprise, only capital that is provided by the direct investor, either directly or through other enterprises related to the investor, should be classified as FDI [33, p.245]. Although different authors and international organisations offer different definitions, for the purposes of this research FDI will be defined as a kind of international movement of capital by which a foreign investor acquires the right to execute control over the company in which he/she invested capital.

The first authors who studied foreign direct investments and the possibility that they directly or indirectly cause the transfer of superior technology and knowledge to enterprises in the host country, were Caves in 1974, who conducted

his own research on the case of Australia, Globerman in 1979, exploring the impact of foreign direct investors in Canada, as well as Blomstrom in 1986 who conducted extensive research in Mexico [5, p.6]. These authors laid the foundations for the theory of spillover effects, which was empirically investigated all over the globe. Numerous researches came up with opposite conclusions, but the theory is still valid, although the spillover effects cannot be confirmed with certainty. This research will stand as another empirical verification of the theory that relies on the hypothesis that transnational companies cause positive effects on the productivity and competitiveness of domestic enterprises, thereby accelerating the economic development of the host country.

Theories that explain FDI claim that a company needs to possess certain specific advantage if it decides to internationalise its production. This specific advantage refers to a certain kind of improved productivity, technological superiority and specific knowledge that the investor possesses in comparison to domestic enterprises [18, p.5]. In other words, companies from abroad that invest in the host country operate at a much higher technological and technical level than it is the case with domestic enterprises. On the other hand, the foreign investor is being exposed to competition from domestic enterprises that know the domestic market and customer preferences well, and already have a developed supply chain. The theory argues that domestic companies will take all the necessary steps to preserve their profit and market share, which is being threatened by the arrival of foreign investors. They do this by trying to compensate for the specific advantage that a foreign investor has, by copying its technology or finding new and more efficient uses for existing resources. Incentives and opportunities for local businesses come from the necessity of foreign investors to establish their own supply chain in the host country. This means more work for local companies, which will have to meet the technical and technological standards required by foreign investors, thereby improving their productivity and competitiveness. The essence of the theory of spillover effects, which is often called the theory of technology transfer, is the inevitability of direct or indirect technology transfer from FDI to domestic companies. Technology in this sense can be in the form of superior technology, unique know-how, marketing skills, achieved economies of scale, the international supply chain, and all other kinds of advantages.

By examining this inevitability, Aitken and Harrison presented a not so optimistic study in 1991, which was related to FDI in the manufacturing sector in Venezuela in the period from 1976 to 1989. These authors conclude that domestic suppliers were not able to benefit from the presence of FDI, because foreign companies procure draw materials and semi-finished products almost entirely though import [2]. On the other hand, one of the studies that allegedly prove the existence of spillover effects from FDI to distributors and retailers in host economy is the one published by McAleese and McDonald in 1978. Although they claimed that in Ireland the technology transfer from the FDI shed in both directions, to suppliers, as well as to distributors in the country, this conclusion could not be empirically verified [14].

The aforementioned pioneer studies by Caves, Blomstrom and Globerman examined the effects of foreign presence on labour productivity of local businesses. Although these authors were not able to determine ways in which the technology and knowledge spread to domestic enterprises, all three studies came to the same conclusion – local businesses increased their productivity in sectors where foreign capital was present[3, p.125]. In a similar way, Gorg and Strobl concluded that FDI can be of use to local companies, not only through transfer of technology, but also through the so-called externalities. In other words, foreign investors increased the demand for local products and services that are used in everyday business, primarily at the local level, which enabled local companies to increase productivity [6].

Some of the research carried out in the previous years lead to the conclusion that FDI produces exclusively positive effects on the host economy, while others went to the opposite extreme claiming that FDI influences local businesses and host economy in a negative way. Lipsey and Sjoholm tried to solve this problem of opposing conclusions by offering the only explanation that seemed reasonable at the time. They concluded that different countries and their companies are in different stages of economic and

technological development, therefore not all of them have the necessary skills to benefit from the presence of foreign investments and their superior technology. Economies that are lagging behind the technologically developed countries will not be able to benefit from FDI, and their domestic companies will be the ones that are pushed out from the market [12].

