RESEARCH ARTICLE

Foreign direct investments (FDI) and Productivity in Albania

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Abstract
Foreign direct investments (FDI) inflows are a very important factor for the economic growth especially for the small and underdevelopment economies. This paper aims to give an overview of the performance of FDI in Albania and their contribution in the economic development. The study will be extended to the other SEE countries and a comparative analysis will be presented. Focusing in Albania this study tries to investigate and analyze the dependency between FDI and labour productivity through a simple two steps statistical analysis. At first it is calculated the labour productivity time-series through using the OECD approach. Afterwards the two steps statistical analysis refers to the correlation analysis through Pearson Correlation Coefficient and to the causation analysis through Granger-Causality Test. As main results can be pointed out a strong positive correlation between FDI and productivity and one side causation since productivity can cause FDI, but not the contrary. Inflows in Albania have grown significantly over the last eight years increasing by more than 3.5 times and the share in GDP increased from 3.6% in 2006 to approx. 10.5% in 2013. However the FDI stock per capita in Albania is still the lowest in the South East European region. Also the productivity in Albania is lower in the region with 19% compare the average EU productivity in 2012.
Key words: *Foreign Direct Investments (FDI), productivity, Granger-Causality Test*

1. Introduction

FDI inflows in Albania have grown significantly over the last eight years increasing by more than 3.5 times and the value of FDI inflow in 2013 reached a historical level of 923 million Euros. The share of FDI in GDP increased from 3.6% in 2006 to approx. 10.5% in 2013. Nonetheless FDI stock per capita in 2013 is 4 times greater than in 2006 it still is the lowest in the South East European region. In regards to productivity Albania is assessed to be the lowest in the region. Its productivity counts as 19% of the EU average productivity in 2012.

After several years of high economic growth at the level of 6.2% (2000-2008) the GDP growth continuously decelerated after 2008 and reached the lowest level of 0.44%[1] in 2013. The growth of FDI in Albania takes a great importance for country's economy considering the significant decline in the remittances inflow. In 2013 remittances reached a level of EUR 546.8 million decreasing with approx. 43% as compared to year 2007 which was the year with the highest level of remittances.

This paper is backed up by a broad and careful literature review of the theoretical and empirical studies from economists and researchers regarding the importance of FDI for the economic development of countries. Several arguments for the economic linkage between FDI, productivity and economic growth are presented. Afterwards a detailed analyses for the performance of the FDIs in Albania is done focusing on their contribution in the economic development and comparing to other SEE countries. Continuing with the measure and analyses of the productivity in Albania comparing to SEE. Finally the economic evidences are supported through a simple two steps statistical analysis regarding Albania's case. The paper concludes with some findings and recommendation to be addressed for future improvements and raising awareness.

2. Literature review

Attracting FDI is very important for the economic growth of a country, especially for small and less developed countries. Alfaro (2009) argues that FDI inflows may lead to an increase in total productivity through dissemination of knowledge, technology transfer and promoting linkages with local firms. Theory and empirical studies of many economists have studied the linkage between FDI, productivity and economic growth. On the other side according to Contessi, Silvio (2009) policy literature is filled with extravagant claims about the positive effect of foreign direct investments, but the facts do not support this. Significant increase in foreign direct investments (FDI) in the last 30 years continues to cause conflicting reactions, both in industrialized countries and in developing countries.

Empirical studies provide various evidence of FDI connectivity to productivity. There is a positive correlation between productivity in countries with FDI inflows and FDI generated by multinational companies. According to the analysis of Alfaro (2006) macro empirical literature shows a

[1] INSTAT 2014

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(Accepted for publication October, 18, 2014)
ISSN 2313- 058X (Paper) © Alexander Moisiu University

weak exogenous positive effect of FDI on economic growth. Findings from the literature show that the capacity of a country to have advantages in attracting FDI is limited by local conditions of the country such as the development of financial market, level of education, absorptive capacity etc. Borensztein, De Gregorio & Lee (1998) and Xu (2000) show that FDI bring technology that translate into higher growth only when the host country of FDI has a minimum of human capital. Alfaro, Chanda, Kalemli-Ozcan and Sayek (2004), provide evidence that only countries with well-developed financial markets benefit significantly from FDI in terms of economic growth. As per the analysis of Alfaro (2006), macro empirical literature finds ambitious results of the effect of FDI on the productivity of the firm. In studies of the first generation, of case studies based on the same industry level between countries, these studies find a positive correlation between the productivity of multinational enterprises and value added per employee in the country's firms in the same sector. Second generation studies use firm-level panel data. These studies find no effect of presence of foreign investments or a negative effect on the productivity of firms in developing countries caused by multinational firms. A positive effect was found only for developed countries. According to Alfaro (2006) constant presence of FDI in economies with well-developed financial markets, experience growth rates that are almost two times higher than those of economies with poor financial markets. Increased FDI or the relative productivity of the foreign firm leads to higher additional growth in economies with developed financial markets compared with those economies where financial markets are under-developed. It was also found that local conditions as market structure and human capital generate positive effects of FDI on economic growth. Foreign Policy (2014), suggests that a target for foreign investment is not any country with rapid economic growth, because there are many other factors that determine how much of this increase will be transformed into the rebate back in place.

