

# “Identification of dependencies between the imbalances of financial resources and investment flows in the eastern European economies”

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# IDENTIFICATION OF DEPENDENCIES BETWEEN THE IMBALANCES OF FINANCIAL RESOURCES AND INVESTMENT FLOWS IN THE EASTERN EUROPEAN ECONOMIES

## Abstract

Strengthening financial and economic stability in certain countries of the world requires the modification of tools for assessing the imbalances in the flow of financial resources that arise and spread as a result of the economy financialization and their consequences for the functioning of markets, especially investment ones. The purpose of the study is to develop a methodological approach to identifying the dependencies between financial resources imbalances resulting from financialization and investment flows. The following research methods were used: science-based abstraction, analysis and synthesis, economic and mathematical methods (to identify the dependencies between the imbalances in the movement of financial resources and investment flows in the economy); comparison and analogy (to study the world experience in identifying the links between financialization and investment flows in the economy). The aspects of the influence of imbalances in financial resources movement as a result of the economy financialization on investment flows are systematized. Various consequences of these imbalances for the functioning of the investment market are determined. The algorithm of identification of special aspects of investment flows influenced by financial resources imbalances was modified. The hypothesis of the strong correlation between the dynamics of foreign direct investment in the Eastern European countries and the level of imbalances in the flow of financial resources has been confirmed. The hypothesis of the significant influence of financialization processes on investment activity in the real sector of the economy, including infrastructure investments, has been refuted. It has been established that imbalances in the flow of financial resources as a result of financialization do not contribute to the development of investment markets of Eastern European countries, and only intensify disparities by directing foreign direct investment in the financial sectors of these countries and increasing the volatility of their market conditions.

It has been determined that the approach to identifying the dependencies between financial resources imbalances as a result of financialization and investment flows in Eastern European economies has allowed to substantiate the impact of such imbalances on investment amounts and on the capital formation dynamics.

## Keywords

imbalances, financial resources movement, economy  
financialization, investment, flow

## JEL Classification

G32

## INTRODUCTION

The consequences of the recent global financial and economic crisis and the difficulty in re-establishing the positive rate of socio-economic development point to the underestimation by most economic agents of the importance of the financial sector in terms of the magnitude of diffusing imbalances accumulated in it in all areas of the economy. Current studies of international financial organizations are aimed at finding effective mechanisms for overcoming the consequences of dis-

proportionate development of the financial sector and ensuring the sustainable development of the financial and real sectors in order to avoid “financial bubbles” in the future. In order to strengthen financial and economic stability in the country, it is necessary to develop tools for assessing and regulating not only the disparities in the movement of financial resources, which have resulted from the economy financialization, but also their consequences for the functioning of financial, investment and commodity markets and ensuring the steady dynamics of indicators for the country’s socio-economic development. To date, a number of issues remain unresolved, including the identification of links between financialization and investment flows, the development of scientific and methodological approaches to identifying dependencies between imbalances in the movement of financial resources (hereinafter referred to as IMFR) as a result of financialization and these flows in the economy.

## 1. LATEST RESEARCH AND PUBLICATIONS ANALYSIS

Tobin (1997), Crotty (2005), Stiglitz (1989), Boyer (2000), Tornell (1990), Korneyev (2014), Halland and Canuto (2013), Collier (2010), Kettering (2008) and other scholars have devoted a number of their scientific papers to identifying the strength and directions of links between financialization and investment flows in the economy.

The development of financial economy has a mixed effect on the investment distribution in the context of not only the branches of the economy of an individual country, but also different states. Implementing financial liberalization is an example of the financial economy intensification. The researchers reviewed the results of financial liberalization as part of the economy financialization and its impact on the investment distribution, using developing countries such as Turkey, Mexico and Argentina as an example. This is because these countries are one of the first to choose the vector of their further activities aimed at intensifying the financial economy (AK&M, 2018; Demir, 2009). In the 70’s and 80’s of the 20th century, these three countries were in an extremely difficult economic situation. They were cut off from the international financial community at a time when there was a decline in production and brewing hyperinflation within countries. In such a situation, it was decided to launch a financial liberalization policy that was supposed to improve the existing situation. With the leveling of external financial control by the leadership of the states, an instant sharp increase in external investment flows occurred. During 15 years on average, since the 1990s, external flows have increased from USD 50 to 97 billion in Turkey, from USD 146 bln to USD