Lall and Narula point out that FDI can lead to increased productivity in the host economy and growth in export value, but it does not necessarily have to be the case. Therefore, FDI will not necessarily produce spillover effects and increase competitiveness of the domestic economy. In other words, the spillover effects are not guaranteed, and FDI will not always have a positive impact on local economic development. They supported this claim by presenting numerous examples of Asian countries where FDI did not contribute to their economic development, and where foreign investors built their business strategies on the exploitation of labour and maintaining a low level of earnings [11].

In 1991,Nadiri claimed that the FDI from the United States acted positively on industrial production and overall productivity in Germany, Japan, UK and France in the period between 1968 and 1988 [15]. On the other hand, Hadad and Harrison showed that there was no significant spillover effect in the manufacturing sector in Morocco between 1985 and 1989. However, these authors pointed out that the presence of FDI encouraged local companies to be more productive, but only within the limits of their technological capabilities [7]. In other words, where FDI comes in with modern, superior technology, spillovers are impossible within the same industry sector. Domestic companies are simply unable to replicate this superior technology, which is the only way for them to survive in the market. Not only that FDI does not contribute to the spillover effects, but it is claimed that it has a negative impact on the competitiveness of domestic enterprises.

Indeed, numerous studies revealed not only neutral, but negative effects of FDI on domestic companies. One of those studies, conducted by Aitken and Harrison, found that transnational companies have less marginal costs owing to their specific advantages at the international level, and therefore are able to offer better prices and push out local businesses from the market [1].Hanson also concludes that there is weak evidence that FDI generates positive spillovers for host economies. He claims that plants in industries with a larger multinational presence enjoy lower rates of productivity growth and adds that there clearly is a need for much more research into the consequences of FDI [8].

One of the most common explanations of neutral or negative effects of FDI on domestic economy is that not all companies are able to benefit from the presence of the FDI, therefore the spillover effect depends on the absorptive capacity of local enterprises. Kokko explains this capacity as the power to accept and input newly arrived knowledge and technology, and that it will depend primarily on the size of the technological gap between FDI and the local company. In other words, domestic enterprises will be able to benefit from the presence of FDI only if the technology gap is not too great in favour of FDI. If domestic companies are significantly inferior in terms of technology, they will not be able to absorb knowledge and technology from foreign direct investors. According to Girma and Gorg, this technological gap can be quantified, and they argue that local enterprises with a gap of 10% or less with regards to FDI will benefit from FDI presence, while the productivity of other domestic companies, with a greater technology gap, will decrease [4].

Current evidence of spillover effects, based on the numerous studies, is not sufficient and conclusive enough to confirm the thesis that FDI causes the transfer of technology. The very thesis that FDI stimulates local economy is unclear. In other words, previous studies were so different, in terms of methodology, that it is impossible to clearly determine whether the impact of FDI on the economy of the host country is positive or negative. Additional research is needed, and this one is yet another attempt to respond to the given problem.

Approach to the analysis and selection of indicators of economic development

This research is limited to investigating the impact of non-financial FDI – exclusively to foreign companies dealing with manufacturing, service providing and trade that have

invested their capital in Serbia. This is based not only on the fact that the most important world's stats in the field of international trade (UNCTAD, World Bank, Eurostat) separate financial from other FDI, but also because of the very theory of spillover effects, which assumes that the transfer of technology and knowledge comes from these sectors, while the impact of the financial sector is of secondary importance. In other words, it is highly more likely that the local companies and the overall economy will thrive due to the arrival of a car factory, than as a consequence of opening yet another foreign bank.

Following the decision to abstract the impact of the financial FDI, it was necessary to come to the relevant two groups of data. The first group is related to the FDI inflows in Serbia, that is, their value observed for each year from 2001 to 2013. The second group of data is related to the indicators of economic development, also for each year within the observed period. Within the first group of data, it was decided to use the database of the National Alliance for Local Economic Development (NALED). For many years now, this organisation has been compiling data into a special investment database that contains all the data on the important FDI in Serbia since 2000. By accessing this investment database, the author calculated that for the period from 2001 until the end of 2013, a total amount of 19 billion euros of non-financial FDI was invested in 81 cities and municipalities in Serbia [16].