According to WIR 2014, developing countries, to attract foreign investors have to reduce product cost and increase competitiveness in exports. Country markets oriented by FDI, reducing demand and slow growth lead to reduction or delay in FDI in the country. According to WBIF (2013).

Foreign Direct Investments (FDI) are an important element for the socio-economic development of any country. FDI provide risk capital instead of interest-bearing loans, and is a good indicator of the confidence of international investors in the economy. It also brings expertise and advanced technology. However attracting FDI is largely supported by the political framework, legal and administrative framework for doing business in a particular country. While attracting foreign capital remains essential to the economic growth prospects of the Western Balkan countries, it can also lead to increased dependence on imports because foreign investors tend to rely more on their purchases from their countries. For the Western Balkan region remains a challenge to achieve a balance between attracting FDI, especially those with knowledge and technology of high quality and development of the domestic economy with an export-oriented perspective.

3. Performance of FDI in Albania and SEE7

3.1 Performance of Foreign Direct Investment, FDI in Albania

The slowdown in economic growth in the country was accompanied by a fall in FDI during the years 2011[2]-2012, but during 2013 although growth was reduced significantly (at 0.44% according to INSTAT), according to the Bank of Albania FDI increased substantially with 38.6% by 2012, reaching historical value of 923 million Euros (Figure 1**Error! Reference source not found.**). According to BoA 99.5% of FDI comes from equity companies and reinvested profits. FDI inflows in 2013 as percentage to GDP was 10.5% being significantly increased compared to 2006 which was 3.6%. The value of the stock of FDI in 2013 was 4,596 million euros, with almost double increase compared to 2009. (Table 1)

Index of FDI inflows per capita has been increasing, being quadrupled from 81euro/capita in 2006 to 326 Euro/capita in 2013. FDI outflows have been modest in 2013 with just 30 million euros and the stock of FDI outflows estimated negligible with only 244 million Euro[3].

According to the strategy and business development investments 2014-2020[4], Albania has continued to improve performance indicators and FDI potential, index which relate to the ability and potential of a country to attract FDI, which plays an important role in climate business. In 2010 Albania ranked 18th on the performance of FDI[5] among 141 countries of the world, improving by 50 positions higher compared to the 68 position in 2005 and a significant improvement with 35 degrees above compared with 2007[6].

3.1. Stock of FDI by main economic activities

According to the most recent BoA data (Figure 1a), the structure of the stock of FDI has changed quite a bit from year to year and especially during the years 2011-2012. In 2008 and 2010 the service sector was dominant with respectively 66% and 65% of total FDI stock, while in 2012 this stock was reduced to 46%. Within the services sector, FDI stock inflows in the financial sector has fallen from 28.7% of the total stock of FDI it occupied in 2010, was reduced to 21.4% at the end of 2012. The stock of FDI in trade in 2012 accounted for only 5.4% of the 11.2% it occupied in 2010, while the stock of FDI in transport and telecommunications has remained unchanged over the past three years representing respectively 11.5% and 10.2% of the total stock of FDI at the end of 2012

Over the last three years there has been an expansion of FDI in the extractive industry sector as well as oil and mineral, where 2% of the stock of FDI it occupied in 2008 rose to 13% during 2010, while it reached 23% at the end of 2012. So in the oil extraction sector FDI rose by more than 2.5 times compared to 2010 and reaching 23% of total FDI stock at the end of 2012. Percentage of FDI in oil extraction sector increased 100 times compared to 2008 which was a negligible figure. Also, FDI in mining and quarrying

[2] UNDP Albania, UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

[3] Estimated by UNCTAD WIR 2013 report, page 212

[4] MZHETS 2014: Strategy Business Development and Investment 2014 to 2020

[5] UNCTAD. Report Index of Foreign Direct Investment 2010

[6] Ranking in the years has been: 2007-53 country; 2008-33 country; 2009-23 country.

