

## **THE IMPACT OF THE FOREIGN DIRECT INVESTMENT ON ROMANIA'S ECONOMY**

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**ABSTRACT:** *Foreign direct investment can be regarded as a factor out of the crisis of the Romanian economy. The relationship between the foreign direct investment and the gross domestic product is beneficial for the economy to the extent to which investment is directed towards innovation and new technologies. The virtuous circle diversity - change - technology needs investment to take effect. Microeconomic level investment completes the strategies and the investment decisions at macroeconomic level.*

**KEY WORDS:** *investment; foreign direct investment; innovation; gross domestic product*

**JEL CLASSIFICATION:** *E20, E22*

### **1. INTRODUCTION**

Investment in an economy is a source of development at all levels, because it is considered to represent all the costs incurred to purchase capital goods.

The decision to invest requires a careful analysis of the field to which the investment is directed, and the decision to invest is subject to a number of factors, including:

- the ratio of the present value of income earned through investment and the investment cost - in this case, the decision to invest is advantageous if the present value of the income earned is higher or at least equal to the investment cost;
- the ratio between the net income to date and the actual interest rate or the opportunity cost of the investment - in this case, the decision to invest is

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advantageous if the rate of the net income to date is bigger than the actual interest rate.

Foreign investment is the capital transfers from one country to another, either as direct investment or as portfolio investment.

Direct investment is made for the establishment of companies in different fields of activity and may include a portion of the reinvested profit. This type of investment leads to a lasting relationship between the foreign investor and the country where he chose to invest, because the direct investment results in real capital formation in a company with total foreign capital or in a joint venture.

Portfolio investment represents the purchase by foreign investors of the shares of the already existing firms in an economy. ([5], 2001, pp. 238 - 239)

Usually foreign investment is viewed positively by any state, due to the beneficial effects produced in the economy by the transfers of leading technology, managerial experience, access to foreign markets for sales, etc. It is true that along with the positive effects, investment may cause adverse effects if it is directed towards increasing imports and the balance of payments.

The factors that determine the increase or reduction in investment are:

- the pace of technical progress;
- the stock of the capital goods in the economy;
- the maintenance and operation costs of the capital goods;
- the expectations regarding the evolution of the sales and of the profits;
- taxation.

The role of investment in an economy, particularly of foreign direct investment, will be emphasized in this paper.

## 2. INVESTMENT AT MACROECONOMIC LEVEL

In JM Keynes's vision, investment is a value added to the production equipment, which was obtained during that respective period by the production activity. During a given period, the economist considers, investment is equal to savings, since both are equal to the excess of income over consumption.

The importance of investment is significant in all economies, because of their opportunities to create, enhance, replace, improve and raise any heritage.

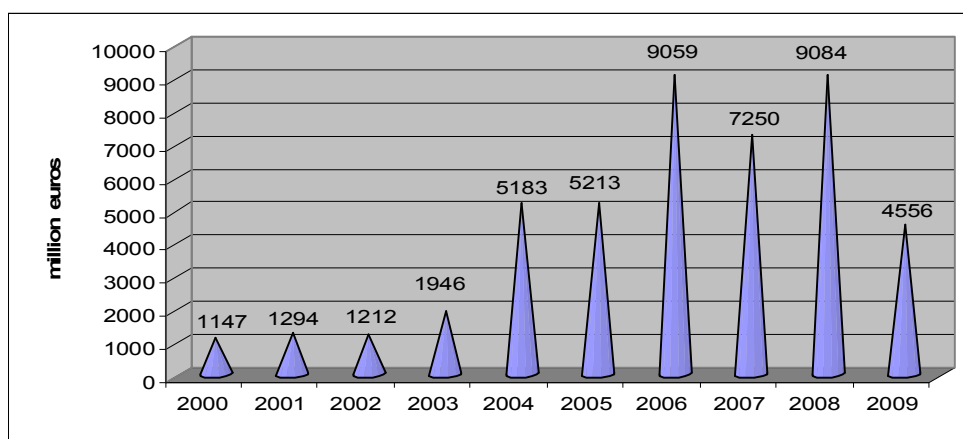
Investments are analyzed according to the aggregation levels: at the microeconomic level, the macroeconomic level.

