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JOURNAL OF SECURITY AND SUSTAINABILITY ISSUES
ISSN 2029-7017 print/ISSN 2029-7025 online
2015 September Volume 5 Number 1
http://dx.doi.org/10.9770/jssi.2015.5.1(5)

FOREIGN DIRECT INVESTMENT: IMPACT ON SUSTAINABLE DEVELOPMENT IN REGIONS OF SLOVAK REPUBLIC

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Received 16 February 2015; accepted 30 May 2015

Abstract. The Žilina region is located in north-western Slovakia. Considering the amount of GDP, unemployment, employment and average wage, it belongs among the medium-performance regions in Slovakia. FDI is considered one of the factors promoting its sustainable development, economic performance and balancing regional differences. A positive aspect of FDI in terms of regional development is the fact that they contribute to an efficient allocation of resources, as investors are directing their investments in those regions where they expect the achievement of economies of scale. FDI began to increasingly flow to the Žilina region after 2004, in connection with the arrival of KIA Motors and establishing its subcontracting partners. The aim of this article is to point out the condition and development of economic performance and FDI in the Žilina region, and to demonstrate a causal relationship between FDI and the sustainable development of the region.

Keywords: foreign direct investment, sustainable development, gross domestic product, unemployment, employment, average wage.

Reference to this paper should be made as follows: Kucharčíková, A., Tokarčíková,E., Klučka J., Koňušíková, Ľ. 2015. Foreign Direct Investment: Impact on Sustainable Development in Regions of Slovak Republic, *Journal of Security and Sustainability Issues* 5(1): 59–71. DOI: http://dx.doi.org/10.9770/jssi.2015.5.1(5)

JEL Classifications: O10, R11, F63

1. Introduction

Globalization may be defined as the broadening and deepening linkages of national economies into a world-wide market for goods, services and especially capital (Tvaronavičienė, Grybaitė *et al.* 2013; Travkina, Tvaronavičienė 2015). A foreign direct investment represents the accompanying character of the current globalization economic and political and social processes in the world. According to the OECD, foreign direct investment is a category of investment, which reflects the permanent interest of an enterprise (direct investor) in another enterprise (foreign investment enterprise), which is resident in a different economy, as the direct investor is. Interest imports the existence of a long-term relationship between the direct investor and direct investment enterprise and the corresponding degree of impact (not necessarily control) on the management of the enterprise. The ownership of 10% or more of the voting rights in the company of another resident of the country

as the residence of the investor is deemed to be proof of this relationship. "A direct investment enterprise can be a subsidiary, an associate or a branch in accordance to the direct investor's share in the basic capital. The concepts of a subsidiary, an associate or a branch used in the statistics of foreign direct investment differ from the definitions of these concepts used in the internationally applicable accounting standards. The subsidiary represents more than 50% of the direct investor´s share in the basic capital or voting rights, considering the associate it is the share from 10 to 50 percent. The branch is a 100% owned by a direct investor, while there may be a permanent office or representation, land and buildings directly owned by non-resident and mobile device, which the economy is operating at more than one year. Reinvested profits and other capital associated with various intercompany credit operations are considered, in addition to the contribution to the basic capital, as a part of foreign direct investment." (National Bank of Slovakia)

2. Development of foreign direct investment in Slovakia

Slovakia was situated in the volume of FDI in last place in the V4 countries until to 1998. Since 1998, FDI´s inflow to Slovakia have grown faster than in the past, while after Slovakia's accession to the European Union, FDI inflow has intensified. In 2004, FDI was 16.1 billion Euros. In 2008 it was only 36.5 billion Euros. This was reflected in an increase in FDI. Turnover, however, occurred in connection with signs of economic recession. Although FDI in Slovakia continues to grow, after 2008, the dynamics has significantly reduced. The state of FDI represented 42.6 billion Euros in Slovakia in 2013 (Fig. 1).

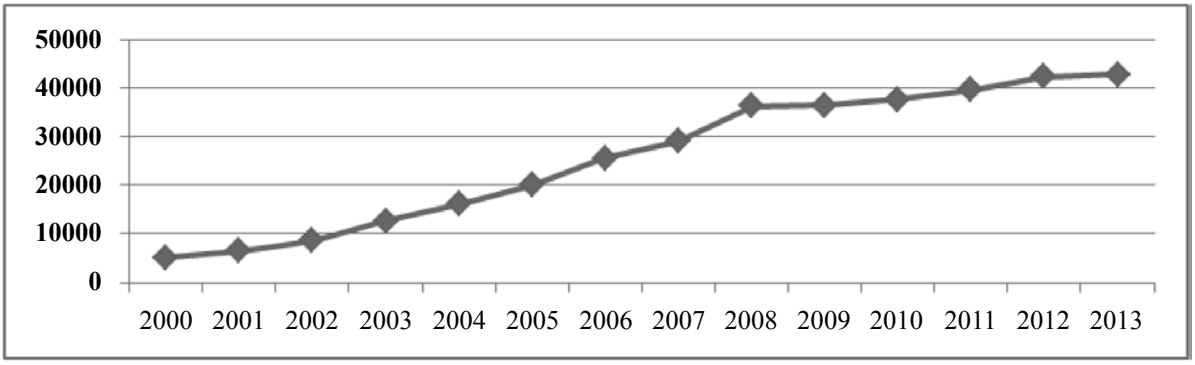


Fig. 1. Development of FDI in Slovakia in the years 2000-2013 (in mil. EUR)

