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## **IMPACT OF FOREIGN DIRECT INVESTMENT ON EXPORT:**

### **CASE OF ARMENIA**

*Аннотация: по мнению авторов, прямые иностранные инвестиции играют важную роль в экономическом развитии каждой страны. Анализ показал, что изменение темпов роста экспорта в Армении на 34,3% и в мире на 13,7% объясняется ростом ПИИ. Этот факт показывает, что экспорт в Армении больше связан с изменениями ПИИ. Тем не менее, в отличие от глобальных данных, рост прямых иностранных инвестиций в РА приводит к снижению темпов роста экспорта. Это должно стать импульсом для правительства РА для проведения более эффективной политики привлечения иностранных инвестиций, для направления инвесторов в сектора, которые имеют сравнительные или конкурентные преимущества на внешнем рынке.*

*Ключевые слова:* корреляционный анализ, экспорт, ПИИ, регрессионный анализ, инвестиционная среда.

*Abstract: according to the authors, foreign direct investments have a significant role in the economic development of each country. The analysis revealed that 34.3% change in export growth in Armenia and 13.7% in the world is conducted by FDI growth. This fact shows that Armenian export is more related to the FDI changes. Therefore, unlike global data, FDI growth in RA leads to decrease of export growth. This should be a signal for RA Government to implement a more effective policy for attracting foreign investments, leading the investors to the sectors, which have a comparative or competitive advantages in the foreign market.*

*Keywords:* correlation analysis, export, FDI, regression analysis, investment climate.

Nowadays, the modern civilization acknowledges and highlights the importance of investment for economic growth. The Impact of Foreign Direct Investment is an essential component for a successful and fundamental economic system. The FDI plays a very important role in the development of each country.

Considering the natural resources limitation, the area and geopolitical position of the country, foreign direct investment has been a significant factor for the economic development of Armenia. Recently many authors have analyzed impact of FDI on the export performance. They have different opinions about the effect of FDI on the export performance. Some of them in their papers conclude that FDI have positive effect on the export performance. The other economists consist that FDI have a negative effect on export growth.

To promote economic development, the government of RA must approve the best conditions for investors in all sectors of the economy. In RA the domestic market is small, therefore the export has a big importance for foreign investors. Aim of this study is to examine the dynamic relationship between foreign direct investments and export in the world economy and RA.

For example, Nasir Salim [1], Kushtrim Reche Lulzhetah have analysed a panel data of 8 South East European (SEE) countries (four of which are member states of EU) over the period 1996–2013. Using the panel regression techniques and LSDV estimation method, authors find positive and statistically significant effect of FDI on exports performance for this set of countries especially in Slovenia, Bulgaria and Macedonia. What about Albania and Serbia, they are revealed the negative effect of FDI on export performance. The authors concluded that this is a result of poor developed industry.

Another author, Khalid Al Khathlan has estimated the annual data of Saudi Arabia for the period of 1980–2007. As a result the author insist on a positive correlation between FDI and export [2]. Lenuta Carpestimating Romania's 1990–2012 data same result has revealed.

Chinese authors Chengki Wang, Peter J. Buckley, Jeremy Clegg and Mario Kafourose using 1983–2002 China data revealed a positive correlation between FDI

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and exports. The authors found that the impact of FDI on the export of labor-intensive products is greater than of the capital-intensive goods exports [3].

Abdul Khaliq and I. Noah took data from 12 areas of Indonesia in 1998–2006 and revealed a positive correlation between FDI and exports [4].

Turkish author Gulchin Tapshinanalising Turkey data of 1974–2011 revealed a positive correlation between FDI and export [5].

Many authors, have estimated the possibleimpact of FDI on export. As a result,they found that one point increase of FDI leads to 0,01–14,880 points export growth. For example,N.Prasannanfound that impact coefficient of FDI on export is 0.241, by analysing data of India for the period of 1991–2006[6].

Another economist, Rashmita Barua, analysed the data of Indiafor the period of 2000–2012. As a result, the author releaved that 1% increase of FDI cause export growth 4.7% [7].

According to Kazakh authors Tolkyn Azatbek and Altay Ramazanov's study, the export in Kazakhstan increases by 2.6 points when FDI increases by 1 point [8].

Niazi Ahmed Bhutto, Abdul Khalik Daudpota, Raja Shahzad, Maria Tabassum and Asma Malik using 1977–2005 data in Pakistan found that 1 point increase in FDI leads to 0.1066 point export growth [9].

Chengqi Wang, Peter J. Buckley, Jeremy Clegg and Mario Kafouros based on the China data for a period of 1983–2002 revealed that 1% growth of FDI leads to 2% export growth [10].

