

Impact of Capital Investments on Unemployment in the Context of Economic Crisis. The Case of Romania

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Abstract

Starting from the economic theory and the results of recent studies, in this paper, we aimed to analyze the relationship between the evolution of net capital investment and unemployment dynamics in Romania in the period 2004 - 2012, in order to reveal the main trends, with emphasis on quantitative aspects. The analysis, based on a series of relevant macroeconomic indicators, showed that since 2009, a significant reduction of net investments, more pronounced in the case of FDI, due to a lower domestic and external demand as a result of the global economic crisis has led to a decreasing number of employees and rising unemployment. In this context, we believe that consistent and concrete measures, which target on the short-term, economic recovery and on the long-term, sustainable growth, are needed.

Key words: *capital investments, net investments, investment rates, unemployment, economic crisis*

JEL Classification: *E24, J30, J60*

Introduction

The global economic crisis has affected in a different way the countries in the world according to specific conditions, economic and social, existence at the onset and the measures taken in order to reduce its impact on the business environment, mainly, but also the income and economic security of the population. Worldwide, in the period 2004-2012, the only year in which there was a reduction of gross product was in 2009, against a backdrop of divergent evolution in the sense that countries like China, India and Indonesia have enjoyed significant growth of the gross domestic product (+9.2%; +8.2%; +4.6%), while other countries (such as Japan, USA, most European countries) have experienced declines, sometimes significant, of GDP.

A similar situation is noted in the Member States of the European Union, despite the adoption and implementation of a common strategy to limit the effects of the economic crisis. Compared to 2009, when all EU countries, except Poland, have experienced significant reductions of GDP, in 2011, countries such as Estonia, Poland, Sweden, Slovakia, Germany and Finland benefited from increases in real GDP rates ranging from 2.7% (Finland) to 7.6% (Estonia). These positive developments were reflected in some situations upon unemployment dynamics, such as in the case of Germany (unemployment rate fell from 7.8% in 2009 to 5.9% in 2011), Estonia (unemployment rate decreased from 13.8% to 12.5%), Sweden and Finland. In comparison, Greece, Portugal, Spain, Italy, Ireland, Slovenia, Bulgaria and Romania have experienced an increase in unemployment due to contraction of gross domestic product, in the case of Greece

and Portugal, or of positive developments, but insignificant in case of the other countries mentioned (Italy, Spain, Bulgaria, Romania and so on).

In this context, at the level European Union out of crisis measures and economic recovery of the Member States represent an “object of great debate.” “What actions are most effective: Investments?; Recovery in consumer demand?; Reducing taxes?; A pragmatic mix?.”¹ In this respect, we consider that the establishment of economic recovery measures “should be pursued and achieved national interest” as “to imitate a civilization worthy of respect, without change, humility is useless.”²

Starting from this statement, in this paper, we aimed to analyze the relationship between the evolution of net investment flows³ and unemployment dynamics in Romania, in order to highlight the main trends, given the specific social and economic environment, and the main features of capital investment, domestic and foreign. We considered this analysis necessary in the context of continuous deterioration in recent years of the investment climate, a situation which, in theory, is not likely to generate sustainable economic recovery, with positive impact on employment.

Theoretical Aspects of the Effects of Capital Investments on Unemployment

Economic theory shows that unemployment, expression of existing imbalances in the economy, is due to multiple causes, both located at the macroeconomic level (e.g. lower effective demand, changing economic structure, asymmetry of the educational system to the labour market needs, fiscal policies that lead to increased fiscal pressure on employers, financial and monetary policies that discourage saving and investment and so on) and at the microeconomic level, resulting essentially in the individual decisions of entrepreneurs on restraining or restructuring of activity, assimilation of technological progress, sources of financing, wage policy etc. as well as the supply of labour (skill level, adaptability and flexibility of people, individual aspirations and motivations and so on).⁴ In essence, the literature distinguishes between structural and short term unemployment, voluntary and involuntary unemployment, cyclical and seasonal unemployment etc.

