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THE INTERNAL BALANCE OF THE EU NEW MEMBER STATES DURING THE FINANCIAL AND ECONOMIC CRISIS: A CASE STUDY OF THE IMPORTANCE OF FOREIGN CAPITAL INFLOW STRUCTURE[1]

This paper describes and analyses the two transmission channels, foreign trade and capital inflows, by which the global crisis influenced the internal balance of the new member states of the European Union, taking into account the specifics of their economies and with emphasis on the importance of their foreign capital inflow structure, i.e. the share of long-term and short-term and credit capital in the total capital inflows. It shows, based on macroeconomic data, that the financial channel seemed indeed to have greater negative influence on the countries internal balance. The paper is based on analysis of data from official sources: Eurostat, the European Central Bank and the World Bank.

Key words: foreign capital inflow structure, new EU member states, crisis, openness to foreign trade, openness to foreign capital.

This short paper performs a regional case study of the concept of foreign capital inflow structure presented and verified at the global level in [1; 2]. The main idea of the concept is that the degree of a crisis' impact on an economy is amplified by its structure of foreign capital inflows, i.e. the share of long-term and short-term and credit capital in the total capital inflows. [1, p. 67] states that before the recent global financial and economic crisis *«important long-term inflows of short-term capital and foreign credit due to their volatility made some economies less stable and together with other factors deepened and lengthened their recessions»[2].*

In this paper this statement is proved on the so-called New Member States of the European Union (the NMS) by extending the author's previous research on the topic [3; 4; 5]. The paper aims to describe and analyze the influence of the crisis on the internal balance, i.e. the internal market equilibrium, of the NMS, taking into account their specifics[3].

The paper is based on descriptive statistics and panel regression. Data is collected from Eurostat, the European Central Bank (ECB) and the World Bank (WB).

1. Internal balance and influence of "imported" global crises

The Oxford Dictionary of Economics [6] gives the following definition of the internal balance: *«A situation where the level of activity in an economy is consistent with a stable rate of inflation. At higher activity levels inflation tends to rise, and at lower levels unemployment is unnecessarily high. Maintaining internal balance is one objective of macroeconomic policy».*

In this paper, however, this balance is defined more broadly as a relative stability, i.e. small variance over time, of five indicators [3; 7; 8; 9]:

• Gross domestic product (GDP) growth rate (g), %;

• Inflation rate (π), %;

• Unemployment rate (u), % of labor force;

• Government debt as a percentage of GDP (GD/GDP), %;

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[1] This paper was elaborated in the framework of the VŠE IGS research project No. F2/5/2011, "Importance of Financial Markets for International Business in a Globalized World Economy." Previous research was presented at the 7th International Baťa Conference for Ph.D. Students and Young Researchers in Zlín, Czech Republic, on the 12th of April 2011.

[2] According to the author's research, this is the first study on this topic in the Czech and Russian economic literature.

[3] A detailed examination of the NMS' external balance was performed e.g. in studies of University of economics, Prague, University of economics, Bratislava and Réseau Pays du Groupe Visegrád (PGV), in the works of P. Baláž, R. Čajka, K. Gajdušková, E. Kaprová, Y. Koyama, P. Lazový, V. Slováková, L. Štěrbová, V. Coudert and C. Pouvelle.

• Private debt of households and non-financial institutions, i.e. the real sector, as a percentage of GDP (*PD/GDP*), %[4].

In general, a global financial or economic crisis can influence the internal balance of a country through two channels/types of transactions with other economies: exports and imports of goods and services and capital flows between the country and the rest of the world (the so-called foreign economic relations [10]). The depth of this influence will depend on the openness of the economy, measured e.g. by the share of exports and imports and of capital flows in GDP, its specifics and previous imbalances.