industry increased by 2.2 times, but they still account for only 2.6% of the stock of FDI at the end of 2012

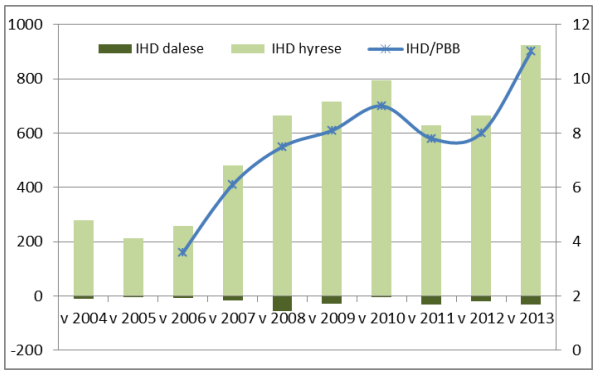


Figure 1: The flow of FDI (in million Euros) and FDI/GDP (in %) by year

Source: According to the Bank of Albania and INSTAT.

The weight of industry in FDI stock in 2008 was 32%, which was reduce by 22% and increased again in 2012 (31%). in Similar developments occurred in the manufacturing sector

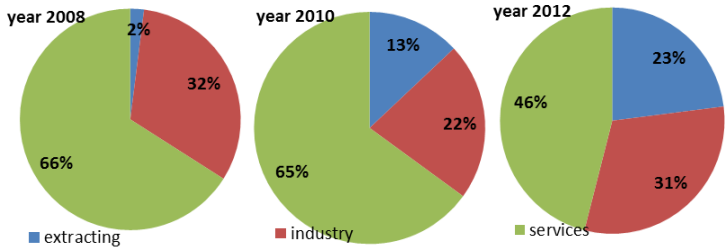


Figure 1a: The structure changes of FDI stock by sector in years

Source: According to BoA, 2014

Table 1: Indicators of FDI in Albania from 2006 to 2013. (In millions of euros and as % of GDP)

Indicators	2006	2007	2008	2009	2010	2011	2012	2013
FDI flow	259	481	665	717	793	630	666	923
In % of GDP	3.6	6.1	7.5	8.1	9	7.8	8	10.5*
The stock of FDI	1,054	1,688	2,040	2,261	2,667	3,036	3,796	4,596
FDI per capita (Euro / capita)	81	150	208	249	278	223	235	326*

Source: Bank of Albania, UNCTAD WIR 2014, INSTAT and *author calculations

A detailed breakdown of the stock of FDI in manufacturing where FDI rose by more than 2 times compared to 2010, reaching 25.5% of total FDI stock at the end of 2012, but with a -6% reduction compared to 2011.shows that 55% of stocks in the manufacturing branch comes from the petroleum refining industry, which has grown significantly over the past 2 years and 25.5% from the construction materials industry. The weight of other industry is low as metallurgical industry represents 5.4% of the stock, the food industry 4.8% and textile and shoe put together just 3.6% although these activities use labor intensively with good potential for export. But what is observed during the last 3 years is the significant reducing of the stock of FDI in 2012 compared to 2010, respectively: -68% in the shoe and leather industry; -58% of the timber industry; -42% in the clothing industry; -33% in the food industry; -31% in printing & publishing; -5% in metallurgy & metal works; -3% in the manufacture of electrical equipment. Industries of more advanced technologies, as production of electrical machinery and vehicles are almost completely absent[7].

3.2. The stock of FDI by country of origin of the investor

Canada is the first country in accordance of important source of FDI in 2012, with 20% of total FDI stock. Investments from Canada are concentrated in the extractive passed. Italy ranks in fifth place with 12% of the total stock of FDI, by changing ranking three places down compared to 2010, although it increased by 12% compared to 2010. The stock of FDI as a source for the countries of the region is almost in negligible levels namely from Croatia with 0.4%, 0.4% from Bulgaria, Macedonia 0.3%, from 0.2% Kosovo and Serbia 0.2% (Figure 2).