The effects of capital investments⁵ on employment is a complex and sensitive matter, because the impact on the economy (and thus on unemployment) depends not only on their volume but also of the establishment, the field concerned, the input modality and the existing conditions in the economy in which investments are made. In the case of foreign direct investment (FDI), the economic and social effects also depend on the motivation of investors and the investing business strategy.⁶

Net investments lead to enhanced existing activities in the economy, with positive impact on employment, while replacement investments of the worn fixed asset, representing that part of

¹ Dolgu, Gh., Criza, finanțe, teorii: studii alese, Editura Expert, București, 2009, p.55

² Done, I., Probleme și provocări economice ale tranziției, Editura Expert, București, 2009, p.229

³ According to the definition given by the National Institute of Statistics, net investments include “expenses for creating new assets, and development, modernization and reconstruction of existing ones.”, www.insse.ro.

⁴ Angelescu, C.(coord.), Dinu, M. (coord.), Gavrilă, I.(coord.), Popescu, C.(coord.), Economie, Editura Economica, Bucuresti, 2009, pp.406-407; Dr.Petrisan, M., Somajul in Romania, martie 2008, p.2-3, http://mpira.ub.uni-muenchen.de/25239/3/Unemployment_in_Romania.pdf

⁵ “Capital investments take place in the real economy and in the social-cultural activities, representing ... material support of economic growth.”; “The capital investment must be understood not only the construction of new assets, but also modernization of existing ones.” (Vasilescu I., Românu I., Cicea C., Investitii, Editura Economica, Bucuresti, 2000, p.13)

⁶ Iacovoiu, V.,B., Investitiile straine directe intre teorie si practica economica. Analize comparative, Editura ASE, Bucuresti, 2009, p.177

gross investments made of the depreciation fund, do not generate new jobs, their positive effect being materialized mainly in maintaining existing jobs.

The multiplying effect of investment is for those directed to “sectors of the economy that produce sustainable growth” and not to “speculative sectors such as retail and real estate.”⁷ In other words, investment oriented towards areas in the field of production generates jobs both directly (in the field in which the investment is made) and indirectly (in other fields, collateral and/or related). Also, investments in fields where predominant factor is labour (labour intensive) have a significant quantitative impact on employment, in terms of creating new jobs and diminishing unemployment. In comparison, investment oriented towards activities based mainly on advanced technologies and knowledge has an important qualitative impact, resulted essentially in higher wages, better working conditions and continuous improvement of the level of training of employees.⁸

Checking economic theory regarding the positive impact of investments on earnings, three researchers from the National Scientific Research Institute for Labour and Social Protection conducted a study⁹ based on the analysis of macroeconomic data relevant for the period 1998 to 2008, for 11 Romanian economic activities, whose results have demonstrated a positive, yet not overpowering relationship between net investments and net average monthly gross earnings. In essence, the researchers found the following:

1. “There is a year delay between the time the investment is made and when they exert their influence on wages”;
2. “10% increase in investment will lead to an increase of only 0.67% of earnings”.

Regarding the entrance method, through “greenfield” or “brownfield” investment to create new jobs, compared with investments attracted in the privatization process which generates short-term job losses due to restructuring activity. In this respect, it should be noted that the Central and Eastern European experience showed multiple situations in which the failure of the privatization of state companies has led to their bankruptcy with immediate effect of increasing unemployment.¹⁰

Net investment structure should also be considered in any analysis of their effects on employment, towards achieving the distinction between productivity and capacity investment. Investments aimed at increasing efficiency through modernization of existing production capacity (assimilation of technological progress in production) lead, in the short term, to the loss of jobs due to labour productivity growth, unlike capacity investments that generate new jobs by increasing production capacity. Long-term negative effect of rising unemployment as a result of engineering the business depends mainly on the adaptability of workers to the changing economic structure and the policies implemented to stimulate retraining and continuous improvement of the labour force.

Analysis of FDI attracted in the economy, mainly in terms of their volume and motivations of foreign investors, is also relevant in determining the effects of direct investments on employment. Studying comparatively the econometric research on the relationship between investment and employment based on the analysis of individual companies and plants, researchers Stephen Bond and John V. Reenen¹¹ underlined the increasing importance of multinational companies, concluding the following:

⁷ Ciutacu, C., ISD nu au facut Romania nici mai productiva, nici mai competitiva, *Financiarul*, 29 ianuarie 2009

⁸ Iacovoiu, V.,B., *Opera citata*, p.178

⁹ Aparaschivei, L., Vasilescu, M.D., Cataniciu, N., *Impactul investitiilor si al valorii adaugate brute asupra castigului salarial*, *Economie teoretica si plicata*, Vol.XVIII, No.2, 2011, pp.214 - 226

¹⁰ Iacovoiu, V.,B., *Opera citata*, p.316-318

¹¹ Bond, S., Reenen, J.V., *Microeconomic Models of Investment and Employment*, London, December 2003, pp.101

1. “Multinational corporations now account for a significant and growing share of total domestic investment and employment in many countries”;
2. “Their investment and employment behaviour qualitatively different from that of purely domestic firms”.