As for the indicators of economic development, based on the data obtained from the Statistical Office of the Republic of Serbia, which are available in its yearbooks for all the observed years (2001–2013), it was decided to select the following eleven indicators:

1. Average mid-year population;
2. Total GDP in millions of euros;
3. GDP per capita in euros;
4. Real GDP growth in percentage;
5. Total number of employed persons;
6. Number of employed persons per 1,000 capita;
7. Number of employed persons in the manufacturing industry;
8. Number of employed persons in wholesale and retail trade;
9. Total number of unemployed persons;
10. Number of unemployed persons per 1,000 capita;
11. Average wages in euros.

The average population was used as a demographic indicator directly dependent on the overall economic situation. In the literature, the most common indicator of the economic situation of an economy is the gross domestic product (GDP), and that is why this parameter was selected to begin with. The unemployment rate could not be used as an indicator of the economic development of Serbia, since the methodology used by the Statistical Office of the Republic of Serbia to calculate this rate has changed since 2005. Given that there are no available data on unemployment rate, the data on the total number of employed and unemployed persons are used in the analysis, as well as the data on the number of employed and unemployed persons per 1,000 capita. In addition, the analysis includes the data on the number of employed persons in two main economic sectors: manufacturing industry and trade. This decision was made with the aim of gaining insight into the sectoral distribution of employed persons, and in changes in the Serbian economy due to FDI inflow, mainly through privatisation.

The correlation analysis was used as a statistical technique for determining the relation between FDI and economic development of the country, i.e. the impact of non-financial FDI on the economic development of Serbia. This technique is intended to determine whether there is a quantitative match between FDI inflows and indicators of economic development, as numeric phenomena, and whether there is a significant correlation between these two phenomena (variables). The results of the analysis are presented through the Pearson's correlation coefficients, which indicate the level of quantitative match of variations between two numeric phenomena. If the absolute value of a correlation coefficient is closer to 1, the match between two phenomena is greater, and if it is closer to zero, the match is lower. Only coefficients exceeding0.7 are considered to be indicators of a clear linear correlation between the trends of two observed phenomena, which proves that the trend of one phenomenon is dependent on the trend of the other [34, p.308].If the value of the correlation coefficient is positive, correlation between phenomena is positive, i.e. direct, since both phenomena show variations of the

same direction. If the value of the correlation coefficient is negative, this indicates that the correlation is negative, i.e. inverse – variations of the phenomena are moving in the reverse direction [13, p.644]. The coefficient of a simple correlation is calculated by using the following formula (it is irrelevant which phenomenon is marked with an *X*, or a *Y*):

$$r = \frac{C_{XY}}{\sigma_X \cdot \sigma_Y} = \frac{\frac{\sum XY}{n} - \overline{X} \cdot \overline{Y}}{\sqrt{\frac{\sum X^2}{n} - \overline{X}^2} \cdot \sqrt{\frac{\sum Y^2}{n} - \overline{Y}^2}}$$

In order for the research to be complete, and to undoubtedly prove whether there is a correlation between FDI and economic development of Serbia, a time lag was introduced into the correlation analysis as a factor. Under the assumption that FDI can cause spillover effects only after a certain amount of time (usually several years), the correlation analysis was done in three ways:

a) by calculating the correlation coefficient without a time lag;
b) by calculating the correlation coefficient with a one-year time lag;
c) by calculating the correlation coefficient with a two-year time lag.

This practically means that the impact of FDI inflows in Serbia on indicators of economic development in the year of the investment, the following year, and after two years, was separately quantified.

Correlation analysis

According to the NALED's data, 19.023 million euros were invested in Serbia through non-financial FDI during the observed period of thirteen years. FDI inflow was recorded in each observed year, and the highest inflow was in 2003, when almost 4 billion euros was invested in Serbia.