Source: NBS

By 2006, FDI flows were directed mainly to the traditional industries. Significant investments went to Slovakia within restructuring in the banking sector in banking. At present, FDI is mainly aimed at sectors of electrical, engineering, automobile, rubber, metal processing, wood processing, furniture and paper industry and wholesale trade, expecting further investment in energy and IT sector. A positive feature in FDI enterprises is the development of production with higher added value (Kucharčíková 2013).

3. Foreign direct investment in the regions of Slovakia

In terms of regional distribution in Slovakia in 2006, FDI directed mainly to the western part and in the vicinity of Bratislava, despite the fact that it was the most (Fig.2) developed region. This fact was mainly due to territorial proximity and excellent transport connections to the countries of Western Europe, new motorway, high level of human capital, given and influenced by a large number of universities in Bratislava.

Fig. 2. Regions of Slovakia

However, for the purposes of equitable economic and social development, it is necessary for FDI to come into less developed regions with high unemployment. There was a reversal in the direction of investments during the years 2006 and 2007 and investors focused in considerable extent to the Košice, Nitra, Trenčín, Žilina and Banská Bystrica regions. In spite of the fact that investments have recently flown from abroad to other regions as in Bratislava, FDI represented cumulative to 31.12.2012 in the Bratislava region to 70% of the total volume of investment. While in the regions with the highest unemployment, lowest performance and efficiency in the use of productive resources, it was paradoxically the smallest shares. It was 3% in the Banská Bystrica region and only 1% in the Prešov region of the total volume of FDI in the Slovak Republic (SR). The share of FDI represents 8% in the Trnava region, 6% in the Žilina and Košice region, 4% in the Nitra region of the total FDI in Slovakia.

4. Sustainable development of Žilina region

The Žilina region is an important international crossroad, connecting the transport networks of the three countries - Slovakia, Czech Republic and Poland. Industrial character of the Žilina region is affected by the lack of fertile soil. Industry contributes significantly to economic growth, employment and development of the region. Industrial companies in this region are mainly focused on the automobile industry, engineering and food industry. Automobile industry considerably boosted the development of subcontractor capacities for the production of components and spare parts for the automobile industry. The best performing companies in the region are working in the industries of metallurgy, engineering, and production of wood, cellulose, paper and related products. Electrical engineering and telecommunications have a relatively important position in the region, too. Due to different historical, geographical, climatic, socio-economic and political conditions in the development, there have emerged regional disparities in the indicators of economic development.

4.1. Gross domestic product

A regional difference in the development of GDP is characteristic of Slovakia. A disadvantage of its compilation is the fact that the regional GDP includes the performance of citizens who commute to a region and are involved in the formation of its GDP. Therefore, no account shall be taken of the fact that there is a certain percentage of the population commuting. A major problem in comparing the statistical development of regional GDP is relatively large time delay of dissemination of statistical data. In December 2014, there were available the “latest” data on the development of regional GDP in 2011. Then, it is very difficult to adopt a decision about the future direction of development of the region with obsolete data.

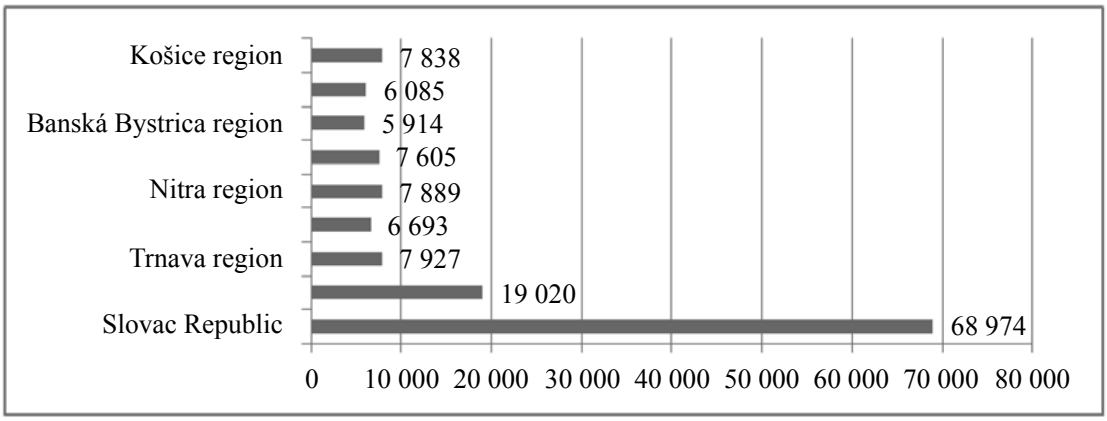


Fig. 3. Regional GDP in Slovakia in 2011 (in mil. Euro, current prices)

Source: National bank of Slovakia

Counties in the western part of Slovakia, near the capital (the Bratislava region, the Trnava region, the Nitra region) are characterized by higher level of GDP (Fig. 3). There are more reasons of given state, in addition to different natural conditions, demographic structure, social, cultural and historical conditions, it is also the level and quality of transport infrastructure. The development of the sectoral structure of the economy, which in the transformation process after 1990 and after the division of the state in 1993 underwent in both countries through extensive structural changes as well as the allocation of foreign investment significantly, affects regional disparities in GDP. These factors ultimately led to the increase of performance in Slovakia, but also to the deepening of regional disparities (Fig. 4).