In terms of job stability according to the type of FDI, theories and studies in the field show that jobs created through “market-seeking” foreign direct investment are more stable than those created by “efficiency-seeking” foreign investment, as increasing the cost of inputs (such as labour cost growth) leads to relocation activities of multinational companies¹², with negative effects on employment. Regarding the “primary motivations for expansion of multinational companies in Central and Eastern Europe (CEE)”, the study conducted by researchers J.Manea and R.Pearce (2004) found that “market size and low cost production factors are the main motivations for transnational corporations to invest in CEE countries”¹³.

Synthesizing the theoretical aspects above, note that regardless of the causes of unemployment, real reduction in unemployment can only be the result of creating jobs, enhancing existing activities in the economy, given the existence of a flexible labour market¹⁴. The creation of new sustainable jobs is made through “greenfield” or “brownfield” investment oriented productive activities with multiplier effects.

Evolution of Net Investment, Domestic and Foreign, in Romania

Taking into consideration the fact that real decrease of unemployment by creating new jobs is the result of net investment achieved in the economy, we analyze the dynamics of net investment flows (NI), foreign direct investment (FDI) and FDI without significant privatizations (FDIwsip) during 2004-2012 (Figure 1).

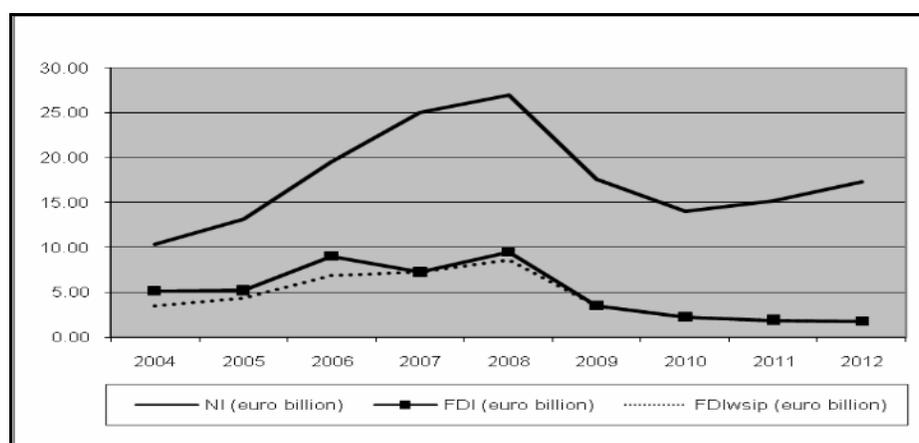


Fig.1. Evolution of NI, FDI and FDIwsip in Romania, 2004-2012

Source: Appendix – Table 1

Before 2009, the growth rate of net investment was sustained, reaching a peak in 2006 when it recorded an increase of 47.87 percent over the previous year. A constant positive trend was recorded in the case of inward FDI without significant privatizations which have seen relatively large increases to a peak in 2006 (an increase of 55.4 percent compared to 2005). Regarding foreign direct investment, the upward trend was interrupted in 2007, when there was a decrease

¹² Iacovoiu, V.,B., Opera citata, p.178

¹³ Manea, J., Pearce,R., Industrial restructuring in economies in transition and TNCs’ investment motivations, Transnational Corporations, vol.13, no.2, 2004, pp.43-44

¹⁴ Angelescu,C.(coord.), Dinu, M. (coord.), Gavrila, I.(coord.), Popescu, C.(coord.), Opera citata, pp.408

of 20 percent in contrast to the previous year, a situation explained because of the high level of FDI attracted in 2006 (EUR 9.059 billion) which was due to a good deal of foreign capital for privatization, that further led to an increase of 73.8 percent as compared to 2005. Thus, during 2004-2008, domestic and foreign direct investments made in the Romanian economy for the creation of new production or development and modernization of existing assets developed a steady upward trend (Appendix - Table 2).