Piya Wongpit based on the Thailand`'s 22 regions panel data for the period of 1999–2010. The author found out that 1 unit increase of FDI leads to 0.01 point export growth [11].

Zenegnaw Abiy Hailu using 1980–2007 data examined the impact of FDI on export. The author found that 1% growth of FDI leads to a 0.043% export growth in next year. The author highlights the fact that in African countries FDI is an important factor for export growth [12].

E. O. Oyatoye, K. K. Arogundade, S.O. Adebisi, E. F. Oluwakayode analyzing Nigeria data of 1987–2006 found that 1 unit growth in FDI leads to 14,880 unit export growth [13].

Thus, a number of studies show the relationship between FDI and exports. However, the economists found that the positive or negative effect of FDI on export is a result of economic development level of each country.

We are tried to estimate this relationship in RA and in the world. For the analysis are used world's and Armenia's FDI and Exports annual data, which are presented in the on-line data base of The World Bank [14]. The world's FDI and Exports data are presented for the period 1977–2015 (number of observations is 38 after adjusting endpoints), and Armenia's FDI and Exports data are presented for the period 1993–2015 (number of observations is 22 after adjusting endpoints). For the regression analysis is used The Method of Least Squares by the program EViews 4:

The figure 1 shows that from 1992 to 2000 both export and FDI had the same long-term growth tendency. The export and FDI had the growth trend from 2000 to 2007 too, but the export growth temp was more high, than the FDI growth. As a result of crisis in 2007 and 2008 in difference of FDI deeply decreased. However, from 2009 to 2014 both export and FDI have increased. In global economy in the period of 2014 and 2015 the FDI had an increase, but at the same time the export decreased.

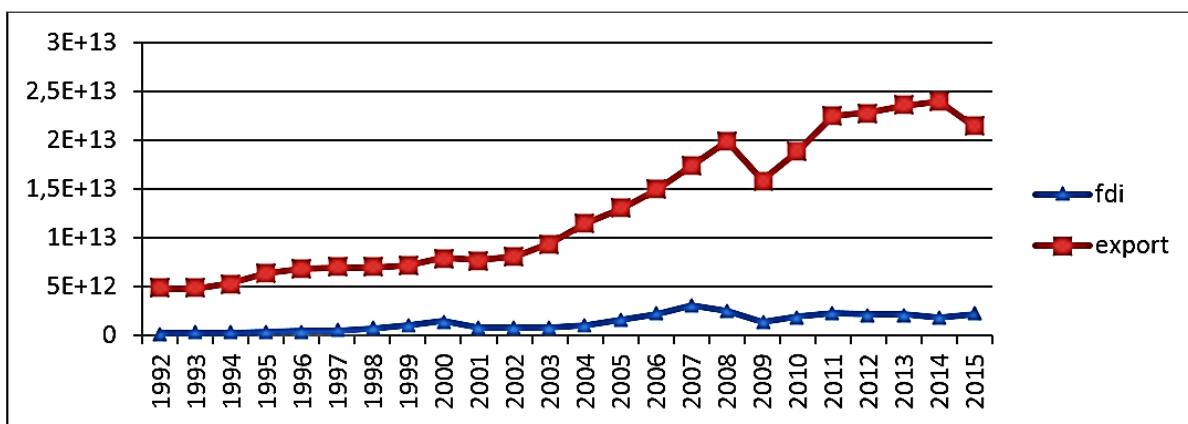


Figure 1. The world's export and FDI data

Source: The data base of World Bank

As shown in figure 2, from 1993 to 2007 both export and FDI had the same variation in RA. Certainly, the financial crisis had the negative impact of RA economy. Particularly the crisis brings serious problems, such as the reduction of goods for export, the poor agriculture and so on. From 2009 to 2014 the export had a growth tendency. At the same period FDI had both increase and decrease variation. But for sure in 2015 both export and FDI decline. The future growth of FDI mostly depends on the successful economic policy implementation of government of RA. This can also be connected with the membership of RA to EAEU, which can support the investors to export their product to whole EAEU market.