The population of Serbia decreased by approximately 337 thousand in the observed period, which was followed by a decline in the total number of employees. In 2001, there were 1.9 million employees in Serbia, and by 2013 the number decreased to 1.7 million. When observing the number of employees per 1,000 capita, this ratio is replicated: 246 employees per 1,000 capita in 2001, and 239 employed persons per 1,000 capita in 2013 in Serbia.

Table 1: FDI and economic development indicators of Serbia from 2001 to 2013

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
FDI inflow in millions of euros	212	1498.7	3981.1	464.6	817.6	3784.15	1035.6	1567.3	1012.2	624.5	1524.5	660.85	1183.5
Average mid-year population in thousands	7503.433	7500.031	7480.591	7463.157	7440.769	7411.569	7381.579	7350.222	7320.807	7291.436	7236.519	7201.497	7166.553
Total GDP in millions of euros	13805.457	17100.493	18737.964	19966.630	21103.299	24434.617	29451.573	33704.523	30654.677	29766.284	33423.801	31683.096	34262.945
GDP per capita in euros	1839.885	2280.056	2504.877	2675.360	2836.172	3296.821	3989.874	4585.511	4187.336	4082.362	4618.768	4399.515	4780.952
Real GDP growth in percentage	5	7.1	4.4	9	5.5	4.9	5.9	5.4	-3.1	0.6	1.4	-1	2.6
Total number of employed persons	1904477	1848531	1813570	2050854	2068964	2025627	2002344	1999475	1889084	1795775	1746138	1727048	1715163
No. of employed persons per 1,000 capita	246	246	241	275	278	274	271	272	258	246	241	240	239
No. of employed persons in the manufacturing industry	570613	511850	466942	483654	459950	420956	391897	370354	339428	311790	295363	289286	287147
No. of employed persons in wholesale and retail trade	125624	113373	108461	208279	204730	197807	196216	199495	193065	188706	183326	183973	180037
Total number of unemployed persons	780541	904494	944939	969888	895697	916257	785 099	727 621	730372	729520	738756	754603	769546
No. of unemployed persons per 1,000 capita	101	121	125	130	120	124	106	99	100	100	102	105	107
Average wages in euros	98.221	151.712	176.605	194.075	210.181	258.078	347.144	402.085	337.759	331.337	372.496	365.755	388.308
Unemployment rate (%)	x	x	x	x	20.8	20.9	18.1	13.6	16.1	19.2	23	23.9	22.1

Source: Author's calculation on the basis of [16] and [17], [20], [21], [22], [23], [24], [25], [26], [27], [28], [30], [31], [32]

By observing the indicators' trends, one notices the phenomenon typical of the transition countries: a decrease in the number of employees in manufacturing and an increase in the number of employees in trade, which is clearly evident in the case of Serbia. The number of employees in the manufacturing industry was cut in half during these thirteen years, while the number of employed persons in trade increased by 43%. The number of unemployed persons did not drop significantly in the observed period, however, given the decrease in population, and when observing the number of unemployed persons per 1,000 capita, an increase of 6% is observed. Since 2005, the unemployment rate decreased evenly by several percentages, and came at 24% in 2012. This is a disturbingly high value, and points out to the weakness of the Serbian economy.

Gross domestic product recorded a significant increase of 3.7% in the observed period, while the negative growth rate in Serbia was recorded in 2009 (-3.1%) and 2012 (-1%). The highest real growth of GDP (7.1%) was achieved in 2002. GDP per capita increased by 160% in the observed period, while the total GDP was 2.3 times higher in 2003 compared to 2001.

Considering the obtained results, it is important to note that the values of a correlation coefficient lower than 0.4 show a weak linear correlation between the two observed phenomena, while the values of the coefficient lower than 0.2 are statistically insignificant, meaning they show that there is no significant linear correlation between the observed phenomena. As it can be observed, there is no sufficiently strong linear correlation between FDI in Serbia and indicators of economic development (Table 2). Accordingly, it can be argued that a significant correlation between FDI and economic development of the Serbian economy in the period from 2001 to 2013 does not exist. Nevertheless, a relative correlation between FDI and specific indicators of economic development has been noticed, weak or moderate, though.