3.3. The role of foreign affiliates in the Albanian economy

The contribution of foreign[8] companies with investments in the Albanian economy is important, in terms of production, employment and investment. FDI improve labour productivity and agility for investments, which can increase competition, however, higher foreign participation in some sectors and industries is also a sign of weakness of the domestic economy

Also the involvement of foreign companies in Albania in fuel and the stock of inward FDI has increased by 33% compared to 2011 and by 161% compared to 2010. The country's second largest in terms of source of FDI in Albania, and for the second consecutive year, is Switzerland with 14.5% of total FDI stocks, followed by Austria with 14.2% ranks, who has investments mainly in the energy field. Another important partner is Greece with 13% of total FDI stock, stock investment which occupied first place in 2010, but has been reduced by -25% compared to 2010 and -13 % compared to 2011, due to the deep crisis that it activities with high technology is limited[9]. Analysis showed that the number of companies with foreign investment in Albania in 2013 amounted to 4,654 which represents 4.2% of total enterprises of the country, with an increase of 22% compared with 2012 and the doubled compared to 2009. 66% of them are 100% foreign equity, 22% are

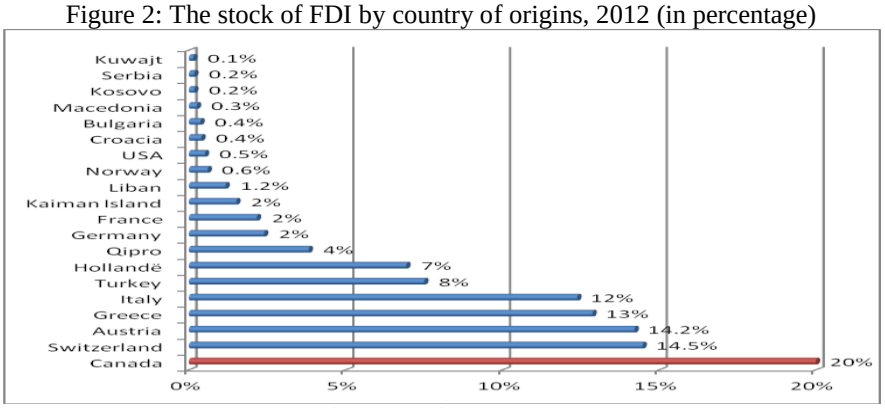
[7] UNDP, UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

[8] Definition of enterprises with foreign investment when there is at least 10% foreign ownership

[9] UNDP, UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

companies where foreign capital dominates and only 12% are predominantly domestic capital companies. The size of the companies shows that 71% of them are micro companies with 1-4 employees, 12% are micro enterprises with 5-9 employees, 11% are small with 10-49 employees and 6% are medium-sized and large companies with over 50 employees.

Figure 2: The stock of FDI by country of origins, 2012 (in percentage)



Source: Author's processing with data from Bank of Albania

According to the sectors (Figure 3**Figure 3**) it results that 70% of companies with foreign investments are operating in the services, namely: trade 30%, 2% transportation, hotel & restaurants 3.5%, traffic 4%, other services 30%. In the industrial sector are operating 19% and 10% in construction. More than 81% of foreign companies operating in Tirana-Durres region. According to the origin of foreign companies it shows that 41% of them are originally from Italy, 13% in Greece, Turkey 7%, 5% from Kosovo, Macedonia 3.3%, 3.2% from Germany, 3.1% from the USA, 2.3% England, Austria 2%, 1.6% from China and 18% from other countries.

According to INSTAT, in 2010, companies with FDI employed 18% of all employees at national level, while turnover provided by them accounted for 29% of total. The contribution of foreign companies is higher in the manufacturing sector which employs 39% of the total manufacturing industry, while turnover provided by them constitutes 51% of total manufacturing industry[10].

3.4. Performance of FDI in countries SEE7

During the years 2007-2013, FDI inflows in South Eastern Europe declined, while those in Albania continued to grow, constituting of 5.5% of total FDI inflows in SEE countries in 2005 to 28.5% in 2013 and by ranking first in the region for FDI inflow for 2013 with FDI inflows of EUR 923 million (Table 2).

Although the weight of Albania as a host of FDI in the region of Eastern Europe has grown substantially and flows in Albania since 2000 have almost tenfold[11], yet the percentage of inflows of foreign direct investment in Albania in total of the "World" remains marginal: it was under 0.1%[12]. According to the UNCTAD 2012 report FDI flows to gross fixed capital formation, GFCF[13] (Gross fix capital formation,) in the country has increased from 9% in 2006 to 33% in 2010. In 2010, among the countries of the region, only Montenegro has absorbed more FDI's compared to GFCF with about 130% of GFCF (Table 3).