**At the microeconomic level**, the company can increase the size and quality of the products or services offered through investment. In the short term, productivity can be increased or the production cost can be reduced. In the long term, new outlets can be gained, the position on the domestic market towards the competitors it strengthened, new product are launched, etc.

**At the macroeconomic level**, through the investment process, one aims to increase the gross national product, to change the position on the world market, to reduce the current account deficit, etc. At this level, investments are included in national strategies which allow achieving the objectives set by the economic policies. Typically, the government grants the specialized companies the mission to achieve

investments and for the direct investment made by the state the elements of infrastructure, logistics, the health system, etc. are concerned. These last areas of performing the investments determine the economic development investment, stimulating in their turn the private investment (Zait, 2008, pp. 42 - 43).

Even if we separate the two levels of aggregation, it should be noted that the positive changes at within the company generate effects of the same nature at the level of national economy as well. The company is an integral part of the whole economic system, whose activity is influenced by the government decisions through economic - financial leverage.



Source: <http://www.arisinvest.ro/ro/de-ce-romania/statistici-isd/>

**Figure 1. Foreign direct investment in Romania**

The analyzed period referring to the progress of foreign direct investment in Romania is from 2000 to 2009. During the first three years (2000, 2001 and 2002) the amount of foreign direct investment was at about the same level, with slight differences between these years. The year 2003 recorded a value of investment of about 1,950 million Euros. The early growth in the value of direct foreign investment in our country is represented by the year 2004, when the level of 5,183 million Euros is reached. The year 2005 recorded a value approximately equal to that of the previous year. In 2006 the foreign direct investment increased to 9,059 million Euros, the highest value being recorded in 2008 of 9,084 million Euros. The year 2007 attracts investments of 7,250 million Euros in Romania, a lower number than in 2006, but higher than the previous years from the analyzed period. In 2009, the value of the foreign direct investment is reduced almost by half compared with 2008, the 4,556 million Euros being placed below the level of investment in 2004 and 2005.

The high values of the foreign direct investment in Romania during 2006, 2007 and 2008 may be explained by the fiscal policy adopted by our country's government. The introduction of the flat tax in 2005 gave Romania an advantage in terms of taxation, the country becoming attractive to those who wanted to invest, but had not yet decided. There have been competitors in attracting foreign direct investment,

particularly among the neighbouring countries. Ukraine and Serbia have introduced the flat tax since 2003, Bulgaria adopted the flat tax of 10% after the introduction of the flat tax of 16% in Romania. Hungary has not yet joined the group of central and eastern European countries which have introduced the flat tax, but now the adoption of the flat tax of 16% is desired.

The level of the foreign direct investment in 2009 was strongly influenced by the extent of the financial crisis triggered in the U.S. In 2008 the effects of the crisis were not very visible in Europe's economy, especially in Romania's economy, and the already started ones have continued. But, the end of 2008 showed that Romania bears in its turn the effects of the crisis triggered worldwide. Alongside with other economic aspects produced at the level of our country's economy, the value of the foreign direct investment has experienced a severe decrease compared with the evolution of the last three years.

**Table 1. The evolution of the foreign direct investment**

Year	Foreign direct investment	Fixed-base absolute change	Mobile-base absolute change	Fixed-base dynamic index	Mobile-base dynamic index
2000	1147	0	-	1.00	-
2001	1294	147	147	1.13	1.13
2002	1212	65	-82	1.06	0.94
2003	1946	799	734	1.70	1.61
2004	5183	4036	3237	4.52	2.66
2005	5213	4066	30	4.54	1.01
2006	9059	7912	3846	7.90	1.74
2007	7250	6103	-1809	6.32	0.80
2008	9084	7937	1834	7.92	1.25
2009	4556	3409	-4528	3.97	0.50

*Source: Calculations made by the author based on the data from Figure 1*

In the past 10 years, foreign direct investment in Romania increased from 1,147 million Euros in the first year of the analysis to 4,556 million Euros in 2009. To highlight the way in which foreign direct investment has evolved the following were calculated: fixed-base absolute change; mobile-base absolute change; fixed-base dynamic indices; mobile-based dynamic indices.