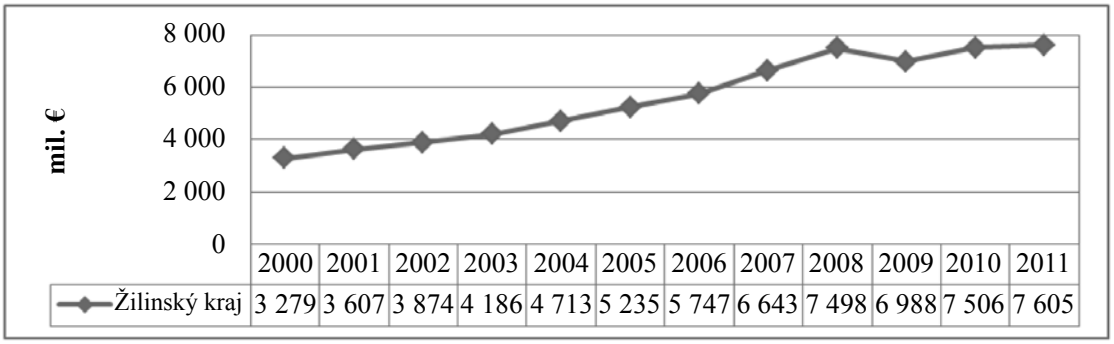


Fig. 4. Development of regional GDP in the Žilina region (Žilinský kraj) in the years 2000-2011 (in mil. Euro, current prices)

Source: Statistical Office of the Slovak Republic

Regional differences began to deepen in the period of the transformation process, which saw the conversion of military production, which had been linked to many businesses spread all over Slovakia. Those without replacement production program went bankrupt; some were transformed into several smaller companies. Many agricultural and manufacturing cooperatives that were major employers in the country and contributed to the reduction of regional disparities did not survive during the transformation. Problem for the investment process in agriculture and profitability of agricultural investments projects are also involved in a number of authors in their research, for example Oana (2013). The consequence was a decline in GDP and increase in unemployment with significant differences between regions.

Žilina region share in the total GDP of the country slowly increased, and in 2011 reached 11 %. The District maintains a stable share of industrial production, around 30% of GDP. Industry is diversified with representation from all sectors. Significant production mainly includes cellulose and paper, mechanical engineering, food

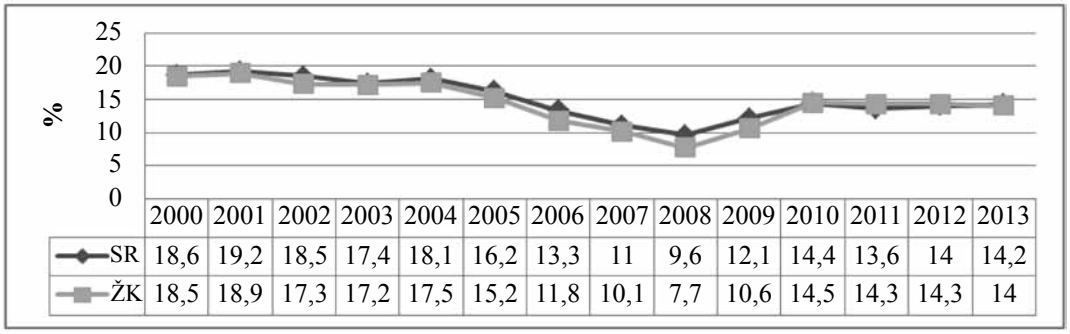
industry, and wood processing industry. Arriving KIA Motors in Žilina, it also includes the automobile and electronics industries. In recent years, construction sector has been gaining in importance, which increased its share from 8% in 2000 to 15% of GDP in 2011. This increase is mainly due to the construction of road infrastructure, motorway D1, to the east. GDP in the Žilina region in the period 2000 – 2011 increased more than twofold. While it stood at 3 279 thousand Euros in 2000, it expanded to 7 605 thousand Euros at the end of 2011. Considering the performance, the region is ranked at the third place within the regions of Slovakia. Creation of GDP in the years 2000 - 2004 was an upward trend, suggesting a progressive development of the region in the future.