According to WBIF 2013 (Figure 4) FDI flows over the period 2008-2013 are higher in Montenegro, followed by Albania and Kosovo. According to WIR 2014 (Figure 5) shows that although the flow of FDI in Albania have increased in the period 2007-2013, again the stock of FDI per capita is the lowest in the SEE region. The stock of FDI per capita in Montenegro resulted the highest in the region with 6,539 Euro/capita, followed by Serbia with EUR 3,029/capita, Macedonia with 2,026 Euro/capita and bottom ranked Bosnia & Herzegovina with 1,582 Euro/capita and Albania with 1,535 Euro/capita

4. Productivity

4.1. Measure of the productivity

Productivity expresses the degree of efficiency in the use of main production factors (labor, capital and land) in an economy. Productivity as one of the main sources of economic growth can be measured in several forms. According to best practice manuals of international organizations such as Eurostat, OECD, the calculation of productivity converges into a ratio between a measurement of the economic activity and a measurement of inputs / production factors used for computing of production for a certain period. The selection of the measurement method the availability of the empirical data.

In this study will be taken in consideration the labour productivity. The approach used for measuring the labour productivity is based on the OECD (2001) definition as the ratio of VA over the number of employees. Indicators of value added (VA) and number of employees are acquired from INSTAT, annual structural business survey (SBS).

These indicators are calculated for the whole economy (excluding agriculture sector), its branches and subsidiaries.

4.2. Productivity in Albania

Productivity in Albania has an increasing trend year by year, until 2008, this coinciding with the period before the global crisis, in 2009 productivity was reduced by -1.7% compared to 2008 and again found fluctuations increase / decrease in the coming years but always with an upward

[10] UNDP, UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

[11] UNCTAD, 2014. http://unctadstat.unctad.org/ wds/ Table Viewer/tableView.aspx

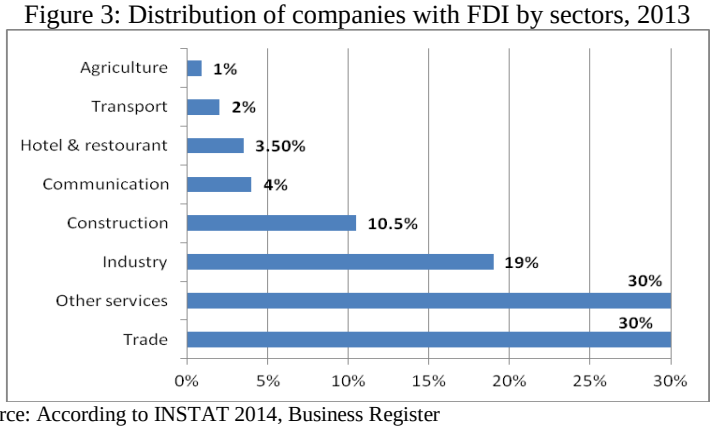
[12] UNDP, UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

[13] The rate of flow of FDI as a percentage of gross fixed capital formation, GFCF (Gross fixed capital formation) gives a rough indication of the level of FDI flows relative to total investment in the economy

trend (Figure 6). Productivity in 2012 resulted in 18.7% growth compared to a year ago and 17% increase compared to 2008 Productivity is higher in large companies with more than 250 employees. So for 2012 productivity achieved by large companies was 3.2 times higher compared to micro companies (1- 9 employees); 12% higher compared to small companies (10-49 employees) and 52% (50-249 employees) higher compared with midsize companies, but the productivity of large companies has been reduced from year on year and in 2012 resulting 19.3% less than in 2008 and 23.3% less than in 2010, because large companies who have a direct connection with their partners abroad have felt the global crisis. Fuel and mining extraction (Figure 7Figure 7) results that had the highest productivity in the Albanian economy in 2012, followed by wholesale trade, refinery & chemical industry, post & telecommunication and construction. As sectors with low productivity rank fishing, hotel & restaurants, retail trade, garment and leather &

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Figure 3: Distribution of companies with FDI by sectors, 2013



Source: According to INSTAT 2014, Business Register

Table 2: FDI inflow: World, SEE and Albania , 2005-2013 (in mln Euro)

Host economies	2005	2006	2007	2008	2009	2010	2011	2012	2013
World	782,673	1,164,682	1,534,682	1,208,931	802,041	936,640	1,221,892	1,034,873	1,093,356
Southeastern Europe	3,870	7,885	9,384	8,849	6,240	3,571	5,154	3,073	3,235
Albania	213	259	481	665	717	793	630	666	923

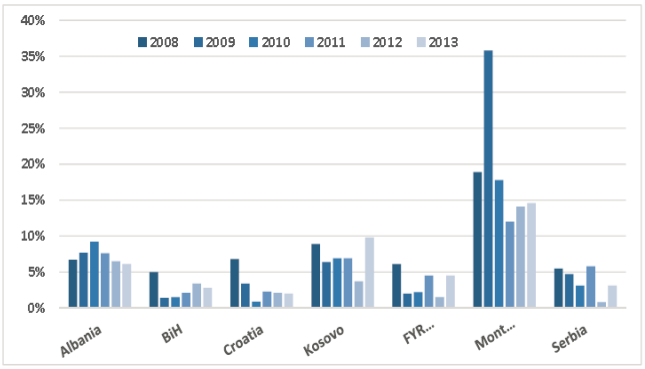
Source: UNCTAD, WIR14 and the Bank of Albania