When observing the correlation coefficients in the analysis without a time lag, one notices an extremely weak linear correlation (0.2) between FDI inflow and fluctuation in population, meaning that these two phenomena can hardly be related. An inverse weak linear correlation (coefficient -0.28) exists between FDI and the number of employees in wholesale and retail trade, which means that in the year they arrived, FDI to a certain extent had to do with a decline in the number of persons employed in this branch of industry. The direct linear correlation of moderate strength was registered for indicators related to the number of unemployed persons, thus one can argue that FDI are responsible for the increase in the number of unemployed in the year of the investment. Specifically, the correlation coefficients relating to the total number of unemployed persons, as well as to the number of unemployed persons per 1,000 capita, range from 0.44 to 0.46, which are moderate strength values that point to the existence of a correlation between FDI

Table 2: Results of the correlation analysis

	Value without time lag	Value with time lag =1	Value with time lag =2
FDI inflow in millions of euros	1	1	1
Average mid-year population in thousands	0.207432	0.200860	0.120908
Total GDP in millions of euros	-0.101311	-0.082237	0.051088
GDP per capita in euros	-0.110090	-0.093767	0.038281
Real GDP growth in percentage	0.113052	0.296987	0.291825
Total number of employed persons	0.022876	0.388116	0.445162
No. of employed persons per 1,000 capita	0.010645	0.390594	0.486755
No. of employed persons in the manufacturing industry	0.076616	0.175223	0.155002
No. of employed persons in wholesale and retail trade	-0.284869	0.312368	0.461838
Total number of unemployed persons	0.444606	0.182747	-0.106801
No. of unemployed persons per 1,000 capita	0.461494	.171127	-0.131923
Average wages in euros	-0.094546	-0.035174	0.071629

Source: Author's calculation on the basis of Table 1

inflows and decrease in the number of employees. This can be explained by the fact that foreign investors, who invested their capital in Serbia through privatisation, first laid off a number of employees. FDI did not produce any significant impacts on the other indicators of economic development in the investment year.

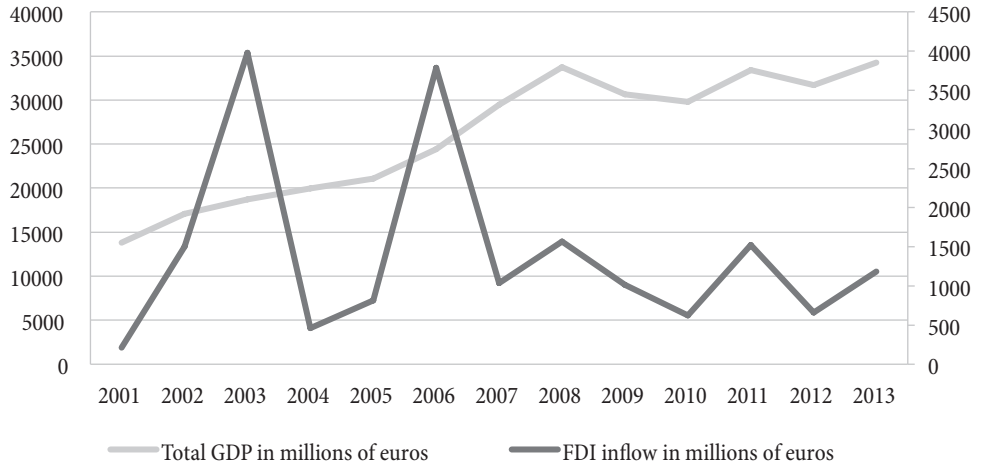
When observing the results of the analysis with a one-year time lag, one comes to somewhat different conclusions. FDI are linked through a weak linear correlation with the population, real GDP growth and indicators related to the number of employees. Since these correlation coefficients are of extremely low value (ranging from 0.2 to 0.39), and since the coefficients of other indicators are of extremely low value as well, it can be concluded that FDI did not have a significant impact on the economic development of Serbia, not even after one year after the investment.