4.2. Unemployment

The problem of unemployment is serious socio-economic problem in many countries. Slovakia, where unemployment is manifested early in the process of economic transformation and this problem persists to this day is no exception. Unemployment represents a result and demonstration of imbalances between supply and demand, emerging in the labour market. This reflects not only economic, but also social situation in the country, which is reflected in worsening health, increase in divorce demography, crime, drug addiction and so on.

Unemployment in Slovakia is characterized by a high proportion of long-term unemployed people and significant regional differentiation. Unemployment rate in Slovakia in 2013 was 14.2 %. While Bratislava region (6.4%) and western regions of Slovakia (Trnava and Nitra region) have lower level of unemployment, southern and eastern regions (regions of Banská Bystrica, Prešov, Košice) are characterized by persistently high level (about 18 %) of this indicator. There are many reasons. Unfinished motorway network in the direction of west-east discourages foreign investors to seek business opportunities in the east. A high proportion of unemployed of Romany origin with low level of education leads to their low competitiveness in the labour market. Since this is a predominantly long-term unemployed people, they lose their work habits and willingness to look for a job, on the other hand, due to the above facts, there is also a low willingness of entrepreneurs to employ these people. When comparing the development of unemployment rate between the regions, there is an interesting fact that, despite the low cost of labour force in the east, it does not lead to a significantly higher level of employment. It is just caused by a low level of qualification of the labour force. People with higher qualifications tend to commute to work either in the capital or abroad. Despite the fact that from 2003 to 2008, unemployment in Slovakia was constantly decreasing, due to launching economic reforms and inflow of foreign investors, regional differences were maintained. We assume that it was the arrival of major investors of automobile and electronics industries in the Trnava region (PSA, Sony, and Samsung) and the Žilina region (KIA) that reduced the gap in the level of unemployment compared to the Bratislava region and these regions got under average of Slovakia with the amount of unemployment rate.

Considering the amount of unemployment, the Žilina region is at the fifth place. Unemployment in the years 2000-2004 was falling very slowly, it dropped by only 1% for four years. Reducing unemployment rate has gained the intensity in 2004 when the investment of KIA Motors was announced. It can be assumed that its arrival just occurred the recovery in the region, there started intensive work on completing motorway D1 from Bratislava to Žilina, as a condition of arrival. There were created new supply companies. In the period 2004-2008, unemployment fell from 17.5% to 7.7%, It is an improvement of about 10% in four years. However, with the arrival of economic recession the unemployment rate began to rise again (Fig. 5) (Kucharčíková *et al*. 2015).



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SR	18,6	19,2	18,5	17,4	18,1	16,2	13,3	11	9,6	12,1	14,4	13,6	14	14,2
ŽK	18,5	18,9	17,3	17,2	17,5	15,2	11,8	10,1	7,7	10,6	14,5	14,3	14,3	14

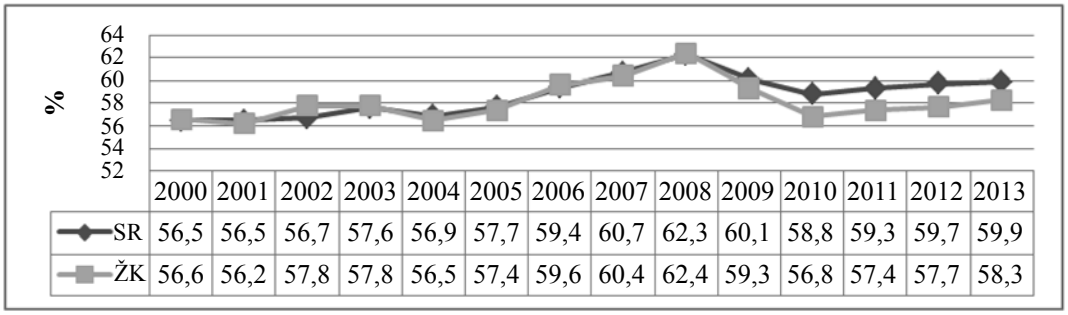
Fig. 5. Development of the unemployment rate in the Žilina region (ŽK) and Slovakia (SR) in the years 2000-2013 (in %)

Source: Statistical Office of the Slovak Republic

4.3. Employment

Employment rate is more appropriate indicator, which reflects the economic performance of the region as well as the level of utilization of the production factor of labour. "Employment is the state of the labour market, where the subjects able to work find the application and actively enter work process, whether as staff employed or self-employed." (Kucharčíková *et al.* 2011). Employment may rise as a result of the growth of labour market flexibility, which has a positive impact in the long term. The development of employment is influenced by the development of GDP, but the problem in Slovakia is that whether a country is in the situation of economic growth or decline, regional disparities in development indicator of employment are maintained.

The employment rate in the Žilina region gradually increased from 2000 to 2008, while the milestone is the year 2004. There have appeared large changes that can be attributed to the growth of employment and the economy, and it is to improve the business conditions of the adoption of the tax reform, the adoption of Slovakia to the European Union, the adoption of the new Law on Employment Services and KIA Motors notification to build a factory for automobiles in Žilina, thereby creating 2 400 new jobs. Within the arrival of the following producers, there were created more jobs. After 2008 there are beginning to show the effects of the global recession and the number of employed is rapidly declining for two years about 25 000 people to the level of 253 642 employees in 2010. Employment is growing slowly again from this year (Fig. 6).