It should be noted that high levels of FDI attracted in the Romanian economy during 2006-2008 is due to both market potential and relatively low cost of labour, especially EU integration, which represented “a positive sign, confirming the success of building a functioning market economy with immediate effect of reducing investment risks.”¹⁵ Improving the business environment, macroeconomic and political stability, opportunities created for “greenfield” project development were the main causes leading to the stimulation of direct investment, domestic and foreign.¹⁶

By comparison, since 2009 FDI flows declined steadily and initially accelerated to 63.3% in 2009 compared to 2008 and 36.4% in 2010 compared to 2009. It is worth noting that between 2009 and 2012, there were not inflows of foreign capital destined for significant privatizations, situation explained considering that most state companies were privatized by 2004. In terms of net investments, which dropped 34.36 percent in 2009 compared to the previous year and 20.63% in 2010 compared to 2009. For 2011 and 2012, provisional data show net investment increases by 8.48% in 2011 and 14.12% in 2012 (Appendix - Table 2).

In our opinion, the accentuate decrease in net investment is due to many factors, mainly economic and political nature, internal and external, and interdependencies between them. Following the global economic crisis, effective demand has significantly reduced, on the one hand due to the decline in the external demand in EU Member States that carry most of the Romanian exports. On the other hand, decreased purchasing power, both due to lower nominal wages (in the private sector as well as the public sector), but also due to increased inflation, led to reduced domestic demand. Sharp decrease in income, which was reflected in the reduction of savings potential, together with the practice of high levels of interest rates on loans contributed to the contraction of credit for investment. In addition, political and legal instability and incoherence, excessive bureaucracy, low trust in business environment had the effect of reducing the attractiveness of the Romanian economy, due mainly to the increase of investment risks, with negative impact on inward FDI.

Following these developments, the Romanian economy is found in 2012 in an unfavourable situation in terms of direct investments made over previous years, because net investments amount to approximately 2/3 of the level recorded in 2008, while FDI inflows is 1/5 of the 2008 level. In this context, according to the theory presented above, it is expected that net investment quantitative impact on unemployment to record a change in the negative.

Net Investment - Unemployment Relationship in the Case of Romania

According to data from the National Statistics Institute, in the period 2004-2008, the average number of employees increased steadily from 4469 to the 5046 thousand people, evolution that had reflected positively on unemployment, which fell from 6.3% (in 2004) to 4.4% (in 2008). In comparison, since 2009, the average number of employees decreased continuously up to the

¹⁵ Iacovoiu, V.,B., Opera citata, p.126-127

¹⁶ Stancu, A., Măsurile de stimulare a inițiativei întreprinzătorilor din Uniunea Europeană, Sesiunea de comunicări științifice – Coordonate economice și juridice ale integrării europene, Universitatea „Nicolae Titulescu” București, 21-22 aprilie 2004, Lex et Scientia, Nr. XI, Vol. III, Editura Cartea Universitară, 2005, ISSN 1583-039X, p. 155-158; Done, I., Opera citata, p.227-228

level of 4430 thousand people (level estimated for 2012), which led to rising unemployment at 7.4% (Appendix).

Certainly, as we noted earlier, rising unemployment causes are multiple and are found at both microeconomic and macroeconomic level. Regarding Romania, studies highlights a number of major causes of unemployment increase, among which are: decreased demand for goods and services in the population, due to reduced purchasing power; reduced demand in the euro area; investment contraction; the high volume of imports, both official and “unofficial”; reduced flexibility of the labour market¹⁷; the companies tendency to reduce or optimize their labour costs through permanent or temporary layoffs¹⁸.

“By applying the Hodrick-Prescott econometric filter and using data on the evolution of unemployment rate in Romania during January 2000 - March 2012 (Eurostat data)”, Ph.D. Radulescu Andrei noted that “at the moment the structural component of unemployment is close to the total level of unemployment”, which demonstrates that “domestic unemployment is structural in nature” and, consequently, its decrease “can only be achieved through the positive shocks in the investment and structural reforms.”¹⁹

In order to highlight the dynamics of net investments quantitative influences on unemployment, we analyze the correlation between investment rates, calculated in relation to GDP and GFCF, and the unemployment rate, respectively the average number of employees, based on data presented in the appendix (Table 1).