Perhaps the most important of all is the correlation analysis with a two-year time lag, when it is assumed that FDI should have an impact on the host economy. Again, most of the indicators exhibited no significant correlation coefficient; however, several important indicators did show a correlation with the FDI inflow. First of all, the number of employees per 1,000 capita, whose correlation coefficient is 0.48, which practically means that there is a relatively weak direct linear correlation between this indicator and FDI inflow. In other words, the increase in the number of employees in Serbia can be explained to some extent by the FDI inflow, two years after the initial investment. It is interesting that this indicator in the analysis without a time lag was of extremely low value; hence the number of employees could not be linked to the investment inflow.

A somewhat weaker linear correlation of moderate strength was registered for the real GDP growth, as well as for the total number of employees and the number of employees in wholesale and retail trade. What is especially interesting is the drastic change of the correlation coefficient for the number of employees in wholesale and retail trade, which moved from a negative value in the analysis without a time lag to the value of 0.46 in the analysis with a two-year time lag. This leads to the conclusion that foreign investments only slightly reduced the number of employees in trade in the first year, while two years later they stimulated increase in the number of employees in this sector. Accordingly, it can be concluded that two years after their arrival, FDI moderately affected the increase in the number of employees, especially in the trade sector, as well as the real GDP growth. On the other hand, annual changes in FDI inflows had no effect on the trends of the following indicators: the average population; GDP; GDP per capita; the number of employed persons in the manufacturing industry; the number of unemployed persons; the number of unemployed persons per 1,000 capita, and the average wage.

Bearing in mind that most indicators recorded low values of the correlation coefficients, and that only a few indicators recorded correlation coefficients of moderate strength, it cannot be argued that there is a correlation between FDI inflow and indicators of economic development

Figure 1: Serbian GDP and FDI inflow for the period from 2001 to 2013



Source: Table 1

of Serbia in the observed period. It can be concluded that FDI had no significant impact on the economic development of Serbia in the period between 2001 and 2013.

Discussion of the results

The results of the correlation analysis unambiguously confirmed the thesis that FDI did not significantly contribute to the economic development of Serbia. In the observed period, the population in Serbia decreased by 337 thousand, and the total number of employees decreased as well. Production dropped; hence the number of employees in the manufacturing industry was reduced by half. During this time, the unemployment rate was increasing, while only the trade sector recorded an increase. The fact that the trade sector flourished is exclusively the result of increased imports in the observed period, which was not accompanied by a proportional increase in exports. Without a sufficient amount of export-oriented FDI, it could not be expected that they will contribute significantly to the economy of Serbia. The analysis showed that FDI inflows had no statistically significant correlations with the trends of GDP, reduction of the number of unemployed persons and wage growth, as the main indicators of economic development of a country.

The main question now arising is: Why there have been no spillover effects of FDI when it is known that the non-financial sector alone in the observed thirteen-year long period received over 19 billion euros of foreign capital? The answer to this question could be sought both in the structure and form of FDI that came to Serbia, and in the policy of attracting FDI which Serbia implemented in the observed period.

By examining the list of the twenty largest non-financial FDI, one notices that privatisations, as a form of foreign investment, prevail. Twenty largest FDI brought 12.3 billion euros into the Serbian economy, out of which 14 were in the form of privatisation with a total value of 8.8 billion euros. On the same list, there is one brown-field investment, which actually is the privatisation of Apatinska pivara (Apatin Brewery) by the Belgian company Anheuser-Bush InBev NV. The total value of privatisations

Table 3: 20 largest non-financial FDI in Serbia (2001-2013)