1.1. The trade channel: linkage to the real sector

According to the Keynesian expenditure approach, used in national accounts, exports and imports of goods and services form part of a country's income / GDP (*Y*):

$$Y = C + I + G + NX, \ NX = X - M, \quad (1)$$

where *C* are personal consumption expenditures, *I* – gross domestic investment, *G* – government consumption expenditures and *NX* – net exports of goods and services, i.e. the difference between exports (*X*) and imports (*M*).

A fall in the trade partners' aggregate demand will therefore have negative impact on its GDP; see Figure 1.

If, at the same time, the relationship between investment and savings remains stable, the government budget balance also deteriorates.

1.2. The financial / foreign capital channel: linkage to the financial sector

An important outflow of capital and unavailability of foreign credit, may cause problems for the financial sector of an economy (of banks and so-called "shadow banking" firms)[5], sometimes in the form of a banking and currency crisis (so-called twin crisis) and recession with the typical example of the Asian financial crisis of 1997 [14–16].

Fig. 1: Scheme of the foreign trade transmission channel for an economy
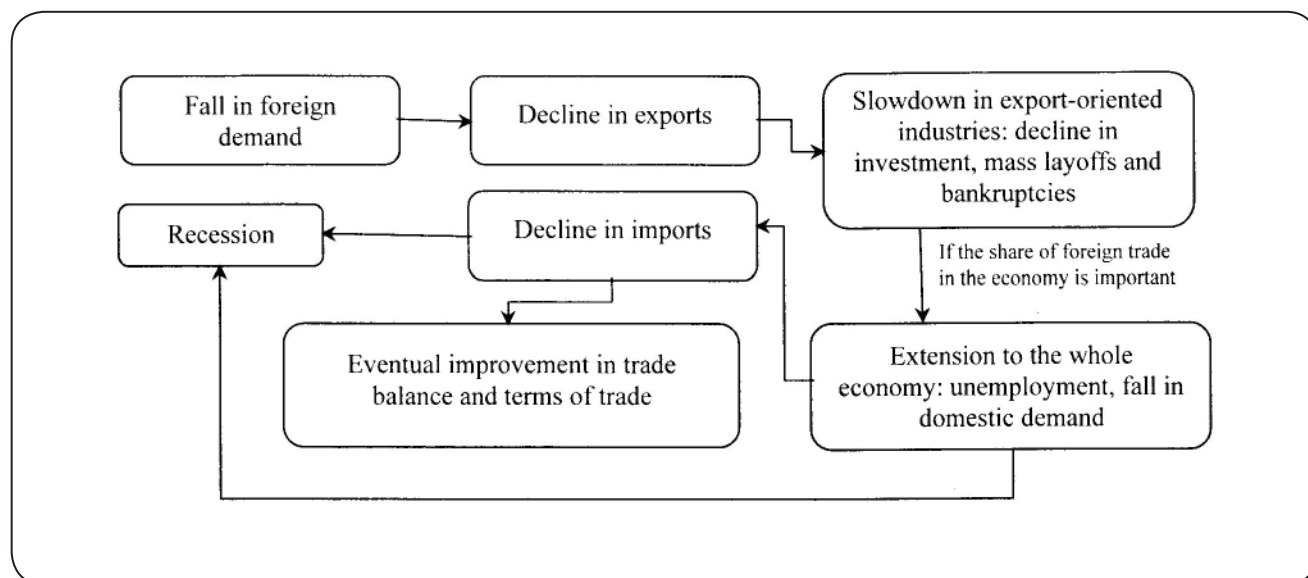
Source: [5, p. 139], self-prepared graph.

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[4] The analysis excludes monetary financial institutions (MFI), i.e. the financial sector, in order to get a clearer picture. If the impact of the foreign capital structure on the NMS' economies was substantial, there should have been some effect on the private debt of their real sector and not only on MFI.

[5] Shadow banking firms are financial institutions (mainly, hedge funds and investment bank financial schemes) offering similar services as commercial / retail banks, which are not subject to banking regulations and central bank policies; see e.g. works of Paul Krugman on the global crisis.