The analysis of empirical data for the period 2004 - 2012 revealed the existence of a direct relationship, proportionally inverse between investment and unemployment rates, meaning that increasing investment rates corresponds to a decreasing unemployment rate. In addition, it is noted that net investment values greater than 15% of GDP correspond, in general, to less than 6% of the unemployment rate and net investment values below 15% of GDP corresponds to a an unemployment rate of over 7% (Figure 2).

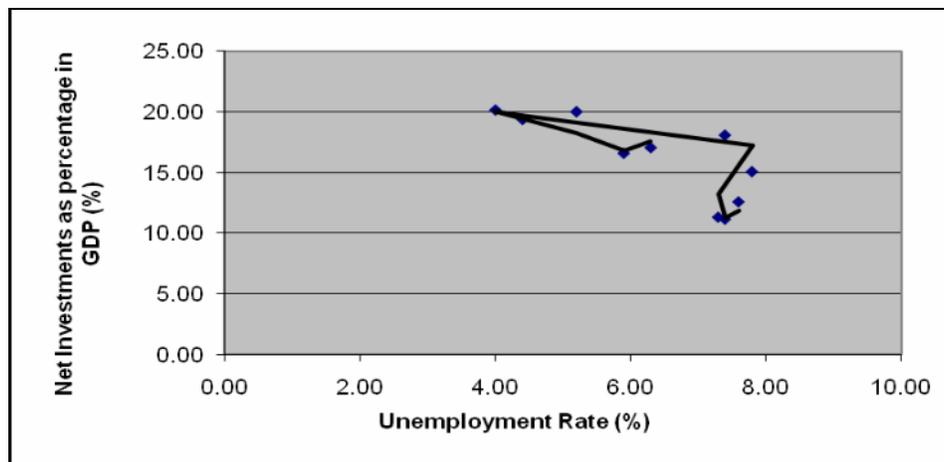


Fig. 2. Relation between Net Investments as percentage in GDP and Unemployment Rate in Romania, 2004-2012

Source: Appendix – Table 1

¹⁷ Dr.Petrisan, M., Somajul in Romania, martie 2008, p.3-4, http://www.ssifbroker.ro/ro/static/analiza/10253/Piata_fortei_de_munca_Romania.pdf

¹⁸ Dr.Dinga, E., Unele efecte ale crizei financiare si economice asupra economiei reale, Studii Financiare – 3/2009, p. 18-31

¹⁹ Dr.Radulescu, A., Piata fortei de munca, SSIFBroker, 3 mai 2012, p.3 http://www.ssifbroker.ro/ro/static/analiza/10253/Piata_fortei_de_munca_Romania.pdf

A similar trend is recorded for the investment rate calculated as a percentage of GFCF, meaning that levels of this ratio below 60% correspond to high unemployment (unemployment rates of over 7%) and vice versa (Figure 3).

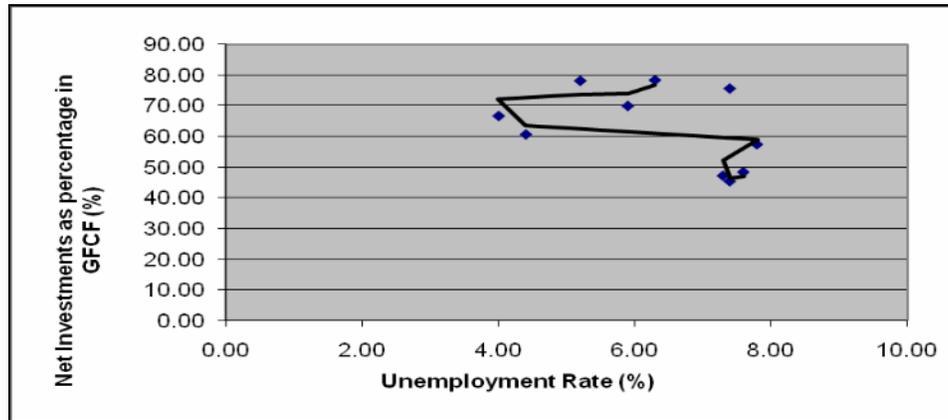


Fig.3. Relation between Net Investments as percentage in GFCF and Unemployment Rate in Romania, 2004-2012

Source: Appendix – Table 1

Data in the figures below (Figure 4 and Figure 5) reveal the existence of a strong, proportionally direct relationship between investment rates and average number of employees during the period 2004-2012, which confirmed and strengthened the previous test results. Thus, investment rates at levels above 15% of GDP and 60% of GFCF correspond to higher values of average number of employees, over 4600 thou persons generally.