Table 3: Inflow of FDI / GFCF share in SEE 2004-2010

Region / country	2004	2005	2006	2007	2008	2009	2010
Eastern Europe	16	16	24	33	27	22	13
Albania	13	9	9	16	21	25	33
Bosnia and Herzegovina	27	20	25	46	17	6	2
Croatia	12	17	27	33	32	19	4
Montenegro	..	..	..	..	56	208	130
Serbia	..	..	..	..	23	20	15
Macedonia	34	10	37	43	28	11	17

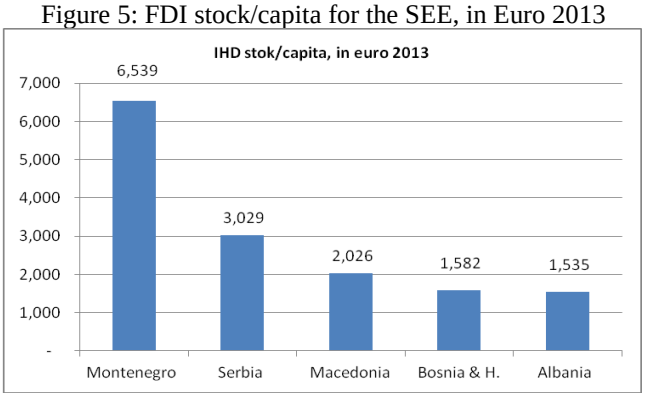
Source: UNCTAD (2012): Report on Foreign Direct Investment in Albania, 2011

Figure 4: FDI in% of GDP, in the years between SEE7



Source: WBIF 2013

Figure 5: FDI stock/capita for the SEE, in Euro 2013



Source: WIR 2014 and processing of the author

shoes. The two latter are the sectors that employ more labour force, but with a low productivity because they are mostly handicrafts (Figure 8). The labor productivity gap between foreign companies and domestic companies in Albania is relatively small in the manufacturing industries, pointing to a relatively low technological level of foreign affiliates[14]. Productivity in chemical & refinery industry is over four times higher than that of garment.

4.3. Comparison of productivity in SEE6 countries[15]

According to WBIF (2013) Croatia has the highest labour productivity in the region with 50% of the EU average, while Albania has the lowest productivity in the region with only 19% of the EU average, while other countries vary less than 30% of the EU average (Figure 9). According to WB[16] importance of the knowledge factor is very important for increasing productivity and economic growth. *"Economic growth in the region is being hampered by a combination of unfinished reforms and incomplete development of the General Conditions, the main institutions, policies and programs"*.

The boom years before the global financial crisis are characterized by significant capital inflows from advanced economies to emerging European economies, towards the developing economies of the SEE. These capital inflows helped boost wages in all countries. However, productivity in many countries has not had the same wage increase with the increase, resulting in rapid growth of unit labor costs ULC. (Figure 10).

Since the beginning of the global economic crisis in 2008, ULC growth was moderate in all of Europe. While in SEE countries, only Albania experienced a reduction in ULCs, Bosnia & Herzegovina had a slowed ULC where continuous growth of productivity was less than moderate wage growth. In Serbia, there was a decline in wages in the euro, but also the productivity, while in Montenegro, ULC has continued to grow, bringing a significant reduction in the growth rate of productivity (Figure 11).

5. Two Steps Statistical Analysis of the dependency between FDI and Productivity

In this chapter are presented two simple steps to investigate the linkage between FDI and productivity. The first step refers to the correlation analysis (Pearson Correlation Coefficient) and the second step to the causation analysis (through Granger-Causality Test). In order to be more consistent in the output results there have been tested 2 different time-series of FDI (FDI as a ratio of GDP, FDI inflow).

The correlation coefficient between the time-series FDI/GDP and productivity is 0.65, FDI inflow and productivity is 0.76. All of above show a strong positive relationship between FDIs and productivity, which means that the values in both series rise or fall together in the same direction. From the theory it is known that correlation coefficient can explain only that the relationship between variables is positive or negative and how strong is this relationship. However it cannot indicate any causal relationship. So nonetheless the fact that there is a strong positive correlation this is not sufficient to demonstrate the presence of any causal relationship between variables because correlation does not imply causation.