The extent of such outflow and halt in credit inflow depends on the structure of foreign capital inflows into a country [1; 2]:

1. *Long-term capital* (measured by foreign direct investment in balance of payments financial account, *FDI*): investment in equity of at least 10% with lasting interest, reinvested earnings and intra-company loans; and

2. *Short-term capital* (portfolio investment, *PFI*): acquisition of a smaller share in equity, of bonds and assets with no lasting interest; and *foreign credit* (other investment, *OI*) not connected to trade flows and deposits.

The first type, *FDI*, can be considered relatively crisis-prone, i.e. unlikely to flee from the country during crisis in comparison to *PFI+OI*, which is speculative, volatile and unstable (in case of foreign credit).

2. Internal balance of the new member states of the EU in 2008 and 2009

In 2012, the new member states of the European Union (NMS) comprised twelve economies, [6] which are situated in the Mediterranean and in the Central and Eastern Europe. Ten of them joined the EU in 2004: the Czech Republic, Slovakia, Hungary, Poland (the so-called Visegrád group / V4), [7] Estonia, Latvia, Lithuania (the Baltic states), Cyprus, Malta and Slovenia. The other two, Romania and Bulgaria, became members in 2007.

Almost all of these countries can be characterized by

• On-going or finished economic transition (except Cyprus and Malta);

• Relatively small domestic market (except Poland and Romania);

• Insufficient domestic capital.

This leads to high involvement of the NMS in international trade, mostly within the EU (60–80% of total trade, Eurostat data), and to important capital inflows. An import part of foreign capital is absorbed by export industries and the financial sector (financial

sector was rapidly growing in the NMS before the recent crisis, similarly to USA and Western Europe).

Table 1 contains detailed information about the NMS size and openness.

The table shows that, in average for the NMS, the share of total trade of goods and services, *X+M*, in *GDP* constituted 97.1% (the value is influenced by the weight of bigger, less opened to foreign trade countries) and the share of portfolio and other investment, *PFI+OI,* in GDP slightly exceeds the one of foreign direct investment, *FDI* (5.6% and 5.1%). This difference gets even bigger if we take into consideration the median values (8.2% and 5.2%).

The NMS, as a group, therefore, finances its lack of domestic capital more by short-term capital inflows and foreign loans than by long-term capital / *FDI*. In 1999–2009, their average interest rates (three-month money market, *IR*, and central bank lending rates) were higher than those in the euro area (3,2%) with the exception of the Czech Republic, which is also common to *PFI+OI* orientation, [1].

In total, this supports the ideas presented in [11–13]. Although, higher interest rates may not the only factor, determining the pattern of the NMS' foreign capital inflow structure (others may be e.g. strong pro-*PFI* or weak pro-*FDI* policy).

2.1. The Role of the foreign capital inflow structure during the crisis

According to data from Table 1, the twelve countries can be divided into four groups, based on their openness pattern, i.e. on the combinations of openness to trade and of foreign capital inflow structure; see Table 2[8]. This division helps to estimate, which openness patterns were more susceptible to the global financial and economic crisis.

The hypothesis of this paper is that the PFI + OI – oriented countries should have experienced a deeper deterioration of internal balance.

The detailed comparison of the groups' internal balance indicators before and during the years 2008 and 2009 is presented in Table 3.

The best results were shown by Poland, which did not experience negative growth during the crisis, and Bulgaria, the Czech Republic and Slovakia, where the

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[6] The next enlargement of the EU is expected to take place on the 1st July of 2013 with the accession of Croatia.

[7] These four countries can be regarded as the European «tigers». Together with Slovenia and Estonia they are the only members of the Organization for Economic Cooperation and Development among the NMS.

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[8] The classification of Poland and Estonia is a bit problematic, as their shares of FDI and PFI+OI in GDP are relatively balanced (3,5% and 3,3% and 9,3% and 9,4%).