203 bln in Mexico, and from USD 9 bln to 27 bln in Argentina (UNCTAD, 2013). In addition, open capital flows had a significant negative impact on investment in the real economy due to changes in relative prices, which can explain a reduction in the share of business savings and a reduction in employment in this sector (Frenkel & Ros, 2006). There was a steady influx of short-term investment, which was due to the large arbitrage excess profits in the financial markets, which gradually reduced the strength of fixed capital of firms. In Argentina and Turkey, financial assets were still more profitable during the financial liberalization period. Such abrupt changes suggest that these countries were not ready for financial liberalization and were experiencing disparities in the development levels of both the financial and real sectors of the economy. There was excessive formation of short-term capital, which was used to cover the state budget deficit. This capital could not be involved in new productive investment, but instead created an additional burden of foreign currency liabilities in the absence of reliable sources of repayment. It can be said that financial liberalization measures do not always have only positive effects for the country where it takes place, sometimes they can even deepen the crisis situation (Demir, 2009; Frenkel & Ros, 2006).

The prevailing financial sector over the real economy, which creates significant structural differences in the economy, is also typical for BRICS countries (Brazil, Russia, India, China, and South Africa). The reasons for the significant growth of financial resources demand in comparison with GDP growth rates are as follows: increase of participants in the financial services market, in particular, households with insignificant incomes, that generates growth of demand for financial

(credit) resources; the growth of industrial production requires additional financial resources; the need to improve the internal infrastructure creates demand for the necessary investment resources (Osyk, 2014).

The aspects of the IMFR impact as a result of the economy financialization on investment flows are as follows: the rapid development of the financial economy contributes to the deindustrialization of the economy. That is, investments flow from the real economy into the financial sector, where, due to the rapid turnover, they bring unproved excess profits; with the IMFR accumulation, the uncertainty and volatility of the economy environment grows. This forces investors to be more cautious and to avoid long-term investment in fixed assets; in the environment where financial sector of the economy prevails over real economy, non-financial corporations activate operations due to their own fixed assets that could be used for investing. While increasing liquid financial assets and reducing the share of fixed assets, non-financial corporations increase their corporate debt. Under the financialization, institutional investors intensify their activity and “warm” the economy via their operations, which causes “financial bubbles”. This increases risks (financial particularly) and thereby leads the economy to collapse. In the context of the financial sector predominance over the real economy, IMFRs differently influence the investment process in countries with different level of economic development. In developed countries, the financial economy completely shifts the emphasis of investment from the real economy to financial sector, which forces investors to constantly maneuver between sharp interest rate fluctuations. Other countries are beginning to demonstrate economic growth, as they are attractive for international investment.

In general, researchers have found ambiguous results on the strength and direction of links between financialization and investment flows. On the one hand, the increase in the profit margin in financial and insurance activities, the development of financial infrastructure due to the institutional investors making more active are emphasized. On the other hand, the economic inexpediency of long-term investment projects, crowding out real investment by financial investment, increasing the

financial markets volatility through arbitrage and other speculative operations are outlined.

Along with this, a number of scientific papers are devoted to modeling of investment flows management in the environment when financial sector prevails real economy. Davis (2013), Orhangazi (2008), Ndikumana (2018), Love (2003) and others are among them. Despite this, the identification of dependencies between the imbalances in the flow of financial resources as a result of financialization and investment flows in the economy remains unresolved and needs further development.

## 2. REMAINING PART OF THE PROBLEM

The urgent need to maintain optimal proportions of financial and real investment in order to achieve equilibrium at the macro level makes it necessary to analyze structural changes in the functioning of the investment market influenced by IMFR. The analysis of statistical data on the development dynamics of investment and financial markets in the United States and most European countries made it possible to conclude that the production activities of enterprises of the real sector, including investment activities, are reoriented to transactions in the financial services market. The gradual increase in the proportion of financial assets and the decline in the share of fixed assets in the structure of the balance of non-financial corporations during the last 40 years determines crowding down of real investment by financial investment, that is, the reduction of long-term investment in production facilities, which weakens the position of corporations due to the growth of their internal corporate debt.

