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# MUTUAL INFLUENCE OF THE INTERNATIONAL INVESTMENT POSITION AND THE NET GOVERNMENT POSITION WITH THE BANKING SECTOR OF THE REPUBLIC OF SERBIA[3]

**Abstract**

*The growth of claims of the Banking Sector from the State and the decline in the International Investment Position of the Republic of Serbia are conditioned by the illiquidity of the public sector, which further imposes a concrete conclusion that this phenomenon is in a negative correlation with the degree of budgetary balance.*

*The illiquidity of the public sector, which is primarily reflected in the inability to pay off public debt, which records constant growth, but also in the deficit of budget funds, adversely affects the international investment position, as well as on claims of the Banking Sector from the Republic of Serbia. With the help of these data, the high negative coefficient of interdependence of these two parameters is observed, which is the subject of this research.*

*Key words: banking, sector, investment, position, claims*

*JEL classification: G10, G11, H50*

# МЕЂУСОБНИ УТИЦАЈ ПОТРАЖИВАЊА БАНКАРСКОГ СЕКТОРА И МЕЂУНАРОДНЕ ИНВЕСТИЦИОНЕ ПОЗИЦИЈЕ РЕПУБЛИКЕ СРБИЈЕ

Апстракт

*Раст потраживања банкарског сектора од државе и пад међународне инвестиционе позиције Републике Србије условљени су неликвидношћу јавног сектора, што доводи до конкретног закључка да је ова појава у негативној корелацији са степеном буџетске равнотеже.*

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*Неликвидност јавног сектора, која се првенствено одражава у немогућности исплате јавног дуга, која евидентира константан раст, али и кроз дефицит буџетских средстава, негативно утиче на међународну инвестициону позицију, као и на потраживања банкарског сектора од Републике Србије.Уз помоћ ових података примећен је висок негативни коефицијент међузависности ова два параметра, што је предмет овог истраживања.*

*Кључне речи: банкарство, сектор, инвестиције, позиција, потраживања*

## Introduction

As the global economic crisis escalated, foreign capital inflow abruptly stopped and credit activity contracted. On the one hand, sources of funding were reduced, while risk aversion of banks increased, i.e. the possibilities and readiness to lend to the private sector fell. On the other hand, in an environment of considerably lower income, loan demand also declined. Unfavourable macroeconomic trends that resulted in a decline in production of investment, unemployment growth, strong depreciation of local currencies in many countries, and lower real wages, also reflected negatively on the ability to repay earlier loans.

This, and the fact that, in conditions of considerable inflows of sources of funding before crisis, assessment of credit by the banks was not cautious enough, resulted in accelerated growth of nonperforming loans. A contraction of hih-quality demand for loans and the expansion of nonperforming loans, which started to burden bank balance sheets and their results, led to a significant tightening in banks' standards and conditions for new lending. Without a doubt, this limited the demand for new loans, which, in turn, restricted investment and consumption, economic growth and disposable income. Thus, many economies in the region found themselves in an entagled web of growing nonperforming loans, in part caused by deterioration in macroeconomic performance and a decline in economic activity, and in part by slower economic recovery in the following years that was not supported by bank loans -feedback effect (Tabaković, 2018).

The international investment position (IIP) is a statistical statement that shows at a point in time the value and composition of:
-   external financial assets of residents of an economy that are claims on non-residents and gold bullion held as reserve assets, and
-   external financial liabilities of residents of an economy to non-residents.

The difference between an economy's external financial assets and liabilities is the economy's net international investment position (NIIP), which may be positive or negative. Respectively, the NIIP provides an aggregate view of the net financial position (assets minus liabilities) of a country via-à-vis the rest of the world. A positive NIIP (assets higher than liabilities) qualifies an economy as net creditor, a negative NIIP (liabilities higher than assets) as net debtor nation, allowing for measuring the extent of external financial exposure of a country. (Eurostat, 2018)

According to Sector for economic analysis and research of National Bank of Serbia (2017), there are several classification of IIP elements by type of investment (functional division):
-     Direct investment - They represent an investment in a company that is resident of

the other country providing long term connection, interest and ownership control over that company. This is the type of investment in which the investor is owns 10% or more of the direct investment company's ownership;
- Portfolio investment - They represent investments in equity or debt securities not covered by foreign direct investments and reserve assets;
- Financial derivatives - Securities derived from basic ones financial instruments. They are displayed separately from the basic ones instruments, since they do not transfer capital, but transfer risk of capital investment;
- Other investments;
- Reserve assets.