Table 1: Comparison of the new member states of the EU, sorted by size

Country	Size and development		EU Membership		Openness and interest rates (averages 1999–2009)			
	Population, ths.	GDP per capita, PPS	EU	EA	(X+M) / GDP	FDI / GDP	(PFI+OI) / GDP	IR
Poland	38135,9	14300,0	2004	x	70,4%	3,5%	3,3%	8,1%
Romania	21498,6	10900,0	2007	x	73,1%	4,9%	5,7%	20,4%
Czech Republic	10467,5	19200,0	2004	x	135,5%	6,4%	2,8%	3,2%
Hungary	10031,0	15300,0	2004	x	143,1%	4,9%	9,2%	9,1%
Bulgaria	7606,6	10378,0	2007	x	118,8%	12,6%	5,7%	4,7%
Slovakia	5412,3	17200,0	2004	2009	152,7%	5,4%	4,4%	5,6%
Lithuania	3349,9	12900,0	2004	x	112,0%	3,7%	7,3%	4,8%
Latvia	2261,3	12200,0	2004	x	97,2%	4,3%	15,8%	6,2%
Slovenia	2032,4	20700,0	2004	2007	118,7%	2,0%	9,1%	7,0%
Estonia	1340,4	15000,0	2004	2011	155,4%	9,3%	9,4%	4,3%
Cyprus	796,9	23200,0	2004	2008	102,8%	8,4%	43,5%	4,6%
Malta	413,6	19000,0	2004	2008	168,6%	12,3%	44,0%	3,9%
NMS average	**8612,2**	**14180,0**	**x**	**x**	**97,1%**	**5,1%**	**5,6%**	**9,6%**
NMS median	**4381,1**	**15150,0**	**x**	**x**	**118,7%**	**5,2%**	**8,2%**	**5,2%**

Notes: EA – euro area, PPS – purchasing power standard and IR – interest rates. Population was used as weights except for its own mean and missing values for *FDI, PFI* and *OI* were omitted in calculations. *FDI* and *PFI+OI* were taken as net values according to the logic of [1].

Source: [3, p. 6], Eurostat; own calculations.

Table 2: Groups of the new member states according to their openness pattern

	FDI – oriented (FDI > PFI + OI)	*PFI + OI – oriented (FDI < PFI + OI)*
Less opened to foreign trade (below median)	Poland	Cyprus, Latvia, Lithuania, Romania, Slovenia
More opened to foreign trade (above median)	Bulgaria, Czech Republic, Slovakia	Estonia, Hungary, Malta

Source: self- prepared.

Table 3: Internal balance indicators of the NMS before and during the crisis

	g (%)		π (%)		u (%)		GD / GDP		PD / GDP	
	1999–2007	2008–2009	1999–2007	2008–2009	1999–2007	2008–2009	1999–2007	2008–2009	1999–2007	2008–2009
Less opened, FDI-oriented										
Poland	4,1	3,4	3,9	4,1	16,4	7,7	43%	49%	32%	45%

Less opened, PFI+OI-oriented										
Cyprus	3,9	1,0	2,6	2,3	4,4	4,5	61%	53%	138%	250%
Latvia	8,2	-11,1	4,7	9,3	10,6	12,3	13%	28%	66%	91%
Lithuania	6,5	-5,9	1,9	7,7	11,4	9,8	21%	23%	41%	63%
Romania	5,0	0,1	21,8	6,8	7,3	6,4	20%	19%	23%	37%
Slovenia	4,6	-2,2	5,5	3,2	6,3	5,2	27%	29%	56%	80%
Average	*5,6*	*-3,6*	*7,3*	*5,8*	*8,0*	*7,6*	*28%*	*30%*	*65%*	*104%*
More opened, FDI-oriented										
Bulgaria	5,6	0,7	6,2	7,3	13,2	6,2	46%	14%	44%	71%
Czech Republic	4,1	-0,8	2,3	3,5	7,7	5,6	26%	33%	36%	46%
Slovakia	5,0	0,5	6,5	2,4	16,6	10,8	41%	32%	21%	45%
Average	*4,9*	*0,1*	*5,0*	*4,4*	*12,5*	*7,5*	*38%*	*26%*	*34%*	*54%*
More opened, PFI+OI-oriented										
Estonia	7,4	-9,5	4,0	5,4	9,3	9,7	5%	6%	N/A	98%
Hungary	3,7	-3,0	6,8	5,0	6,5	8,9	59%	75%	46%	59%
Malta	1,93	0,4	2,3	3,3	7,2	6,5	64%	66%	93%	148%
Average	*4,3*	*-4,0*	*4,4*	*4,6*	*7,7*	*8,3*	*43%*	*49%*	*69%*	*101%*