The IMFR effects on the investment market functioning can be diverse. On the one hand, it is an increase in the rate of return from financial capital in comparison with the fixed assets, the development of financial infrastructure through the institutional investors intensification. On the other hand, the economic inexpediency of long-term investment projects, crowding out real investment by financial investment, increasing the financial market volatility through arbitrage and other speculative operations of institutional investors.

### 3. KEY RESEARCH FINDINGS

In order to identify the peculiarities of the investment flows influenced by the economy financialization, the author has developed a linear regres-

sion model with fixed effects. The calculations are based on panel data of 11 Eastern European countries (Moldova, Romania, Lithuania, Bulgaria, Armenia, Azerbaijan, Belarus, Georgia, Russia, Turkey, Ukraine) (see Figure 1).

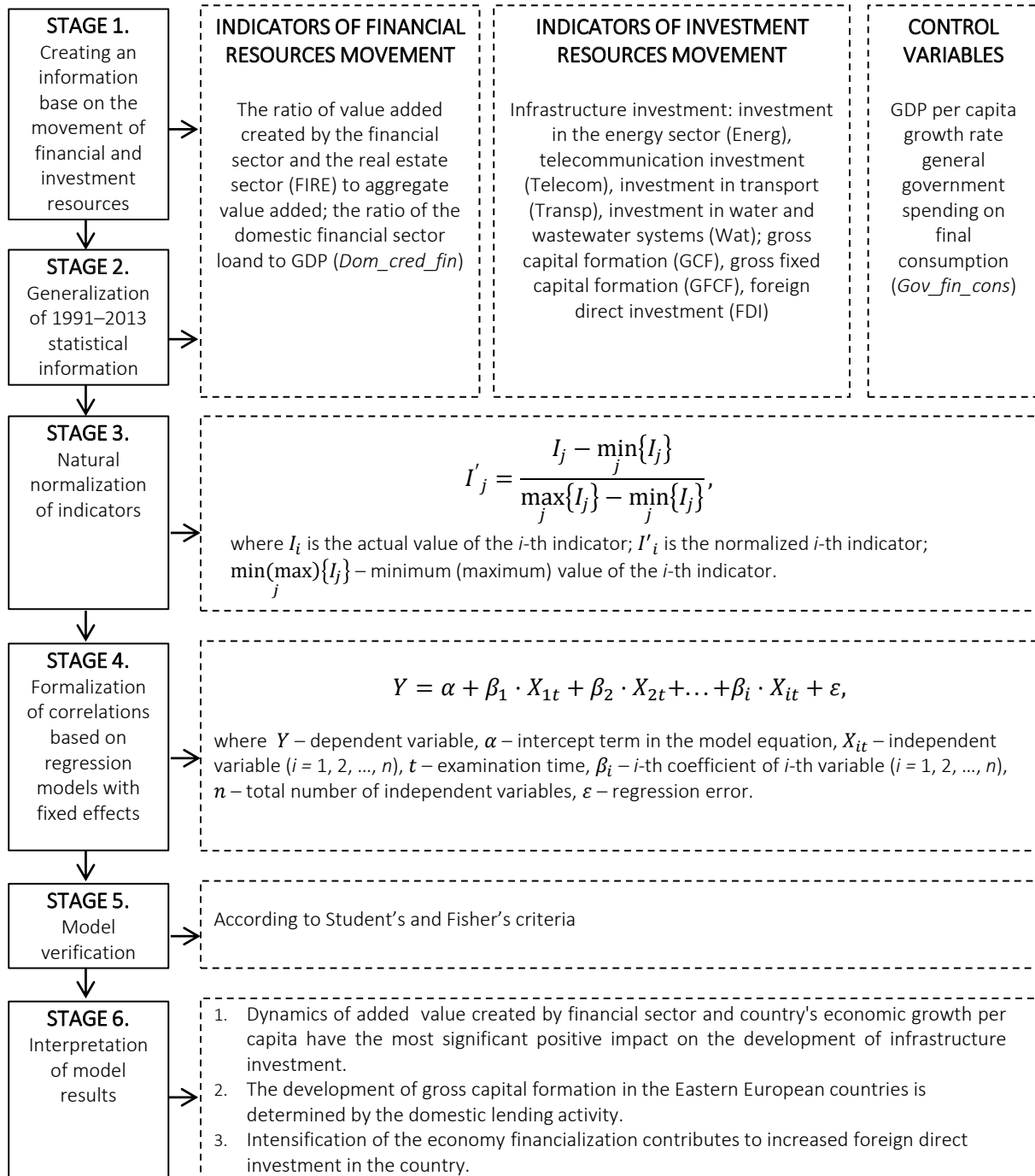


Figure 1. Algorithm for identifying special aspects of the investment flows influenced by IMFR

The system of regression models derived from the results of the fourth stage of the algorithm above will be as follows:

$$\begin{aligned}
 \text{Energ} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{Energ} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{Energ} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{Energ} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 \text{Telecom} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{Telecom} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{Telecom} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{Telecom} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 \text{Transp} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{Transp} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{Transp} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{Transp} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{3}$$

$$\begin{aligned}
 \text{Wat} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{Wat} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{Wat} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{Wat} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{4}$$

$$\begin{aligned}
 \text{GCF} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{GCF} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{GCF} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{GCF} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{5}$$

$$\begin{aligned}
 \text{GFCF} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{GFCF} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{GFCF} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{GFCF} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{6}$$