Also one of the most important classification of IIP elements, according to financial instruments includes, implies: property relations instruments - share capital, reinvested earnings and equity securities; debt instruments - debt securities, money and deposits, trade credits, financial loans, IMF loans and the use of special drawing rights; reserve assets - monetary gold and special drawing rights.

In accordance with the defined goal and subject of research, the work is organized in five parts. The introductory part is the first part. A review of the literature on empirical research on determinants of credit activity and international investment position is given in the second part of the paper. The research methodology is presented in the third part of the paper. The analysis of the results of the research is presented in the fourth part, while the conclusions drawn on the end, in the fifth part of the work.

## Literature Review

Exact data on the state of credit activity of the Republic of Serbia, but its international investment positions are found in the annual reports of the monetary policy. On the basis of this data, trends in the previous period can be noticed, the movements of these parameters in the coming period, and finally, on the basis of which this was done, concrete research. However, the previous research results analyzed in the writing of this paper, and which form an integral part thereof, can only be partially applied in this research as a reference.

The banking sector is the engine of economic development of each country, given its efficiency in the process of transfer of available funds and using the limited financial resources most productively (Vunjak, Davidović & Stefanović, 2012). When we talk about bank sector in Serbia, authors Furtula, Todorović & Durkalić (2018) concluded that performance indicators in most cases increased and changed in period 2008 to 2016.

Autors Marjanović et al. (2018, pp. 248) concluded in their work that the issue of bank efficiency plays an important role in contemporary conditions, bearing in mind that banking performance in the financial sector is one of the main determinants of the overall economic development of a country. Also, one of recommendation from other authors was that all instruments of the monetary policy should have the same importance (Furtula&Kostić, 2017, pp. 157).

J. Galić (2013, pp.2) found that earlier data indicate that banks' credit activity in post-crisis years has recorded a trend of deceleration, both in terms of scale and in terms of risk or conservatism in their approach, all of which is a result of economic recession.

Leitão (2012, pp.3-4) analyzes the relation between economic growth and bank credit. Introducing variables as domestic credit, savings, bilateral trade and inflation, it is shown that endogenous models have a greater potential to explain economic growth. It is confirmed that savings encourage growth and the inflation and domestic credit are negatively correlated with economic growth.

According to J. Tabaković (2018, pp. 2) the NBS has demonstrated its commitment to the preservation and strengthening of stability of the financial system, in accordance with its competences, by continuing to implement regulatory activities that went even beyond the Strategy's framework.

The US Deparrtment of Commerce (2018, pp. 15) says that the IIP includes major sections for the functional categories of direct investment, portfolio investment, financial derivatives other than reserves, other investment, and reserve assets.

## Methodology and the data source

The methodology of this article is based on the connection between banking sector credit activity and investment activity, or the establishment of mutual correlation.

The subject of correlation analysis is to examine the mutual strength of the relationship and the dependence between the claims of the banking sector from the state and the international investment position of the state. These are also the selected variables. The examination of the direction and strength of the interaction of these indicators is carried out on the basis of correlation analysis. It is also implemented on a sample of Republic of Serbia.

The time interval to be tested is from 2009 to 2017. Testing the direction and strength of the interconnection will be expressed by the coefficient, using the Pearson linear method. It is a covariance of standardized variables X and Y. It is calculated using the following formula:

$$r = \frac{\sum_{i=1}^{n} x_i y_i - n\overline{x}\overline{y}}{n\sigma_x \sigma_y} \tag{1}$$

Or alternatively:

$$r = \frac{\sum_{i=1}^{n} x_i y_i - n\overline{x}\overline{y}}{\sqrt{\left(\sum_{i=1}^{n} x_i^2 - n\overline{x}^2\right)\left(\sum_{i=1}^{n} y_i^2 - n\overline{y}^2\right)}} \tag{2}$$

The coefficient takes values from a closed interval between -1 and 1. The zero value indicates that there is no linear correlation; the value plus one denotes a perfect positive fit, and minus one shows a perfect negative fit. The value of the coefficient is closer to 1, the linear bond is stronger. The lower value of the coefficient does not necessarily indicate a weak link between the variables, since there may be a very strong correlation between the variables, but the curvilinear, so the application of the linear coefficient of correlation is not appropriate in this case (Buturac, Ignjatijević, 2017, pp. 135-153).