Rank	Company	Year	Form of FDI	Sector	Country	Value in EUR
1	Telenor	2006	privatisation	Telecommunications	Norway	1,898,000,000
2	Delhaize	2011	green-field	Retail	Belgium	1,028,000,000
3	Kohlberg Kravis Roberts (KKR)	2013	privatisation	Telecommunications	United States	1,000,000,000
4	Gazprom Neft / NIS Novi Sad	2009	privatisation	Oil & Gas	Russia	947,000,000
5	Fiat Group Automobiles	2008	privatisation	Automotive industry	Italy	940,000,000
6	Telekom Austria Group / VIP Mobile	2006	green-field	Telecommunications	Austria	827,000,000
7	Philip Morris	2003	privatisation	Tobacco	United States	733,000,000
8	Stada - Hemofarm	2006	privatisation	Pharmaceutical	Germany	650,000,000
9	Agrokor	2003	privatisation	Food & Beverage, Agriculture	Croatia	614,000,000
10	Salford Capital Partners	2003	privatisation	Food & Beverage, Agriculture	United Kingdom	500,000,000
11	Merkator	2002	green-field	Retail	Slovenia	500,000,000
12	Molson Coors (Apatinska pivara)	2003	privatisation	Food & Beverage, Agriculture	United States	487,000,000
13	BIG CEE	2009	green-field	Real Estate	Israel	470,000,000
14	Anheuser-Bush InBev NV	2003	brown-field	Food & Beverage, Agriculture	Belgium	430,000,000
15	UnipolSai / DDOR Novi Sad	2008	privatisation	Insurance & Pension	Italy	262,000,000
16	BIG TIGAR	2011	green-field	Automotive industry	France	215,000,000
17	LUKOIL	2003	privatisation	Oil & Gas	Russia	210,000,000
18	PepsiCo / Marbo Product	2008	privatisation	Food & Beverage, Agriculture	United States	200,000,000
19	British American Tobacco	2003	privatisation	Tobacco	United Kingdom	200,000,000
20	Carlsberg Breweries A/S	2003	privatisation	Food & Beverage, Agriculture	Denmark	175,000,000
Total						12,286,000,000

Source: Author's calculation based on [16]

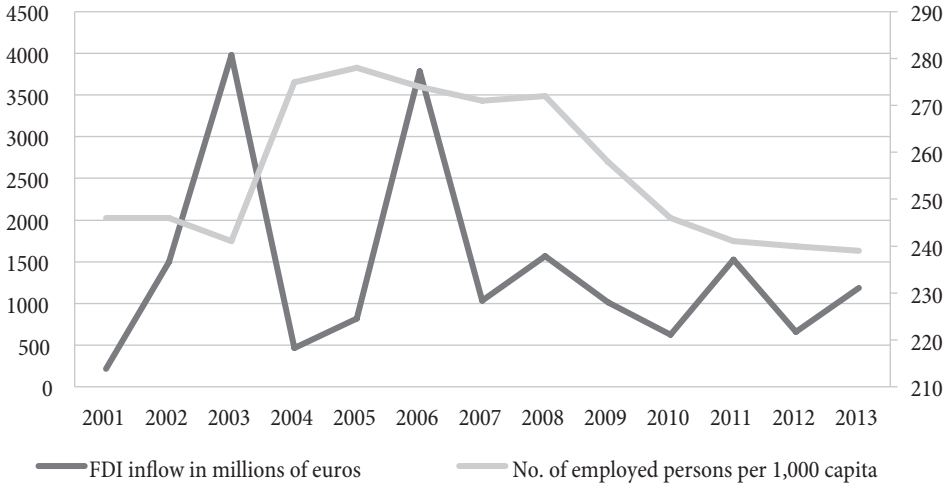
is almost 9.3 billion euros only for the first twenty non-financial FDI in Serbia. According to the NALED's data, a total amount of around 13 billion euros of FDI came to Serbia through privatisations in the 2001–2013 period in the non-financial sector alone. Specifically, observing the total FDI inflow in Serbia, two thirds came in the form of privatisations.[2]

Observed from the perspective of the economy of a host country, privatisation as a form of FDI is certainly the least desirable form of capital inflow. Privatisations almost as a rule imply a layoff, hence the spillover effects in that case are questionable, especially when the overall employment is observed. By examining the list of the largest FDI, it is clearly visible that these privatisations in most cases referred to the tobacco industry, breweries, cement plants, etc. In addition to the negative impact on employment, the majority of raw materials needed for the production financed by the FDI were imported from abroad, hence the spillover effect could not exist inside the supply chain. When it comes to intrasectoral technology and knowledge spillover, it did not happen either, since there was practically no domestic competition. The largest number of large-capacity factories ended up in the hands of transnational companies in the first years of the transition process in Serbia.