$$\begin{aligned}
 \text{FDI} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \varepsilon \\
 \text{FDI} &= \alpha + \beta_1 \cdot \text{FIRE} + \varepsilon \\
 \text{FDI} &= \alpha + \beta_1 \cdot \text{Dom\_cred\_fin} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon \\
 \text{FDI} &= \alpha + \beta_1 \cdot \text{FIRE} + \beta_2 \cdot \text{GDP} + \beta_3 \cdot \text{Gov\_fin\_cons} + \varepsilon
 \end{aligned} \tag{7}$$



The peculiarity of the chosen regression model with fixed effects is that each factor variable is not random. That is, it was added to the model only after a detailed analysis of one or another phenomenon and it has a unique effect on the resultant variable. The reason for using panel input data in the current study is their flexibility, which allows for studying the peculiarities of the investment flows of individual Eastern European countries in time and provides answers to the questions that ordinary spatial data cannot answer. For example, using panel data makes it possible to simultaneously analyze and take into account the individual differences between different economic entities.

The *FIRE* indicator and the annual growth rate of *GDP* per capita have a significant positive impact on investment in all investigated infrastructure projects (see Tables 1 to 4).

Thus, *Energ* index will increase 0.34 times with an increase in the *FIRE* value by 1, while the determination coefficient  $R^2$  amounts to 0.611, indicating a moderate quality connection between dependent and independent variables. *F*-test is 0.034, which is less than 0.05 and means that all coefficients in the model are non-zero. This is also confirmed by the *t*-test, which should exceed the value of 1.96 (at a 0.95 confidence level) in this situation; *t*-test equals 1.98.

**Table 1.** Results of identifying the dependency between IMFR indicators and amount of infrastructure investment in the energy sector

Dependent variables/ control variables	Independent variable			
	Energ			
	1	2	3	4
Constant	0.039*** (1.79)	0.005*** (1.98)	-0.092*** (-1.12)	-0.081*** (-0.98)
<i>Dom_cred_fin</i>	0.137*** (1.99)	-	0.174*** (2.23)	-
<i>GDP</i>	-	-	0.198*** (2.20)	0.160*** (2.44)
<i>Gov_fin_cons</i>	-	-	0.004*** (0.05)	0.033*** (0.35)
<i>FIRE</i>	-	0.340*** (1.98)	-	0.225*** (2.65)
$F_{fact}$	3.25	3.79	2.72	1.96
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > <i>F</i>	0.0028	0.034	0.0452	0.0203
Adj. $R^2$	0.49	0.611	0.41	0.397

**Table 2.** Results of identifying the dependency between IMFR indicators and amount of infrastructure investment in telecommunications sector