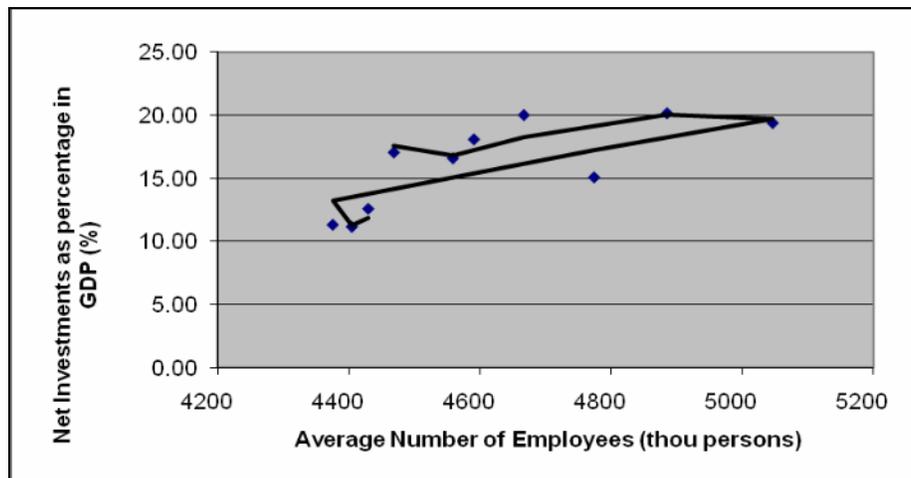


Fig.4. Relation between Net Investments as percentage in GDP and Average Number of Employees in Romania, 2004-2012

Source: Appendix – Table 1

It also notes that values of average number of employees located around the level of 4400 thou persons corresponds to comparatively low investment rates, i.e. less than 15% share in GDP, respectively below 50% share in GFCF.

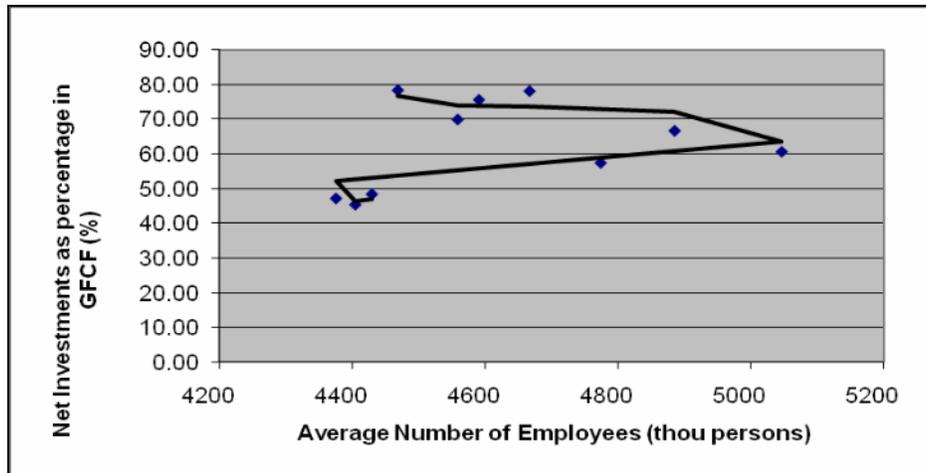


Fig.5. Relation between Net Investments as percentage in GFCF and Average Number of Employees in Romania, 2004-2012

Source: Appendix – Table 1

Therefore, the results of correlation analysis for the period 2004 - 2012 allow us to emphasize two main trends in terms of net investment dynamics impact on the evolution of average number of employees, respectively the unemployment rate, namely:

- *increasing the average number of employees and reducing unemployment* when net investment accounted for over 15% of GDP and over 60% of gross fixed capital formation;
- *reducing the average number of employees and rising unemployment* when net investments in the Romanian economy were below 15% of GDP, respectively, under 50% of gross fixed capital formation.