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SR	56,5	56,5	56,7	57,6	56,9	57,7	59,4	60,7	62,3	60,1	58,8	59,3	59,7	59,9
ŽK	56,6	56,2	57,8	57,8	56,5	57,4	59,6	60,4	62,4	59,3	56,8	57,4	57,7	58,3

Fig. 6. Development of the employment rate of the 15-64 years in the Žilina region (ŽK) and Slovakia (SR) in the years 2000-2013 (in %)

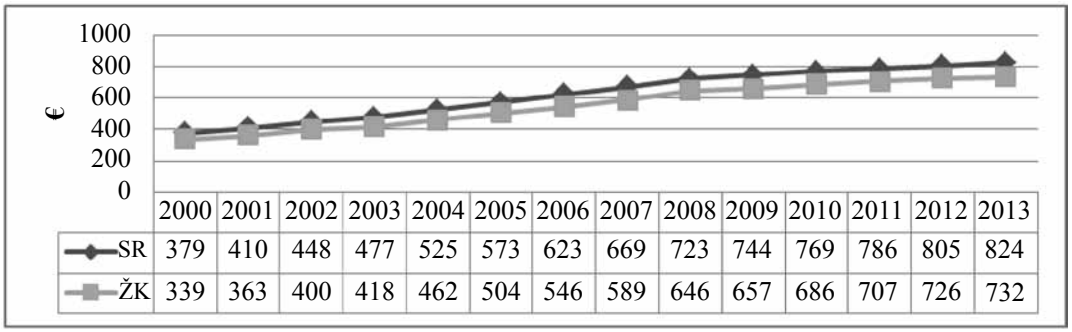
Source: Statistical Office of the Slovak Republic

According to particular industries of SK NACE Rev. 2 development of employment represents a decrease of employment in industry and increase of employment in wholesale and retail trade. In the period 2000-2010, the number of employed in industry dropped by 4% to 29% and employment in wholesale and retail increased by 5% to 27%. The construction sector has significantly increasing trend in the Žilina region, from 8% in 2000 to 11% in 2010. This increase is supported by the construction of road infrastructure. The most important employ-

ers in the region include (with respect to foreign ownership) INA Kysuce, KIA Motors Slovakia, Mobis Slovakia, DONG HEE Slovakia, ECCO Slovakia, Panasonic Electronic Devices and Mondi SCP. Positive feature for the development of the region is slowly but steady increase in the employment rate since 2010.

4.4. Average wage

Average gross nominal monthly wage reflects the average monthly level of employee wages as the price of his labour in the labour market (without managerial and entrepreneurial income). It is independent variable, where its development and characteristics is derived not only from the number of employees, but the number of unemployed.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SR	379	410	448	477	525	573	623	669	723	744	769	786	805	824
ŽK	339	363	400	418	462	504	546	589	646	657	686	707	726	732

Fig. 7. Average nominal monthly wage in the Žilina region (ŽK) and Slovakia (SR) in 2013 (in Euro)

Source: Statistical Office of the Slovak Republic

The average nominal salary in Slovakia has a tendency to continuous growth (Fig.7). However, the dynamics of growth significantly slowed down in relation to the signs of recession in 2008.

Recession is a difficult period not only for employees but for employers as well. Employees with the key competences, responsibilities should be able to motivate their team also during recession. When the first signs of the financial crisis appear in the organisation, most of traditional methods applied by the enterprise in the area of employee motivation before this period are not suitable for new situation or cannot be carried out at all. Incentives, extra holidays, corporate entertaining and rewards as the most commonly used tools of motivation seem to be less important in the atmosphere of insecurity (Hitka, Balážová 2015). However many employers reduced working hours to four days a week and employees were given the day off on Friday with compensation for wage about 60% of the average wage.

The average nominal salary in Slovakia has a tendency to continuous growth. However, the dynamics of growth significantly slowed down in 2008. This is linked to the economic recession, in which many employers reduced working hours to four days a week and employees were given the day off on Friday with compensation for wage about 60% of the average wage. This measure maintaining the employment, however, resulted in the statistics as decrease in the dynamics of growth of the average nominal wage. If employers reduced, employment would decrease, but average wages would increase, because employers release less skilled workers with lower wages first. As far as all the indicators of regional economic performance monitored, there persist significant regional differences in Slovakia considering the state and development of average nominal monthly wage.

The Žilina region was at the fourth place in 2013 considering the amount of the average nominal wage. The positive is that the development of this indicator is constantly growing. In Bratislava region this indicator in 2013 amounted to € 1,049. Žilina region of € 732 conquered fifth place. The increase of dynamics occurred after 2007, which may be related to the overall economic recovery in the region, however, there already arose significantly slowdown of the growth of average wages in 2009 in comparison with the year 2008, up to 8%. The growth of wages fell from 9.7% in 2008 to only 1.7% in 2009 (Fig. 7). However, development of average wage is lagging behind the high dynamics of growth in labour productivity in the region.