Dependent variables/ control variables	Independent variable			
	Telecom			
	1	2	3	4
Constant	0.153*** (6.20)	0.009*** (0.25)	0.002*** (0.02)	-0.086*** (-0.94)
<i>Dom_cred_fin</i>	-0.050*** (-0.58)	-	-0.025*** (-0.03)	-
<i>GDP</i>	-	-	0.244*** (2.39)	0.195*** (1.89)
<i>Gov_fin_cons</i>	-	-	-0.015*** (0.05)	-0.069*** (-0.07)
<i>FIRE</i>	-	0.632*** (3.41)	-	0.45*** (2.98)
$F_{fact}$	0.33	11.50	2.09	5.13
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > <i>F</i>	0.564	0.0008	0.1026	0.0019
Adj. $R^2$	0.19	0.71	0.21	0.32

**Table 3.** Results of identifying the dependency between IMFR indicators and amount of infrastructure investment in transport sector

Dependent variables/ control variables	Independent variable			
	Transp			
	1	2	3	4
Constant	0.02*** (0.46)	0.009*** (1.43)	-0.062*** (-1.20)	-0.062*** (-1.20)
<i>Dom_cred_fin</i>	0.02*** (1.44)	-	0.027*** (0.55)	-
<i>GDP</i>	-	-	0.074*** (2.29)	0.084*** (1.98)
<i>Gov_fin_cons</i>	-	-	0.069*** (1.16)	0.081*** (1.25)
<i>FIRE</i>	-	0.074*** (2.70)	-	0.047*** (2.54)
$F_{fact}$	0.33	11.50	2.09	6.96
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > <i>F</i>	0.649	0.006	0.011	0.013
Adj. $R^2$	0.21	0.51	0.31	0.611

**Table 4.** Results of identifying the dependency between IMFR indicators and amount of infrastructure investment in water and wastewater systems sector

Dependent variables/control variables	Independent variable			
	Wat			
	1	2	3	4
Constant	0.024*** (2.04)	0.011*** (2.57)	-0.044*** (-1.00)	-0.05*** (-1.12)
<i>Dom_cred_fin</i>	-0.027*** (-0.67)	-	-0.017*** (-0.40)	-
<i>GDP</i>	-	-	0.079*** (2.63)	0.096*** (2.71)
<i>Gov_fin_cons</i>	-	-	0.033*** (0.66)	0.031*** (0.62)
<i>FIRE</i>	-	0.035*** (2.32)	-	0.001*** (2.02)
$F_{fact}$	3.46	7.10	3.11	3.05
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > F	0.501	0.0498	0.3471	0.0598
Adj. $R^2$	0.15	0.4	0.25	0.39

The equation, where more control variables are added to the *FIRE* indicator, shows that *GDP* also has a significant impact on *Energ* (0.16 ( $t$ -test = 2.44)). The determination coefficient remained at the same moderate level of 0.3979 (see Table 1). The same trend has been maintained for other indicators of investment in infrastructure projects. Thus, a change in the *FIRE* indicator by 1 will increase the level of investment in telecommunications by 0.632 times ( $R^2 = 0.71$ ), indicating a significant correlation between dependent and independent variables ( $F$ -test = 0.0008;  $t$ -test = 3.41). The *Telecom* indicator is also influenced by the *GDP* indicator, which determines the change in *Telecom* as a control variable in the *FIRE* equation by 0.195 times ( $R^2 = 0.32$ ;  $F$ -test = 0.0019;  $t$ -test = 1.89) (see Table 2). The change for one of *FIRE* indicator results in an 0.081 increase in investing in transport projects ( $R^2 = 0.611$ ;  $F$ -test = 0.0066;  $t$ -test = 2.70). The growth of the *GDP* indicator, similar to the previous equations, also positively affects the *Transp* variable and causes its growth to be 0.084 times ( $R^2 = 0.611$ ;  $F$ -test = 0.0127;  $t$ -test = 1.98) (see Table 3). The change of the *FIRE* indicator for one results in an increase in investment in water and wastewater systems by 0.035 times ( $R^2 = 0.4$ ;  $F$ -test = 0.0498;  $t$ -test = 2.32). In the equations describing the relationship between *Wat*, *FIRE* and control variables, the coefficient under the

*GDP* indicator also has a significant positive impact on the dependent variable: 0.096 ( $R^2 = 0.39$ ;  $F$ -test = 0.0598;  $t$ -test = 2.71) (see Table 4).