Data from the National Bank of Serbia (2009-2017), the banking sector credit activity (2009-2017) and the results of the investment activity (2009-2017), are taken as information source, based on which this research was conducted.

# Indicators of credit and investment activity of the Republic of Serbia

*Credit activity*

In the period before the crisis, economic growth in Central, Eastern and Southeast Europe, including Serbia, was dynamic. Indeed, it was predominantly driven by consumption, which was, in greater share, financed by capital inflows and bank loans. Inflows were, to a large extent, channeled into the financial sector. In fact, it may be said that this period was characterized by the arrival of foreign banks from Western Europe, which brought new and cheaper sources of funding to the market. A period of robust credit expansion ensued. In such an environment, however, many countries experienced unwanted consequences. Inflationary pressures increased and external imbalances deepened. (Tabaković, 2018)

It can be noted that the lending activity of the banking sector is higher measure launched in the fourth quarter of 2009. Such an attitude is particularly effective in view of the third quarter of 2009 (also the worst in the course of that year) given that the amount of newly approved loans amounted to only 33 billion RSD. However, the worst three months of the past year (at least in terms of the sector of the economy and the population) related to the second quarter - the economic activity-oriented credit virtually vanished from 0.3 billion RSD loans while the credit activity to the population decreased by 4.7 billions of RSD. At the same time, credit growth on the basis of housing construction was zero. The only place for a significant increase in credit activity, the banks saw in the public sector, which in the same period increased by a record 52.3 billion RSD in one quarter (National Bank of Serbia, 2009).

*Table 1. Net Government Position with the Banking Sector – Bank Claims from the State (mil.€)*

| Year | Q1 | Q2 | Q3 | Annual |
|------|------|------|------|--------|
| 2009 | 198,84 | 636,80 | 755,28 | 1.011,25 |
| 2010 | 1.119,03 | 1.451,71 | 1.483,65 | 1.785,75 |
| 2011 | 1.816,24 | 1.793,38 | 1.868,64 | 1.896,10 |
| 2012 | 2.093,97 | 2.501,54 | 2.631,31 | 2.728,91 |
| 2013 | 2.657,64 | 2.782,06 | 2.929,80 | 3.138,06 |
| 2014 | 3.545,88 | 3.733,72 | 4.008,68 | 4.170,67 |
| 2015 | 4.173,02 | 4.244,82 | 4.448,74 | 4.834,92 |
| 2016 | 5.358,26 | 5.386,66 | 5.458,80 | 5.672,50 |
| 2017 | 5.652,63 | 5.640,98 | 5.532,87 | 5.574,92 |

*Source: National Bank of Serbia*

The decrease in credit activity in 2013 in the corporate sector relates to all categories of credit placements by purpose or branch activities of the economy. On a quarterly basis, the most significant reductions were in the group of loans for working capital (RSD 15.3 billion)

and investment loans (RSD 12.2 billion). At the same time, the most significant decline in loans relates to construction, wholesale and retail trade, as well as the manufacturing industry. The key contribution to the growth of loans to the finance and insurance sector comes from the fact that the trend of maintaining banks against risk-taking through the reduction credit exposures by the sector of the economy and placement of free assets into low-risk securities, primarily the repo securities of the National Bank of Serbia (which increased by 14.9 billion on a quarterly basis, ie 69.4 billion annually) and state bonds of the Republic of Serbia (National Bank of Serbia, 2013).

*Figure 1. Net Government Position with the Banking Sector – Bank Claims from the State (mil. €)*
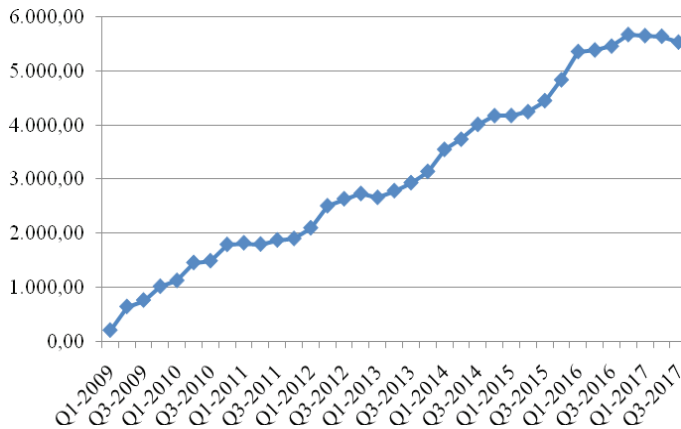