The calculation of the fixed-base absolute change was done using as a basis for comparison the year 2000. Thus, from 2000 to 2009 foreign direct investment increased by 3,409 million Euros.

Mobile-base absolute change presents the increase of the value of foreign direct investment from year to year. The largest absolute decrease recorded was of 4,528 million Euros, representing the difference between 2009 and 2008, this situation having been explained above. In contrast, the largest absolute increase was of 3,846 million Euros, recorded as the difference between 2006 and 2005.

The evolution of the foreign direct investment is also highlighted with the help of the dynamic index, determined using two ways: with a fixed base and with a mobile base. The fixed-base dynamic index was calculated considering 2000 as base year for

comparison and one can notice the permanent increase in investment by 2009, when the index shows a much lower value than the one recorded in 2008. Foreign direct investments in 2009 are approximately four times higher than those recorded in 2000.

The mobile-based dynamic index presents similar values, the years 2004 and 2009 generally obtaining limit values. The largest increase was obtained by comparing 2004 to 2003, an increase of 2.66 times (the increase in absolute value for this period is of 3,237 Euros). The foreign direct investment in 2009 increased by 0.5 times compared to those of 2008, this being the smallest evolution of the years presented, which coincides with the smallest increase (actually decreased) in the absolute value.

The presentation of the foreign direct investment over a 10 year period takes the form of a chronological series, so that for a meaningful analysis it is necessary to also calculate the average indicators.

**Table 2. Average indicators specific to the chronological series**

<b>Indicator</b>	<b>Average level (million euros )</b>	<b>Absolute average change (million euros)</b>	<b>Dynamic average index</b>
Value	4594,4	378,77	1,16

*Source: Calculations made by the author based on the data from Table no.1*

On average, for the analyzed period the value of the foreign direct investment in Romania was of 4594.4 million Euros. The absolute average change was of 378.77 million Euros showing that in the 10 years examined there was an increase in the absolute value, but seen as average. The dynamic average index was of 1.16, which indicates that on average the value of the foreign direct investment increased from one year to another by 1.16 times. The importance of investment is essential in an economy, especially in an economy in crisis. The data presented demonstrate that the Romanian economy increasingly attracted more and more foreign direct investment. The reality of the last year showed their reduction in full crisis.

In periods of crisis, changes occur in all areas, but by exploiting them one may reach advantageous developments. Trying to overcome the crisis leads to changes in the technologies used so far, to trying to increase productivity with a smaller amount of labour force. The State's intervention in the economy should aim at favouring the creation of this new technology. I consider opportune the existence of the innovative state, which supports through its interventions the virtuous circle: diversity - change – technology (Ioneci, 2009, p. 41).

Making this change and the use of a new, innovative technology are possible through the investment of considerable sums of money, which our country does not have at present. Then, growing out of the crisis, the new recording of the economic growth above the average of the European Union, involves attracting investment.

The argument that during times of crisis one of the factors that can lead to growing out of this negative period is represented by investment is not new. All the great economists have shown in their work that if the volume of investment is increased in the economy the positive effects will soon appear.

However, to demonstrate that this statement is true and when we refer to the Romanian economy we use statistical methods as an argument. We shall demonstrate

that if between the foreign direct investment and the gross domestic product there is a connection and if it exists, we determine the type of connection and its intensity.

**Table 3. The gross domestic product in Romania**

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
GDP (billion lei)	80,3	116,7	151,4	189,1	238,7	287,2	342,4	404,7	503,9	491,3

Source: Romanian Statistical Yearbook 2008, Monthly Statistical Bulletin no.1/2010, no.1/2009