Under these circumstances it is necessary to examine another statistical test in order to give an answer to the questions "which causes what". Granger proposed the idea of Granger-Causality (Granger 1969) to describe the causal relationship between variables. The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. So Granger test finds only "predictive causality between two variables. The two time-series for FDI were put in Granger test and the following has resulted: (Table 4 and Table 5).

Since Granger test tries to identify causal relationship on both sides of time-series there will be two null hypotheses raised. The first is "FDI does not cause productivity" and the second is productivity does not cause FDI". In both cases reflected above it can be said with 99% of confidence that productivity causes FDI. However it cannot tell that FDI causes productivity, because the null hypothesis that "FDI does not cause productivity" cannot be rejected. The economic reasoning to interpret these results for Albanian economy is that the sectors with highest productivity such as fuel extraction industry sector are the ones who have attracted more foreign investments. FDI stock in fuel extraction industry sector have increased from 2% in year 2008 to 13% in year 2010 and 23% in year 2012 of total FDI stock.

6. Conclusion

The contribution of FDI is very important not only for the Albanian economy, but also for the SEE region. Further efforts should be done for improving the investment climate to attract strategic investors not only in the sector of fuel and mineral extraction, but also in the processing of raw material from local natural sources in order to increase the value added of Albanian exports and to ensure productivity growth, which will in turn give rise the competitiveness of the economy.

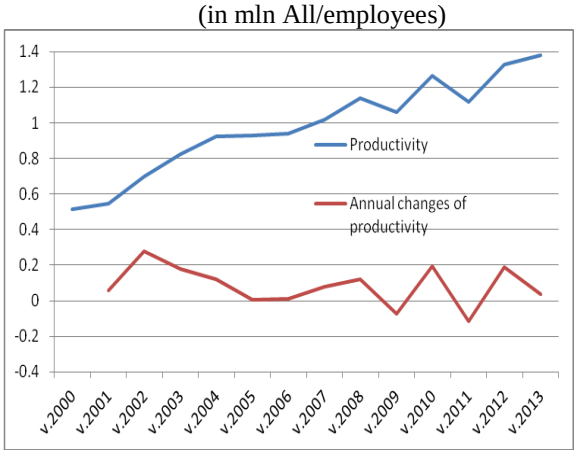
As it is proven from the results of our statistical analysis for Albania nonetheless FDI and productivity have a strong positive correlation, it is not the FDI which causes productivity, but the contrary is proven. This is also due to fact that the involvement of foreign multinational companies in activities with high technology in Albania is limited. So it is very important to attract more Greenfield FDI in industries producing for export with high level of innovation technology and ICT. This will lead to sharing of know-how and technology transfer to the local firms which will serve to increase total productivity of the host country and eventually competitiveness and economic growth.

[14] UNDP, UNCTAD (2011): Report on Foreign Direct Investment in Albania, 2010

[15] Missing data for Kosovo

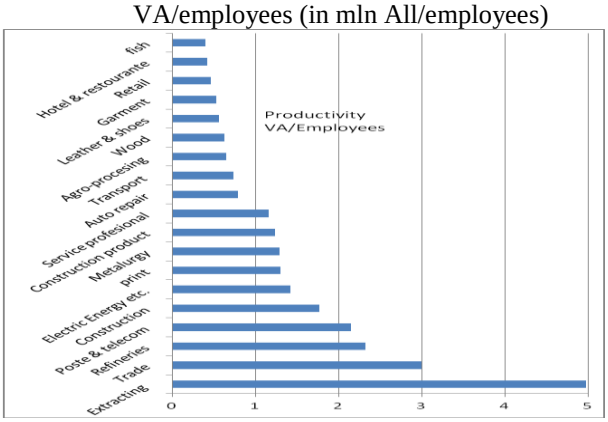
[16] World Bank, Overview of the Research and Innovation Sector in the Western Balkans, World Bank Technical

Figure 6: Productivity and annual change VA/employees (in mln All/employees)



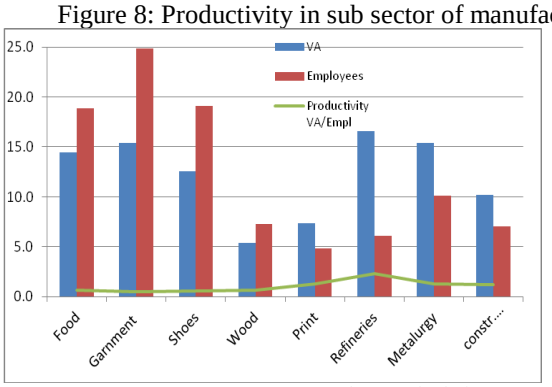
Source: INSTAT, and author's calculations