*Source: National Bank of Serbia*

During the third quarter of 2017, gross loans to the banking sector Serbia in nominal terms increased by 24.5 billion dinars and amounted to are 2,028.6 billion dinars, representing a growth of 1.2%. When it's a credit the activity of the banking sector is observed at the net level (after the impairment for the banking sector value adjustment), loans increased by 4.2%. Credit growth is evident, despite the fact that it is, in accordance with the Decision on accounting the write-off of balance sheet assets of banks, the transfer of troubled loans, which are completely impaired in the off-balance sheet of the bank. The increase in gross leveraged credit activity is most pronounced in the sector of companies, for RSD 31.0 billion (or 3.5% more than at the end of the previous quarter), as well as in the population, by RSD 11.2 billion (or by 1.4% more than in the previous quarter). Increase of loans given companies were recorded with loans indexed to foreign currency clause and loans in foreign currency (by RSD 34.1 billion), and that in mind loans for liquidity and working capital, and loans for payment of imports. The nominal reduction in gross loan activity was recorded in the sector of entrepreneurs, the public sector, foreign entities and other clients. U compared to the end of the previous quarter, the non-financial sector in bankruptcy has to 18.9 billion dinars, or 31.1%, less gross loans. With a share of 45.0% and 39.0% in total gross loans, corporate sector and population sector are still the most prevalent (National Bank of Serbia, 2017).

### *International Investment Position*

International Investment Position (IIP) includes financial assets and passives that have an international character. IIP is a balance sheet of a foreign party financial assets and liabilities of a country. Foreign financial assets include financial receivables of residents, of nonresidents and monetary gold, which is included in the reserve assets of the land. (National Bank of Serbia, 2018)

The IIP shows stock at the beginning and end of an accounting period (most often a quarter or a year). Changes in the stock of financial assets and liabilities at the beginning and end of the period stem from changes in transactions (covered by the balance of payments) or other changes during the observation period. Other changes include those arising from write-off, revaluation, reclassification, commitments made or withdrawn, but not resulting from transactions between non-residents and residents. The IIP shows the difference between the stock of a country's external financial assets and liabilities. A country has a net creditor or net debtor status depending on whether the IIP stock data have a positive or a negative sign. (National Bank of Serbia, 2018)

*Table 2. Serbia's International Investment Position (mil. €)*

| Year | Assets | Liabilities | Net IIP |
|------|--------|-------------|---------|
| 2009 | 16.005 | 38.394 | -22.389 |
| 2010 | 15.940 | 40.289 | -24.349 |
| 2011 | 19.484 | 44.291 | -24.807 |
| 2012 | 17.226 | 44.519 | -27.293 |
| 2013 | 17.676 | 48.503 | -30.827 |
| 2014 | 18.134 | 50.848 | -32.714 |
| 2015 | 19.334 | 53.447 | -34.113 |
| 2016 | 20.854 | 55.456 | -34.872 |
| 2017 | 20.480 | 55.960 | -35.840 |

*Source: National Bank of Serbia*

The IIP is the basis for assessing the exposure to country risk as it presents the stock, breakdown by sector and maturity of external liabilities, notably external debt, as well as the volume and composition of claims on non-residents. The IIP is a statistical statement that IMF member countries, pursuant to Article VIII, Section 5 of the IMF's Articles of Agreement, are required to submit to the IMF at the determined dynamics. The IIP is prepared in line with the Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual (BPM6, 2008), and the IMF's External Debt Statistics – Guide for Compilers and Users (2003). (National Bank of Serbia, 2018)

*Figure 2. Balance Sheet of the International Investment Position*
*of the Republic of Serbia (mil. €)*
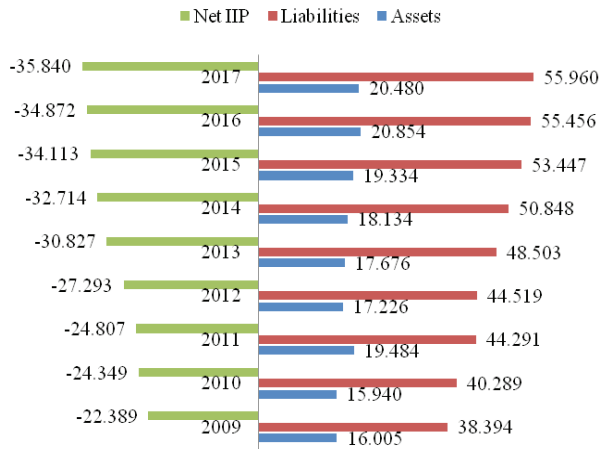