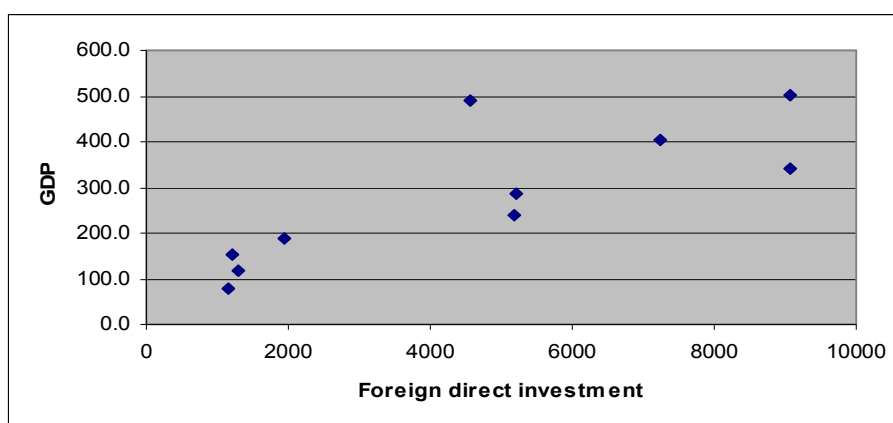
For the past 10 years, the trend of the GDP in Romania has been increasing. As happened with the evolution of the foreign direct investment, in the last year, the gross domestic product is the one that records the decrease of the indicator.

### 3. STATISTICAL ANALYSIS OF THE LINK BETWEEN FDI AND GROSS DOMESTIC PRODUCT

The statistical methods that demonstrate if there is a connection between the foreign direct investment and the GDP are the regression and the correlation. Foreign direct investments are considered as being the independent variable, and this will further be noted with X. The gross domestic product is considered to be the dependent variable and it will be further noted with Y.

The existence of a link between the two indicators is proven by using the graphic method, one of the simple methods of determining the relationship between phenomena. This implies that on the OX axis the independent variable to be represented, and the OY axis the dependent variable to be represented.

From figure number 2 one can notice that the points of intersection of the two variables focus on the first bisector. This demonstrates that between foreign direct investment and the gross domestic product there is a link and this link is direct.



Source: Chart conceived by the author based on data from Table 1 and 3

**Figure 2. Foreign direct investment and the gross domestic product**

The intensity of the relation between the two variables is determined by using one of the nonparametric methods for determining the relationship between phenomena, namely the ranking method. Only the Spearman coefficient will be calculated, which involves establishing the specific ranking for each individual variable.

**Table 4. The ranks for the X and Y variables**

X	Y	R <sub>x</sub>	R <sub>y</sub>	R <sub>x</sub> - R <sub>y</sub>	(R <sub>x</sub> - R <sub>y</sub> ) <sup>2</sup>
1147	80.3	1	1	0	0
1212	151.4	2	3	-1	1
1294	116.7	3	2	1	1
1946	189.1	4	4	0	0
4556	491.3	5	9	-4	16
5183	238.7	6	5	1	1
5213	287.2	7	6	1	1
7250	404.7	8	8	0	0
9059	342.4	9	7	2	4
9084	503.9	10	10	0	0

Source: Calculations made by the author based on the data from Table 1 and 3

The calculation formula for the Spearman coefficient is presented below.

$$C_s = 1 - \frac{6 \sum_{i=1}^n (R_{x_i} - R_{y_i})^2}{n(n^2 - 1)} \tag{1}$$

where:

R<sub>x<sub>i</sub></sub> - rank of X

R<sub>y<sub>i</sub></sub> - rank of Y

n - number of pairs

Substituting in the formula (1) the values calculated in Table no. 4 we determine the value of the Spearman coefficient and we show the intensity of the relationship between the two variables.

$$C_s = 1 - \frac{6 \cdot 24}{10(10^2 - 1)} = 0,855$$

Following the calculations performed, the result is of 0.855 which shows again that the relationship between variables is direct. The approach to 1 shows the intensity of the link between the variables, so that between the foreign direct investment and the gross domestic product there is a strong link.

#### 4. CONCLUSIONS

By calculating the Spearman coefficient it was possible to highlight that between FDI and gross domestic product there is a link, and it is strong and direct. Investments affect in a positive way any economy if used in areas that can be internationally competitive.

For the current year, but also for the future continuing to attract foreign direct investment in Romania is a source of implementing new technologies needed to overcome the current crisis, especially since foreign direct investments in Romania have been directed towards sectors that have led to increased imports and implicitly to the current account deficit.

Obtaining the desired results is achieved by directing investment to areas with an innovative character and which use modern technology, to areas where sustainable economic growth is achieved.

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