Having assessed the impact of the indicators of financial resources imbalances in terms of the economy financialization and control variables on the gross capital formation (*GCF*), one can conclude that it is influenced significantly by the ratio of domestic loans of the financial sector to the GDP (*Dom\_cred\_fin*). As Table 5 shows, change for one of the *Dom\_cred\_fin* indicator provokes a 0.11 times increase in *GCF*. At the same time, the determination coefficient  $R^2 = 0.62$  indicates a moderate relationship between dependent and independent variables ( $F$ -test = 0.0285;  $t$ -test = 2.20). Also, the influence of the *Dom\_cred\_fin* indicator is amplified by the *GDP* control variable (see Table 5). They cause an increase in *GCF* by 0.1 and 0.08 times ( $R^2 = 0.59$ ;  $F$ -test = 0.0759;  $t$ -test = 2.45 for *Dom\_cred\_fin*). The effect of the *FIRE* indicator is lower, 0.063, and not statistically significant ( $F$ -test = 0.4386;  $t$ -test = 0.28), however  $R^2 = 0.58$ .

**Table 5.** Results of identifying the dependence between IMFR indicators and amount of gross capital formation

Dependent variables/control variables	Independent variable			
	GCF			
	1	2	3	4
Constant	0.038*** (3.25)	0.046*** (2.31)	0.007*** (-0.17)	0.02*** (0.35)
<i>Dom_cred_fin</i>	0.11*** (2.20)	-	0.1*** (2.45)	-
<i>GDP</i>	-	-	0.08*** (1.44)	0.041*** (0.83)
<i>Gov_fin_cons</i>	-	-	-0.0002*** (-0.01)	0.015*** (0.29)
<i>FIRE</i>	-	0.063*** (0.78)	-	0.046*** (0.83)
$F_{fact}$	4.86	0.60	2.92	0.44
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > F	0.0285	0.4386	0.0759	0.7248
Adj. $R^2$	0.62	0.58	0.59	0.55

The assessment of the impact of indicators of imbalances in the financial resources movement under the economy financialization on the gross fixed capital formation *GFCF* showed similar results (see Table 6).



**Table 6.** Results of identifying the dependence between IMFR indicators and amount of gross fixed capital formation

Dependent variables/control variables	Independent variable			
	GFCF			
	1	2	3	4
Constant	0.038*** (3.14)	0.043*** (2.15)	-0.017*** (-0.17)	0.007*** (0.15)
<i>Dom_cred_fin</i>	0.11*** (2.38)	-	0.114*** (2.45)	-
<i>GDP</i>	-	-	0.08*** (1.44)	0.05*** (0.91)
<i>Gov_fin_cons</i>	-	-	0.005*** (-0.01)	0.023*** (0.43)
<i>FIRE</i>	-	0.087*** (0.97)	-	0.006*** (0.79)
$F_{fact}$	5.64	4.60	3.81	3.62
$F_{crit}$	3.882	3.882	3.035	2.644
Prob > F	0.0184	0.0438	0.0621	0.0033
Adj. $R^2$	0.64	0.71	0.55	0.54

The effect of the *Dom\_cred\_fin* indicator was stronger than the *FIRE* effect. The increase by one in *Dom\_cred\_fin* will increase *GFCF* by 0.11 times ( $R^2 = 0.64$ ), and *FIRE* by 0.087 times ( $R^2 = 0.71$ ). Compared to previous results, the *FIRE* indicator has a greater impact on the *GFCF* indicator than on the *GCF*. The high values of the statistical significance of the results obtained for *Dom\_cred\_fin* ( $F$ -test = 0.0184;  $t$ -test = 2.38) confirm the impact of this indicator on the gross fixed capital formation.