*Source: National Bank of Serbia*

As a distinction between foreign financial assets and liabilities, IIP clearly shows the difference between the financial assets that one economy has and I the money that he owes. Depending on the IIP sign, the land can be net creditor or net debtor in relation to the rest of the world. The IIP is the basis for assessing the country's exposure to risk economic relations with other countries, since it contains a level display, sectoral schedule and maturity of foreign liabilities, especially foreign debt, as well as the volume and structure of receivables from non-residents. (National Bank of Serbia, 2017)

*Figure 3. International Investment Position of the Republic of Serbia (mil. €)*
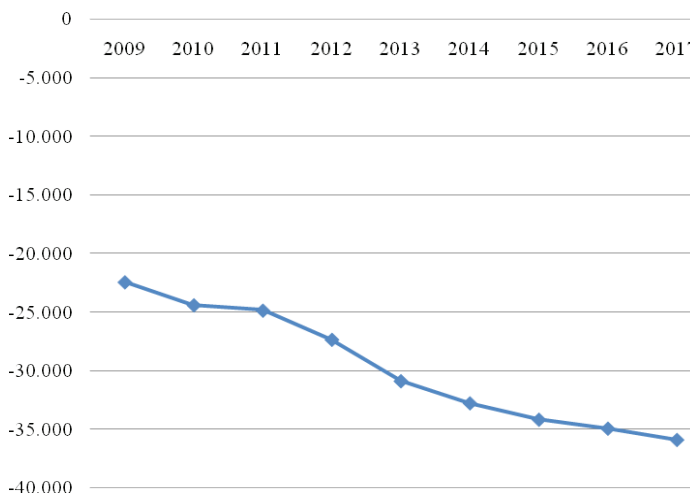


*Source: National Bank of Serbia*

Foreign financial liabilities include financial liabilities Residents by non-residents. IIP, as a rule, shows the balance at the beginning and at the end of the billing period (usually quarter or year). Changes in the Balance of Financial Assets liabilities at the beginning and at the end of the period are caused by changes that are the result of transactions (included in the balance of payments) or other changes during the observation period. Other changes include changes based on write-offs, revaluations, reclassifications, occurrence or loss of obligations, and are not the result of transactions between a non-resident and a resident.

# Results

According to previously presented indicators of the Claims of the Banking Sector from the State and the International Investment Position of the Republic of Serbia, the main focus was moved to determine and describe the coefficient of mutual correlation between these two indicators.

Since this is parametric statistics, where the coefficient of variation is less than 30 (in this particular case 17,09674), the Pearson method of correlation was applied, thus calculating the correlation coefficient of these two indices.

The correlation coefficient of the International Investment Position and the Claims of the Banking Sector from the State is -0,982104, which means that the correlation of these two parameters is above all: negative (< -0,5) and also strong (see Table 3).

*Table 3. Correlation between the IIP and the Claims of the Banking Sector from the State*

| Year | Claims of the Banking Sector from the State (mil. €) | International Investment Position (mil. €) | Correlation Coefficient |
|------|------|------|------|
| 2009 | 1.011,25 | -22.389 | |
| 2010 | 1.785,75 | -24.349 | |
| 2011 | 1.896,10 | -24.807 | |
| 2012 | 2.728,91 | -27.293 | |
| 2013 | 3.138,06 | -30.827 | -0,982104 |
| 2014 | 4.170,67 | -32.719 | |
| 2015 | 4.834,92 | -34.113 | |
| 2016 | 5.672,50 | -34.872 | |
| 2017 | 5.574,92 | -35.840 | |

*Source: Authors' interpretation based on the data base*

Also, using the descriptive statistics method, the determination coefficient can also be calculated. In this case, part of the variance of one variable caused to another is 96,4528%. Taking into consideration the relatively small number of samples (9 years) on which the research was conducted, and based on the calculated coefficient of determination, a certain degree of safety can determine the mutual cause of the trends of the tested variables.