5. FDI – impact on the sustainable development of the Žilina region

Foreign investment began to flow in Slovakia in the period after 1997. Initially, they went solely to a western Slovakia near Bratislava. After 2006, investments were directed more to the north and centre of Slovakia. Due to lack of transport infrastructure, unfinished motorway, investors allocate their investment in the east with a much smaller willingness. Therefore, regional differences in the level of GDP still remain (Kucharčíková *et al.* 2011).

The Žilina region, one of the eight regions of Slovakia, located in the north-western part, is in third place of the state of FDI. Since 2000, the amount of FDI has gradually increased to 2.5 billion Euros in this region (equity capital and reinvested profit) in 2012.

Currently, most FDI leading to the Žilina region is recorded in the automobile industry, thanks to particular location of KIA Motors and VW Bratislava branches in Martin. In connection therewith, there have been entrenched many companies in the region that make them subcontractors such Mobis, Hysco, Glovis and Donghee. Therefore, almost 86% of FDI was directed into the automobile industry between the years 2002-2008. Other significant investments were directed into electrical, chemical industry and cellulose.

There may be more motives abroad for investors to invest. For example, it is a finding new business opportunities towards the specific needs of customers, trying to get new natural and human resources at a lower price than the domestic economy. It may be looking for new opportunities to market products, ultimately it is growth of production efficiency and increase of own revenues (Tokarčíková 2011; Travkina, Tvaronavičienė 2015).

5.1. FDI – impact on GDP

According to several authors, dealing with regional aspects of FDI, FDI represent an important factor in the regional economy, competitiveness and regional development (Dunning, Gugler 2008; Jones, Wren 2006; Turnock 2011; Antanavičienė 2014; Šabasevičienė, Grybaitė 2014; Travkina; Tvaronavičienė 2015). Second, Alfaro, L., et al. (2006) conducted an empirical study on which did not confirm beliefs economic policy makers about the positive impact of FDI on economic growth. They see more growth effect when the goods are produced by domestic firms and multinationals operate only as a supplement. Therefore, the implementation of policies aimed at attracting FDI, legislators should be careful.

According to Mačiulis and Tvaronavičienė (2013) investment is context sensitive, and direction toward FDI attraction is not unconditional. Nevertheless, the direction itself remains clear enough: additional capital inflows are seen as important driving force of secure and sustainable development of country. Foreign direct investments are one of the life-forces for economic growth. Foreign investors use local labour, capital, and natural resources that are constantly running out and limited. However, global companies that translocate their production process often devastate the nature of the host country (Šimelytė, Antanavičienė 2013; Travkina, Tvaronavičienė 2015).

Supporting the development of the regions and overcoming their regional disparities, a differentiated approach depending on the level of the economic performance of the region is necessary. Although the weaker regions have a certain supply of labour, or certain mineral or energy resources available, however, there is necessary starting cash capital for their activation, optimal combination and effective use.

It is possible to promote development in the regions with labour force with higher level of qualification, presence of universities producing a workforce with a high level of human capital through a focus on support for science, research, development and innovation, building research and innovation centres, which would pull the weaker regions with the developmental activities and their connection with the practice in the future. However, support for science, and research requires a high volume of financial resources from private and state sector.

With regard to the financial undersizing of private domestic business sector and financial sophistication of government´s measures adopted in connection with the resolution of the effects of the economic recession, a significant source of funding for research and innovation programmes at regional, interregional and international levels is considered resources from European Union funds and foreign direct investment, although it must be admitted that countries spend considerable resources in the form of investment incentives in order to attract foreign investors.

We have estimated and deduced the positive impact of FDI on the economic performance so far. The aim of the article is to prove or disprove this estimated dependence using regression analysis. One of the most important analyses is finding the impact of foreign direct investments on the level of gross domestic product in the Žilina region. According to the macroeconomic theory, investments have multiplier effect on the output of the economy. Without the multiplication effect of the investments, state granted investment support for foreign investors would be inefficient. Identifying the impact of FDI on GDP we used linear regression and time series obtained from statistics of the National Bank of Slovakia and the Statistical Office of the Slovak Republic. For a more objective confirmation of the relationship between FDI and GDP there have been used all available data, in this case data from 1997-2011.

To find out the dependence we have calculated the regression line in the form: $\mathbf{Y = a + bX.}$ Independent variable *X* represents the state of FDI in the region affecting economic growth, the amount of GDP, which is expressed by dependent variable *Y*. Using statistical calculations we obtain the value of the constants *a, b*, in order to obtain a particular regression line. Regression line for the Žilina region calculated is in the form (1):

$$\mathbf{Y = 2653{,}06 + 2{,}11103X} \quad (1)$$
$$\mathbf{(83{,}1339),\ (0{,}06349)}$$
$$\mathbf{R^2 = 0{,}989261;\ F_R = 1105{,}418}$$

If FDI increased by 1 million Euros, this increase would increase GDP by 2.11 million Euros. If foreign investors would not invest their capital in the Žilina region, the level of gross domestic product would correspond to the value of 2 653 million Euros. On the basis of tests, we found that the model and its parameters are statistically significant and, according to the coefficient of determination $(R)^2$ we can say that the explanation rate of the variability of the data model is 98.92%.