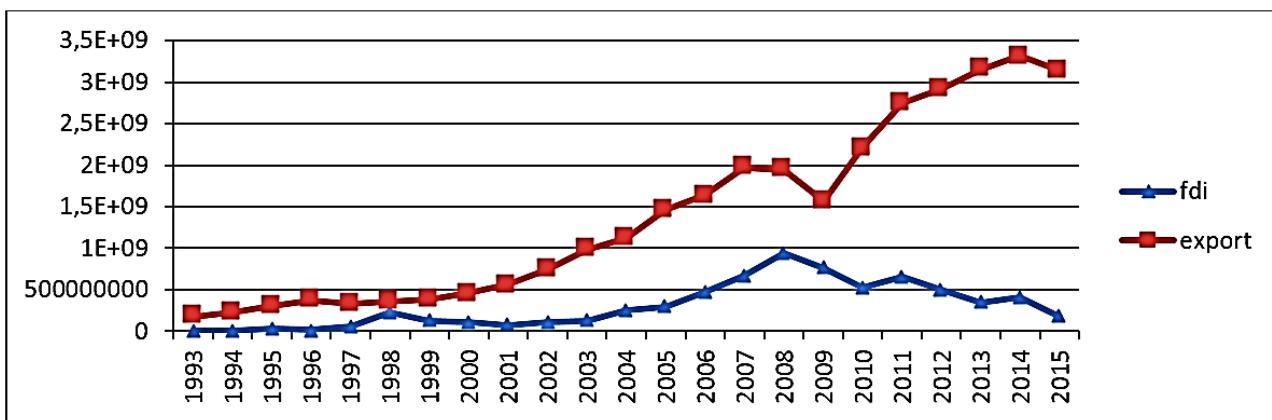


Figure 2. The export and FDI in RA

Source: The data base of World Bank

If we are comparing the export and FDI of the world and the export and the FDI of RA we can clearly see the same variation. For example from 1992 to 2007 both the export and FDI had the same growth tendency. But the global financial crisis had a negative impact in the world and in RA. As a result of crisis from 2007 to 2010 in the world and in RA both export and FDI had decreased. After the crisis during the period from 2010 to 2014 both in the world and in RA the export had growth tendency. In 2015 export had decreased in the world and in RA, and the FDI declined in RA, but in the world the FDI had the same growth tendency.

So, we observed the growth tendency of global and Armenian export and FDI based on the statistical data. Therefore we must estimate the impact of FDI on export

in the world and in RA. Statistical data has been taken from electronic database of the World Bank: global FDI and export data has been reviewed for 1977–2015 (number of observations was 38, after adjustment), and the RA FDI and economic growth data has been reviewed for 1992–2015 (number of observations was 23, after adjustment). Regression analysis has been conducted by EViews 4 application, by ordinary least squares method.

Analysis of correlation coefficients shows that significant correlation exists between FDI and export in the world (0.53). But in RA the correlation between export and FDI is less significant (0.12), so we would estimate the impact of FDI to the export of next year.

Using the Granger-causality test we revealed that both in the world and in RA the FDI was Granger-cause export for 11 year.

The results of regression analysis are presented in Tables 1 and 2.

The results received indicate that 13.7% of the change of export rate in the world and 34.3% in the RA is conditioned by the change in FDI, whereas the rest depends on other factors.

Table 1  
The impact of FDI on export in the world

Dependent Variable: DEXPORT				
Method: Least Squares				
Date: 02/23/17 Time: 10:53				
Sample(adjusted): 1978 2015				
Included observations: 38 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.61E+11	2.03E+11	2.273080	0.0291
DFDI(-1)	1.396125	0.584565	2.388316	0.0223
R-squared	0.136775	F-statistic		5.704056
Adjusted R-squared	0.112796	Prob(F-statistic)		0.022293

According to the results of table 1, in the period under review, the growth of global FDI by USD 1 million leads to the increase of the average rate of global export growth by USD 1.4 million.

Table 2

## The impact of FDI on Export in RA

Dependent Variable: DEXPORT				
Method: Least Squares				
Date: 02/09/17 Time: 13:52				
Sample(adjusted): 1994 2015				
Included observations: 22 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.53E+08	39007876	3.913903	0.0009
DFDI(-1)	-0.984346	0.304659	-3.230980	0.0042
R-squared	0.342953	F-statistic		10.43923
Adjusted R-squared	0.310101	Prob(F-statistic)		0.004189

Based on the results of table 2, we revealed that in the period under review, the growth of the RA FDI by USD 1 million leads to the decrease of the average rate of export growth of the RA by USD 0.98 million. We can explain this pact by many factors: it's probably that in the period under consideration the FDI inflows in RA was in the sectors not related to the export or in the sectors, which export was declining growth rate. These sectors can attract the FDI because of the temporary State protectionism policy. Moreover, foreign investors organizing the activity in these sectors are used the resources also from the other tradable sectors. As a result in the other tradable sectors too the export growth was been decreasing. This should be a signal for RA Government to implement a more effective policy for attracting foreign investments, leading the investors to the sectors, which have a comparative or competitive advantages in the foreign market.

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