In Picture 5, the correlation of these two indices is shown, along with the variation coefficients, also mentioned. Based on this, the conclusion is that a high level of the Banking Sector claims from the State contributes to a low IIP value. Therefore, the negative trend of

the International Investment Position is in a strong negative correlation with the increase of the Banking Sector claims from the state.

*Figure 4. Correlation between the IIP and the Claims of the*
*Banking Sector from the State*
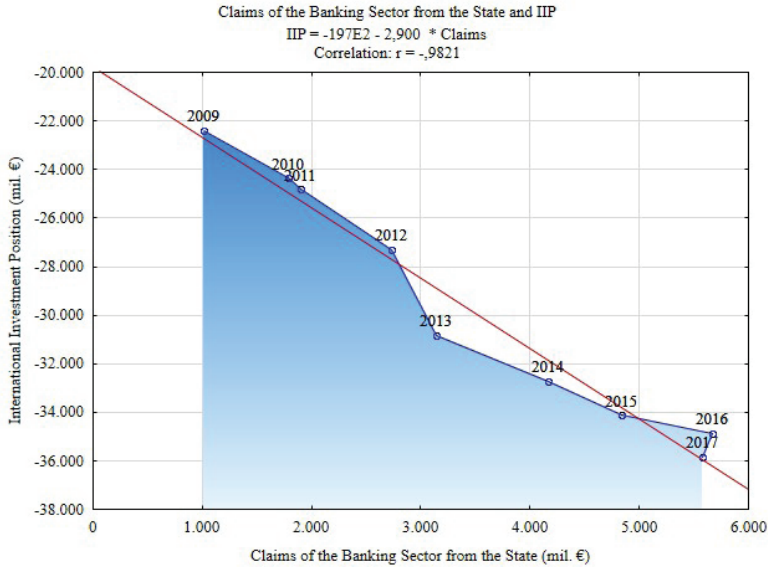


*Source: Authors' interpretation based on the data base*

The negative trend that started in 2009, continued in the next three years, with a proportionate decline in investment and an increase in lending activity. After 2012, International Investment Position experienced a drastic drop from -27.293 mil. € to -30.827 mil. € in 2013. On the other hand, in the period from 2013-2014, Banking Sector claims from the state experienced a drastic increase. From 2014 to 2016, both parameters achieve an equal trend. In 2017 Banking Sector claims from the State are reduced, but the amount of reduction is negligible compared to the previous negative trend.

According to J. Tabakovic (2018), Serbia is good example of the numerous measures and activities taken to curb the level of non-performing loans in the last five years, because of the systematic approach taken to narrow the internal and external imbalances of the country and create a more stimulating investment environment in a sustainable manner.

Also, considering J. Galic's research (2013), during 2009, the banking sector was faced with a lower availability of funds for investment, which made borrowing more expensive (higher interest rates essentially mean a lower level of investment activity, and expected consequences include lower liquidity of the real sector and difficulties in servicing the existing loans). The trend continued in 2010 and 2011; thus, at the end of 2012, the economy faced a shortage of liquid assets and high liabilities, which significantly affected the preservation of banking sector stability.

## Conclusion

The economic crisis that has shaken the economy of the Republic of Serbia has been present in this region for the past twenty years. The consequence of this phenomenon is macroeconomic instability and the fact that domestic economy has stagnated, in conditions of strong inflationary pressures and the weakening of the domestic currency.

The stagnation of the economic recovery on the republic level and the deteriorated economic outlook with the decline in domestic economic activity has prompted the strengthening of macroeconomic imbalances. The decline in total economic activity, the overflow of exchange rate risk in credit, and the difficult access to financial markets and the narrowing of opportunities for collecting fresh sources of funding have limited the space for the operation of financial institutions.

A high level of indebtedness of the domestic real sector in the previous period was achieved, and the problem of insolvency, with consequent problems with the collection of placements, was caused by the relatively modest banking claims growth and the weakening of investment activity. Responding to a pre-determined subject of research, within the limits set by the methodological postulates, we have come up with results that confirm the hypothesis of the research.

The research is shown as the interdependence of parameters in the real sector. Two components of the real sector are presented, regarding the growth of the banking claims from the state activity and the decline in investment activity. Thus, the growth of the banking claims from the state was generated by quantitative data on Government debt in the banking sector. The decline in investment activity was presented through data on the international investment position of the Republic of Serbia. A high negative coefficient of interdependence between these two indicators was observed, on the basis of which the determination coefficient was calculated, and a high degree of causation of the two observed variables was determined.

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