Consequently, the significant reduction in net capital investment, domestic and foreign, due to a lower domestic and external demand, mainly from the euro area as a result of the global economic crisis, is one of the major causes of rising unemployment between 2009 and 2012.

Conclusions

The year 2009 marks the change of positive trend registered during 2004 to 2008, both in terms of net capital investment, domestic and foreign, made in the Romanian economy and in terms of unemployment. Thus, since 2009, a significant reduction of net investments, more pronounced in the case of FDI, due to a lower domestic and external demand as a result of the global economic crisis has led to a decreasing number of employees and rising unemployment.

In this context, we believe that real and concrete measures are needed to lead to the stimulation of the productive “greenfield” and “brownfield” investments by involving private capital, domestic and foreign. In our opinion, the Romanian economy benefits from several favourable conditions, such as: relatively low cost of labour, increasing labour market flexibility through implementation of the new Labour Code in 2011, maintaining the flat tax, and the possibility of attracting European funds. Considering these advantages, it requires the application of consistent measures, which target on the short-term, economic recovery and on the long-term, sustainable growth.

Among the measures that can be applied on the short-term for economic recovery, we mention: credit revival by reducing active interest rate; eliminate tax on reinvested profit, to determine firms to invest the profits earned; reducing labour taxes paid by the employer in order to

determine the companies to hire the unemployed, even if only for a definite period; stimulation of the capital market.

In order to achieve sustainable economic growth it is imperative the fructification of the EU membership through cohesion funds absorption and their efficient use for continuing the professional development and diversification of professional skills in order to improve labour market insertion of the unemployed, as well as infrastructure development and the competitiveness increase of the Romanian economy. In the short term, these investments will create new jobs and generate nominal revenue growth, with positive impact on domestic demand. In the long term, it will lead to increased economic performance of the private entrepreneurs, thus supporting the creation of sustainable jobs.

In addition, we consider that it is necessary to “restore and develop the confidence capital”²⁰, the application of democratic principles in the governance, reducing corruption, legislative transparency and coherence. These, together with measures to reduce bureaucracy and increase efficiency of state administrative structures will lead to increased attractiveness of the Romanian economy and receiving increased FDI flows.

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²⁰ Done, I., Op. cit., p.221

Impactul investițiilor de capital asupra șomajului în contextul crizei economice. Cazul României

Rezumat

Plecând de la teoriile economice și rezultatele unor studii recente, în lucrarea de față ne-am propus să analizăm relația dintre evoluția investițiilor nete de capital și dinamica șomajului în România, în perioada 2004 – 2012, cu scopul de a releva principalele tendințe, cu accent pe aspectele de ordin cantitativ. Analizele prezentate, fundamentate pe o serie de indicatori macroeconomici relevanți, au evidențiat faptul că începând cu anul 2009, diminuarea semnificativă a investițiilor productive, mai accentuată în cazul ISD, pe fondul reducerii cererii interne și externe, ca rezultat al efectelor crizei economice mondiale, a condus la scăderea numărului de salariați și creșterea ratei șomajului. În acest context, apreciem că sunt necesare măsuri concrete și coerente, care să urmărească, pe termen scurt, relansarea economică, iar pe termen lung, sustenabilitatea creșterii economice.