The entire policy of attracting FDI to Serbia was created with the aim of creating new jobs, but it turned out that FDI did not have a significant impact on the employment growth and decrease in the unemployment rate. The policy to attract FDI has been institutionally implemented only since 2006, and has been reduced to mere financial and fiscal support to foreign investors. This meant that foreign investors were given land free of charge, the government invested in infrastructure, and the investor was exempted from taxes and contributions for employees. In addition, since 2010, subsidies have been granted for newly employed workers, and hence some foreign investors were able to generate up to ten thousand euros per new workplace, depending on the sector and area of investment. In practice, a contract was concluded between a foreign investor and the state, which was effective for a number of years, with the possibility of an extension, which obliged the investor to pay minimum wages to the subsidised workers. By submitting a bank guarantee, the investor undertook not to sell the land that the government conceded free of charge, as well as to employ a certain number of workers over a period of several years. However, it turned out that a bank guarantee is an insufficient tool for preventing misuse of financial support to investors, since many companies gave guarantees of insolvent banks that soon after become void. Also, the state allowed many bank guarantees to expire or not to be activated, regardless of the fact that foreign investors did not fulfill the terms of the contract. On the other hand,

2 Author's calculations based on data received from: the National Aliance for Local Economic Development (NALED), the Internet:http://www.naled-serbia.org/investments/index/Baza+investicija, retrieved on: March 15th 2016.

Figure 2: Number of employed persons per 1,000 capita and FDI inflow in Serbia for the period from 2001 to 2013



Source: Table 1

information on total government investments in projects of subsidising foreign investors are not publicly available, and therefore researchers are left to speculate about how much Serbia really gave to foreign investors. In addition, due to the absence of regulations on companies' mandatory reporting on the amount of current investments, data on FDI inflow should be taken only as indicative, not as official. It can be concluded that the policy to attract FDI was conducted in a non-transparent manner, which opened the possibility for numerous corruptive activities on one hand, and discrimination against domestic investors on the other.

In an attempt to connect this research with the previous ones, which dealt with the impact of FDI on the economy of the host country, it can be said that the author sides with those authors who did not find evidence of the spillover effects. Thus, the author agrees with the authors who claim that there is no causal relation between FDI inflow and economic development of the host country. In this respect, this research adds another element to this argument. The author believes that the success of spillover effects depends on the form of FDI. In other words, privatisation as a form of FDI cannot produce spillover effects to the extent that green-field investments can, which implies investing in a brand new company and creating opportunities for new jobs. Also, the author believes that much depends on the policy that a state implements to attract FDI. If this policy is implemented non-transparently and by favouring foreign investors over domestic ones, there will hardly be any spillover effects on domestic companies, because they are automatically placed at a disadvantage.

Conclusion

The theoretical assumption that FDI stimulate the economic development of the host country was empirically tested in the case study of Serbia. Serbia is the ideal framework for this research, since it is a country that attracted significant foreign capital in the observed period and completely changed its economic policy, aligning it with the liberal demands of the European and world markets. In addition, Serbia invested effort and capital in attracting FDI in the observed period, by non-transparently providing subsidies to foreign investors.

The initial hypothesis was that there was no necessary causality between FDI and local economic development, meaning that FDI will not, by their mere presence, always and everywhere, cause technology and knowledge spillover effects. The author was able to prove this by way of correlation analysis at the level of the Republic of Serbia. The obtained values of the correlation coefficients between FDI inflow in Serbia and indicators of economic development clearly show that there is no significant linear correlation between these two trends. This practically means that not only that FDI did not stimulate the economic development of Serbia in the observed period, but also that they have no significant common points with the basic macroeconomic indicators.

The answer to the question of why foreign investments have not contributed to the economic development of Serbia could be found in the fact that the majority of foreign capital came in the form of privatisation. The main motive of foreign investors was to gain access to the Serbian market through privatisation under favourable conditions. These privatisations, as a rule, involved layoffs, and their products have been placed mainly in the domestic market.

The author has concerns about the fact that the state does not possess accurate information on the value of the total FDI, or on the value of the subsidies in the observed period. In addition, information on amounts that foreign investors actually invested in Serbia remains in the hands of the investors.

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