Figure 7: Productivity by economic sector for 2012 VA/employees (in mln All/employees)



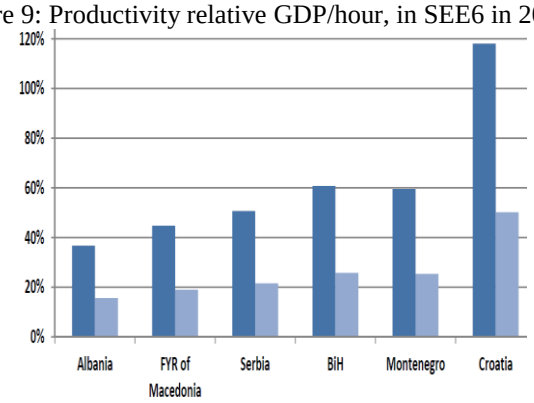
Source: INSTAT, and author's calculations

Figure 8: Productivity in sub sector of manufacture



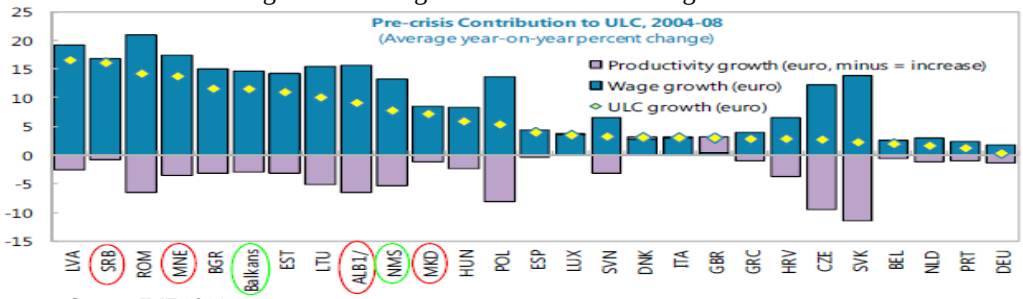
Source: INSTAT,2014: SBS 2012 & author's calculations

Figure 9: Productivity relative GDP/hour, in SEE6 in 2012



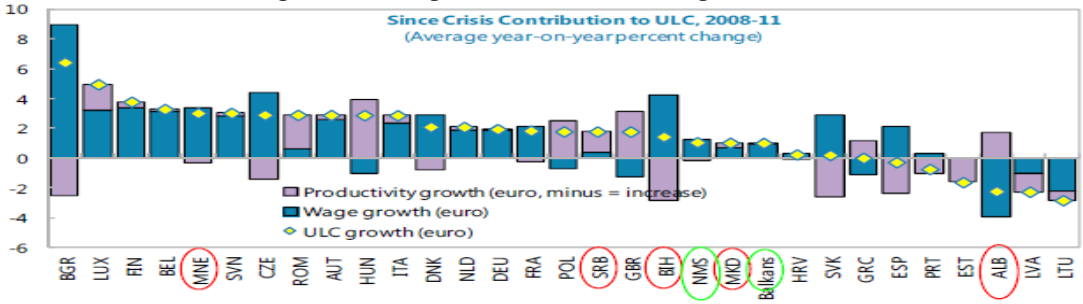
The column on the left shows country's productivity compared to the productivity of the new members of EU and the column on the right shows country's productivity compared to all EU members.
Source: WBIF, 2013[17].

Figure 10: Changes of ULC in SEE during 2004-2008



Source: IMF 2014

Figure 11: Changes of ULC in SEE during 2008-2011



Source: IMF 2014

[17] Overview of Macroeconomic and Fiscal Challenges in the Western Balkans and Implications for the WBIF

Table 4: Granger causality: FDI/GDP and Productivity

Pairwise Granger Causality Tests
Date: 10/07/14 Time: 21:35
Sample: 2002Q4 2013Q4
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
LINFDI does not Granger Cause LPRODV1	43	0.22886	0.7965
LPRODV1 does not Granger Cause LINFDI		5.93905	0.0057

Table 5: Granger causality: FDI in Euro and Productivity

Pairwise Granger Causality Tests
Date: 10/07/14 Time: 21:51
Sample: 2002Q4 2013Q4
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INFDI does not Granger Cause LPRODV1	43	0.51076	0.6041
LPRODV1 does not Granger Cause INFDI		6.57937	0.0035

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