Appendix

Table 1. Macroeconomic indicators in Romania, 2004 - 2012

Crt. No.	Indicators	Years										
		2004	2005	2006	2007	2008	2009	2010	2011	2012		
1.	GDP (lei mil. current prices)	247368	288954.6	344650.6	416006.8	514700	498007.5	522600 ¹	578600 ¹	609600 ¹		
2.	GFCF (lei mil. current prices)	53830.3	68526.6	88272.0	125645.3	164279.4	130602.6	125200.0 ¹	142100.0 ¹	158400.0 ¹		
3.	NI (lei mil. current prices)	42111.3	47851.5	68827.5	83660.6	99525.6	74939.3	59092.7 ²	64529.2 ²	76660.5 ³		
4.	FDI (euro million)	5183	5213	9059	7250	9496	3488	2220	1920 ⁴	1784 ⁵		
5.	FDIwsp (euro million)	3503	4413	6860	7250	8623	3488	2220	1920 ⁶	1784 ⁶		
6.	YAER lei/euro	4.0542	3.6234	3.5245	3.3373	3.6827	4.2373	4.2097	4.2379 ⁷	4.4118 ⁸		
7.	GDP (euro million)	61015.2	79746.81	97787.09	124653.7	139761.59	117529.44	124135.96	136529.88	138181.16		
8.	NI (euro million)	10387	13206.24	19528.3	25068.35	27025.17	17685.62	14036.6	15226.69	17377.02		
9.	GFCF (euro million)	13282.52	18912.24	25045.25	37648.79	44608.41	30822.13	29739.42	33530.76	35905.34		
10.	NI as percentage in GDP (%)	17.02	16.56	19.97	20.11	19.34	15.05	11.31	11.15	12.57		
11.	NI as percentage in GFCF (%)	78.2	69.83	77.97	66.58	60.58	57.38	47.2	45.41	48.39		
12.	Unemployment Rate (%)	6.30	5.90	5.20	4.00	4.40	7.80	7.30 ⁹	7.40 ¹⁰	7.60 ¹¹		
13.	Average Number of Employees (thou persons)	4469	4559	4667	4885	5046	4774	4376 ¹	4405 ¹	4430 ¹		
14.	Real Earnings Indices, n/n-1 (%)	110.5	114.3	109.0	114.7	116.5	98.5	96.3 ¹	100.5 ¹	101.2 ¹		

Abbreviations:

GDP – Gross Domestic Product; **NI** – Net Investments; **GFCF** – Gross Fixed Capital Formation; **FDI** - Foreign Direct Investments;

FDIwsp - Foreign Direct Investments without significant investment privatization; **YAER** – Yearly Average Exchange Rate.

Sources:

“Statistical Yearbook of Romania 2010” - indicators no.1 to 3, 6 and 12 to 14;

“Report upon foreign direct investments in Romania 2010” - indicators no.4 and 5;

Own calculations - indicators no.7 to 11.

¹ Data published by National Prognosis Commission (NPC) in “The Interim Forecast for Spring 2012”;

- ² Data published by National Institute of Statistics (NIS) in Press Release No.47/2.03.2012;
³ Data calculated using a growth rate of 18,8% ($T_1 2012/T_1 2011$) according to www.amosnews.ro;
⁴ Data published by National Bank of Romania (NBR) – Balance of Payments 2011;
⁵ Own estimation using FDI inflows for T₁ 2012 (446 euro million) published by NBR – 446 x 4 quarters;
⁶ Own estimation according to evolution for years 2009 and 2010;
⁷ Data published by National Bank of Romania (NBR) – Evolution of Annual Average Exchange Rate;
⁸ Own estimation using Monthly Average Exchange Rate for period January – July 2012 published by NBR;
⁹ Data published by National Institute of Statistics (NIS) in Press Release No.130/14.06.2011;
¹⁰ Data published by National Institute of Statistics (NIS) in Press Release No.89/17.04.2012;
¹¹ Own estimation according to evolution for T₁ 2012 (7.60%) and T₂ 2012 (7.70%).

Table 2. Evolution of macroeconomic indicators in Romania, 2004 - 2012
 - (percentages) -

Crt. No.	Years	Years							
		2005/2004	2006/2005	2007/2006	2008/2007	2009/2008	2010/2009	2011/2010	2012/2011
1.	Growth Rate of NI in euro million	+ 27.14	+ 47.87	+ 28.37	+ 7.81	-34.36	-20.63	+ 8.48	+ 14.12
2.	Growth Rate of FDI	+ 0.6	+ 73.8	-20	+ 31	-63.3	-36.4	-13.5	-7.1
3.	Growth Rate of FDIwip	+ 26	+ 55.4	+ 5.7	+ 18.9	-59.6	-36.4	-13.5	-7.1
4.	Growth Rate of NI as percentage in GDP	-2.7	+ 20.59	+ 0.7	-3.83	-22.18	-24.85	-1.4	+12.73
5.	Growth Rate of NI as percentage in GFCF	-10.7	+ 11.66	-14.61	-9.01	-5.28	-17.74	-0.04	+ 6.56
6.	Growth Rate of Unemployment Rate	-6.35	-11.86	-23.08	+ 10.0	+ 77.27	-6.41	+ 1.37	+ 2.70
7.	Growth Rate of Average Number of Employees	+ 2.01	+ 2.37	+ 4.67	+ 3.29	-5.39	-8.34	+ 0.66	+ 0.57

Source: own calculations using data presented in Table 1