Thus, we can confirm the theory of the positive impact of FDI on the GDP growth in the region. Foreign investors bring capital that domestic companies do not have available and, therefore, they are an important source of economic growth (Kucharčíková *et al.* 2015).

5.2. FDI - impact on unemployment

Some authors consider that the conditions on the labour market are the key in deciding the direction of FDI (Demel, Potužáková 2012). In regression analysis of the impact of FDI on the unemployment we once again identified the state of FDI as independent variable *X* and unemployment rate as dependent variable *Y*. Regression analysis was carried out of the available data for the period 2000-2012. The specific regression line of the impact of FDI on the unemployment rate for the Žilina region has the form (2):

$$\mathbf{Y = 19{,}1857 - 3{,}38847X} \quad (2)$$
$$\mathbf{(1{,}4262);\ (0{,}8885)}$$
$$\mathbf{R^2 = 0{,}5925;\ F_R = 14{,}5418}$$

When investing 1 billion Euros of FDI, the unemployment rate in the Žilina region will be reduced of 3.39%. If, however, it was about not to invest, the unemployment rate would be at the amount of 19.18%. Tests of significance have confirmed the relevance of the model and its parameters. Therefore, FDI contributes to a decline in unemployment in the Žilina region. Explanation rate of the variability of the data model is, however, in the amount of 59.25%. The amount of the explanation rate of data model is caused by exclusion of all the variables that have an impact on unemployment.

Regression analysis confirmed the positive impact of FDI on the unemployment rate in the Žilina region and we can confirm that foreign direct investments support the decline in the unemployment rate.

5.3. FDI - impact on employment

The impact of foreign investment on employment seems to be clear. Investors increase the production capacity, build new production plants, and thus create new jobs, which need to be filled. In regression analysis, we examined the impact of FDI on the employment rate. For the independent variable, we set out the state of FDI again and the dependent variable *Y* we consider the employment rate. Data available from the period 1997- 2012 were subject to regression. Regression line of the impact of FDI on the employment rate in the Žilina region has the form (3):

$$\mathbf{Y = 56{,}6007 + 1{,}1424X} \quad (3)$$
$$\mathbf{(0{,}0{,}9807),\ (0{,}61100)}$$
$$\mathbf{R^2 = 0{,}2590\ F_R = 3{,}4955}$$

If there was invested 1 billion Euros of foreign direct investment in the Žilina region, the employment rate would be increased of 1.14%. If it was about not to invest in the region, the employment rate would be 56.6%. On the basis of the tests of significance we found that the parameters are significant, but the model as a whole not. Explanation rate of the variability of the data model is low, only 25.9%.

Using regression analysis of the impact of FDI on the employment rate we cannot confirm with certainty the positive impact of FDI on the employment. Since the coefficient of determination is too low, only 25.9%, it means that the greater part of the model is not explained by the equation, and in the case of the Žilina region, the model is insignificant. The orientation of the regression line indicates that while increasing FDI the employment rate is rising, however, the employment rate is affected by many other factors and FDI is only one of many. The reason that it is not possible to clearly confirm the positive impact of FDI on employment growth may be the fact that initial state of unemployment in the context of the comparison was high. We can assume that after reaching a certain lower level of unemployment, the employment begins to increase in a greater extent in the next inflow of FDI. Also many citizens of the region are travelling to work in the Bratislava region or employed abroad.

5.4. FDI - impact on average wages

Increasing performance of the economy that FDI has a demonstrable impact on brings the pressure on wage growth, which makes stronger the population welcomed and it strengthens the growth of GDP through consumption. Despite the fact that foreign investors are attracted by qualified cheap labour force to the territory of Slovakia, they often offer their employees higher wages than domestic employers and it's precisely because of the attraction of a highly qualified labour force to their enterprise. On the other hand, higher wages for foreign investors put pressure on increasing wages for domestic entrepreneurs.

While assessing the impact of FDI on wages, we set the state of FDI once again for the independent variable *X* and average nominal wage represented a dependent variable *Y*. We calculated coefficients of the variables and determined the specific form of regression line (4):

$$\mathbf{Y = 322{,}627 + 141{,}842X} \quad (4)$$
$$\mathbf{(9{,}147);\ (5{,}69882)}$$
$$\mathbf{R^2 = 0{,}9841;\ F_R = 619{,}49}$$

Increasing FDI of 1 billion Euros, the average nominal wage is increased of 142 Euros in the Žilina region. FDI at zero, the average wage would be 322 Euro. According to the tests, statistical significance of the parameters has been confirmed. Explanation rate of the variability of the data model is 98.41%, which means a high degree of explanation of the phenomenon of the model.

On the basis of the regression analysis of the impact of FDI on the average nominal wage we can conclude the positive impact of increasing FDI on the amount of average nominal monthly wage in the Žilina region.