While analyzing the dependence between *FDI* and the imbalances in the flow of financial resources under the financialization of the economy, it was revealed that they have closer connection with the *FIRE* indicator than with *Dom\_cred\_fin*. Table 7 clearly demonstrates that the increase by one of the *FIRE* indicator results in an increase in the *FDI* by 0.121 times and *Dom\_cred\_fin* by 0.081 times. The determination coefficient shows the moderate coupling between dependent and independent variables for both cases. In addition, the obtained coefficients for both *Dom\_cred\_fin* and *FIRE* are statistically significant. It can be also seen from Table 7 that in parallel with *FIRE*, the *FDI* indicator is significantly statistically influenced by control variables of *GDP* and *Gov\_fin\_cons*, with the latter having a negative impact on *FDI*. With an increase of *Gov\_fin\_cons* by one, *FDI* will decrease 0.115 times ( $F$ -test = 0.0059;  $t$ -test = 2.24).

The table value of Fisher's criterion for the degrees of freedom (3; 228) is 3.882 and for (1; 230) it is 2.644. In most cases, the calculated value of this criterion is greater than its table value. This confirms the statistical significance of the influence of the selected independent variables on the dependent regression equations constructed.

**Table 7.** Results of the identifying the dependence between IMFR indicators and foreign direct investment amount

Dependent variables/control variables	Independent variable			
	FDI			
	1	2	3	4
Constant	0.03*** (2.36)	0.018*** (3.80)	-0.071*** (-1.28)	-0.07*** (0.15)
<i>Dom_cred_fin</i>	0.081*** (2.42)	-	0.095*** (1.97)	-
<i>GDP</i>	-	-	0.145*** (1.68)	0.118*** (2.10)
<i>Gov_fin_cons</i>	-	-	-0.0006*** (-0.01)	-0.151*** (2.24)
<i>FIRE</i>	-	0.121*** (3.41)	-	0.081*** (2.00)
$F_{fact}$	5.00	4.99	3.13	3.14
$F_{crit}$	3.882	3.882	2.644	2.644
Prob > F	0.0082	0.0297	0.0256	0.0059
Adj. $R^2$	0.30	0.30	0.32	0.31

The simulation results allowed to confirm the hypothesis on the close correlation between the dynamics of direct foreign investment in Eastern European countries and the level of IMFR. In particular, the increase in value added created by the financial sector and the amount of domestic financial sector loans to GDP by 1% results in an increase in foreign direct investment. The results of the calculations also make it possible to refute the hypothesis about the significant impact of financialization on investment activity in the real economy, including infrastructure investment, since the regression dependence coefficients are low.

The analysis of disparities in the movement of investment resources influenced by IMFR in the context of prevailing financial sector over the real economy in the Eastern European countries made it possible to draw the following conclusions: the processes of prevailing financial sector of the economy over real economy in the Eastern Europe countries are developing; the growth in number of

IMFR indicators under prevailing financial sector over the real sector (*Dom\_cred\_fin*, *FIRE*) causes a certain increase in infrastructure investment (*Energ*, *Telecom*, *Transp*, *Wat*), which simultaneously weakens the real sector of the economy; the unwillingness of the Eastern Europe economies for active processes of financial liberalization

leads to the outflow (*FDI*) from some sectors; the IMFR activation influenced by prevailing financial sector over the real one in the Eastern European countries has not shown itself to the full extent. This is primarily due to the closed nature of some Eastern European economies, which creates some obstacles to the financial sector expansion.

## CONCLUSION

The results of the study have made it possible to argue that the emergence of IMFR as a result of financialization does not contribute to the development of investment markets in Eastern Europe, but only exacerbates disproportions by directing foreign direct investment in the financial sectors of these countries and increasing the volatility of their market conditions. The approach to identifying the dependence between IMFR and investment flows in the Eastern European economies allows for justifying the impact of such imbalances on investment amounts and on the capital formation dynamics. It is established that: 1) the dynamics of value added created by the financial sector and the real estate sector, and the rate of GDP growth per capita have the greatest positive impact on the amount of infrastructure investment; 2) processes of gross capital formation in the Eastern European countries are determined by the activity of domestic lending; 3) IMFRs under the economy financialization contribute to the growth of foreign direct investment in Eastern European countries. The hypothesis on the significant correlation between the IMFR and the amount of direct foreign investment has been confirmed. The hypothesis on the significant impact of IMFR under the economy financialization on investment activity in the real sector of the economy, including infrastructure investment, is refuted. In general, the impact of IMFR on the amount of infrastructure investment and foreign direct investment and on the dynamics of capital formation was substantiated.

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