Notes: Missing values were omitted in calculations.
Source: [3, p. 8], Eurostat, ECB; own calculations.

decline in 2009 was moderate. Furthermore, both of the FDI-oriented groups had, in average, comparable inflation and unemployment rates (4,1 and 4,4% and 7,7 and 7,5%), a substantially lower share of private debt in GDP than the other NMS (less than 50% with the exception of Bulgaria).

PFI+OI-oriented countries, especially the Baltic States and, in certain terms, Hungary, performed substantially worse (see mean and median values of the indicators). Although inflation and unemployment rates for both PFI+OI-oriented groups were, in average, less similar than in the case of the FDI-oriented groups (5.8 and 4,6% and 7,6 and 8,3%), their average shares of private debt in GDP increased relatively equally from 65–70% to more than 100% (especially, in the case of Cyprus, Malta, less in Latvia).

This seems to prove the above-stated hypothesis. The greater role of the *PFI+OI* and the heterogeneity of the NMS region in this matter can also be proved through econometric calculations, e.g. by a panel regression model for openness to foreign capital:

$$GDP_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 PFIOI_{it}. \qquad (2)$$

The model was tested on quarterly data for twelve countries, 1999Q1–2009Q4 (44 observations), with fixed effects (according to the previous Hausman test) and corrected for autocorrelation and heteroscedasticity (Newey West / HAC standard errors); see Table 4[9].

The regression coefficient estimate (b_2) of *PFI+OI* is statistically significant at the 5% level and is greater than the one of the *FDI* (b_1). Furthermore, the NMS do not have an intercept based on the corresponding F-test.

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[9] Here we omit unit root tests due to the complexity of co-integration analysis in panel regression analysis.

Table 4: Panel regression results

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Model: Fixed-effects, using 512 observations
Included 12 cross-sectional units
Time-series length: minimum 36, maximum 44
Dependent variable: GDP
Robust (HAC) standard errors

                  coefficient   std. error   t-ratio   p-value
  ---------------------------------------------------------------
  const           13251.8       142.072      93.28     0.0000  ***
  FDI             2932.88       1816.87      1.614     0.1071
  PFIOI           4100.63       1819.16      2.254     0.0246  **

Mean dependent var  13547.13    S.D. dependent var   16341.77
Sum squared resid   5.16e+09    S.E. of regression   3218.073
R-squared           0.962208    Adjusted R-squared   0.961221
F(13, 498)          975.3333    P-value(F)           0.000000
Log-likelihood      -4854.586   Akaike criterion     9737.173
Schwarz criterion   9796.509    Hannan-Quinn         9760.433
rho                 0.718287    Durbin-Watson        0.546778

Test for differing group intercepts -
  Null hypothesis: The groups have a common intercept
  Test statistic: F(11, 498) = 1140.45
  with p-value = P(F(11, 498) > 1140.45) = 0
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Source: GNU Regression, Econometrics and Time-series Library (gretl).

The paper showed that the concept of foreign-capital inflow structure is important not only at the global, but also at the regional level for the new member states of the EU. The empirical verification indicated that the situation before the crisis (especially, private debt) and the capital inflow structure seemed to play a more important role in these countries' development.

The policy makers in the transitional and developing countries, not excluding the Russian Federation, should therefore pay attention to this problem and mind the increase in vulnerability of their economies created from important short-term and credit capital inflows.

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