There was confirmed the impact of foreign direct investments in the above analysis on several indicators of sustainable development in the Žilina region. It was confirmed that with the arrival of foreign investment the growth of GDP increases, unemployment rate decreases and average wage increases.

The impact of FDI on GDP has been evident since 2004, when KIA Motors came to the county, together with its subcontractors. Since 2004, dynamic growth of GDP has occurred; each invested billion of foreign direct investment has been reflected in the growth of GDP, on average twice.

Impact on the unemployment rate is also shown to be positive. Regression analysis revealed that investing 1 billion Euros reduces unemployment by an average of 3.4%. The decline in unemployment occurs mainly with the boom of Greenfield investments, when production capacity is expanding and investors need new employees. To reduce unemployment, the character of the investment projects has also affect. Investments were mainly assembly character, which is labour-consuming, but high qualification of employees is not required. A low labour cost in Slovakia helps to reduce unemployment.

Increasing FDI in the Žilina region, the average nominal monthly wage also grew. Foreign companies in the region offered 15% higher wages than domestic employers. This difference is forcing domestic employers to raise wages to prevent employees to get to foreign employer. Using the regression we found out that investing 1 billion Euros wages increase by 140 Euros.

Using regression analysis of the impact of FDI on the employment rate we cannot confirm with certainty the positive impact of FDI on the employment. The reason may be the fact that initial state of unemployment in the context of the comparison was high. We can assume that after reaching a certain lower level of unemployment, the employment begins to increase in a greater extent in the next inflow of FDI. Also many citizens of the region are travelling to work in the Bratislava region or are employed abroad.

Conclusions

The growth of technology intensity of production, opening of markets and continuing growth of competition require that companies are interested in technological improving of their production processes, improving quality of production and services, introduction of information technology and innovation (Kucharčíková 2014). FDI have a major impact on the significantly economic undercapitalized environment and often represent in the circumstances the only possible development incentive (Soviar, Lendel, Kocifaj, Čavošová 2013).

The major benefits of Foreign Direct Investment include: economic development, transferring technologies, creating new jobs, raising the productivity of the host country and others (Antanavičienė 2014).

With regard to the future, positive effect of FDI is that new technologies are coming to the region with them, which require employing people with higher levels of qualification. It supports innovative activities of domestic competition in the region and the willingness and the need for people to educate themselves. As far as domestic enterprises become subcontractors for foreign investor, there is a possibility for them to expand in the foreign markets, which usually an investor has already carried out. Using promotion of tourism in the region can attract tourists from the country of origin of the foreign investor. This is an opportunity for regions with lower level of economy to revive production, reduce unemployment and improve the standard of living of the citizens of the region in the longer term. It is very convenient, as long as the enterprise of foreign investment is allocated in the border regions. Then, the positive impacts of FDI on both sides are multiplied. Therefore, considering the positive impacts on the economic performance of the region it should be remembered positive impacts not only in the field of introduction of new technologies, but also in the field of increase of education and the standard of living in the future.

On the basis of observations and statistical data, it can be stated that negatives of foreign direct investment in the Žilina region observed include in particular one-way orientation on automobile and related electronics industry. Foreign investors take advantage of our cheap labour force in the activities undemanding on employees' qualification – working on line, assembly. These activities do not force employees to further training. In a globalised environment, investors decide very quickly, whether to maintain its production at the place where the price of work increases and the conditions of business worsen or move their production capacity to territories with a better business environment. With the growth of the economic performance our primary advantages will be getting smaller and if we do not offer investors good reason to remain in the country, investors will leave, and even generous state aid, which has a considerable volume of use, will not help. A significant negative in promoting inflow of FDI is also the unequal distribution of state aid, which is, at first glance, offering foreign investors as well as domestic. The government in an attempt to increase employment is spending public resources to the detriment of domestic producers.

Regression analysis confirmed the impact of foreign direct investments in the above analysis on several indicators of sustainable development in the Žilina region. It was confirmed that with the arrival of foreign investment the growth of GDP increases, unemployment rate decreases and average wage increases. However, regression analysis did not confirm positive influence FDI on employment increase in Žilina region. This may be due to the fact that many citizens of Žilina region leaving for their work in the capital city Bratislava or abroad, especially in the Czech Republic.

The problems that actually discourage foreign investors from the activity in Slovakia, however, do not have economic, but more ethical and moral nature. It is weak law enforcement, delays in legal proceedings, instability of legal environment, which is related to frequent legislative changes, corruption and bureaucracy in the public sector. As long as these deficiencies are not consistently removed, Slovakia will become unconvincing partner for many foreign entrepreneurs.

Acknowledgements

This article was created as part of application of projects: Innovation and internationalization of Education – Instrument to increase the quality of the University of Žilina in the European educational area. Modern Education for the Knowledge Society/Project is funded by EU; VEGA No 1/0421/13 Attribute efficiency and the human capital; VEGA 1/0526/13 Modelling of the multilateral relations of economic entities and improving the quality of their decision-making processes with ICT.

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