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FLOW OF FUNDS ACCOUNT IN THE MACEDONIAN ECONOMY – METHODOLOGY, TRENDS AND EFFECTS OF THE CRISIS

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Abstract

The analyses of the macroeconomic developments mainly are based on the data from the basic macroeconomic accounts – national accounts, balance of payments, monetary survey, government statistics. Based upon theoretical grounds and international methodological principles and standards, an effort has been made for establishing and developing a consistent framework for analyzing flow of funds in the Republic of Macedonia. The matrices has been constructed and a quantitative analysis has been conveyed on the flows of financial funds amongst the sectors in the Macedonian economy for the period 2004-2013. Based on the constucted matrices, (1) the position of the each sector as a net debtor/creditor is assessed, (2) the sources for financing/investing of that position are analyzed, and (3) the flows of funds among the sectors are assessed. Special attention is given to the effects of the crisis, therefore two sub-period are distinguished and separately analyzed: 2004-2008 as a pre-crisis period and 2009-2013 as a post-crisis period. In these two sub-period the changes in the behavior of the main sectors of the Macedonian economy are analyzed in terms of their net lending/borrowing position and the sources of funding that position.

Keywords: national accounts, monetary survey, budget account, balance of payments, saving-investment gap, flow of funds account, crisis.

I. METHODOLOGICAL NOTES

1. Basic flow of funds acoount

A basic flow of funds account is a modified form of the flow of funds matrix that employs a reduced number of sector and financial asset categories. The sectors chosen are those most important for financial analysis and for which data are available-remaining sectors are placed in a residual category. Basic flow of funds accounts are useful in macroeconomic modeling and provide a framework for financial programming. These accounts demonstrate a number of sectoral relationships (including consistency of flows between sectors with macroeconomic objectives such as a sustainable balance of payments position, adequacy of credit from depository corporations to specified sectors, financing of the central government deficit, etc.) that can be tested for consistency within a flow of funds framework.[5]

In the basic flow of funds account of cash flows, the economy is divided into two general sectors: domestic and rest of the world. Within the domestic sector, three main sub-sectors are further distinguished: central government, private sector and the depository corporations sector (banking sector). At this level the private sector is a residual sector and incorporates: households, non-profit institutions serving households (NPISH), other financial corporations and local government.

The basic flow of funds account links the non-economic activities (current and capital account in the System of national account - SNA) - marked as components "above the line" with the financial activities - marked as components "below the line". The components "above the line" include flows such as: disposable income, final consumption, net capital investment, export and import of goods and services. These categories are used to assess the position of each sector as a net creditor or a net debtor. The components "belowe the line" show the financing / investing in the net borrowing / lending position of the sectors. If the position of a particular sector is net creditor (positive sign), that means the sector increased the resources from the production process. Consequently a positive sign in the finacing part of the account (domestic and external) means that the sector has decreased its financial assets or increased its financial obligations. On the other hand, a negative sign indicates that the sector is a net debtor i.e its spending exceeds its income derived from production

Consequently a negative sign in the finacing part of the account indicates that the sector has increased its financial assets or decreased its financial obligations.

1.1. Structure and elements of the flow of funds account

Flow of funds account consists of three parts:

I. Net lending/borrowing, indicating the non-financing (real) transaction of the separate sectors;

II. Financing, consisting two standard subcategories: (1) External (foreign) financing, including foreign direct investment, foreign borrowing (loans, credits, deposits and other types of borrowing) and net foreign assets, and (2) Domestic financing, including the change in domestic credits, change in broad money and other domestic financing (operations realized through the other non-banking financial institution); and

III. Other itms, net, that represent corrective items for equalization of the difference between net lending/borrowing and financing of the separate sectors.

Net lending/borrowing of the national economy represents difference between net saving and net investment of the overall economy. This is the main item of the flow of fund matrix showing the amount of funds available for lending in case where the saving exceeds the investment or the amount of funds needed to borrow in case where the saving is lower than investment.

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5) Monetary and Financial Statistics Manual, IMF, 2001.

Net lending/borrowing = Saving - Investment

Saving = Gross National Disposable Income - Consumption

Gross National Disposable Income = Consumption + Investment + Export - Import + Income from abroad (net) + Current transfers from abroad (net)

The net lending/borrowing position of the „central government (c.g)" is calculated on the basis of the government finance statistics. The net lending/borrowing position of the central government is equal to the budget surplus / deficit realized in that period. The separate categories are calculated as follows:

Gross National Disposable Income c.g. = Total revenues and grants c.g. – Capital transfers from abroad c.g. – Interest payments c.g. – Transfers c.g.

Consumption c.g. = Current expenditures c.g. - Interest payments c.g. - Transfers c.g.

The net lending/borrowing position of the sector „rest of the world – abroad (s)" is calculated on the basis of the data from the balance of payments statistics government. This item is equal to the balance of payment current account:

Net lending/borrowing s. = Export - Import + Income from abroad (net) + Current transfers from abroad (net)

The net lending/borrowing position of the „private sector" is calculated as a residual (difference between net lending/borrowing of the overall economy and net lending/borrowing of the central government sector). Commonplace practice when preparing the net lending/borrowing position of the depository corporations sector is to assume that it is equal to zero, given the redistributive function of this sector.

2. Two important linkages between the national accounts and balance of payments

There are two important linkages between the set of data from the national accounts and data from the balance of payments[6], that are necessary for the preparation of the current and capital account i.e the components „above the line" in the matrix. The first macroeconomic relationship refers to the link between aggregate income and demand and the balance of payments current account. According to this macroeconomic relationship, balance of payments current account (CAB) "ex post" is equal to the difference (gap) between gross national disposable income (GNDI) and absoption (A) i.e GNDI - A = CAB. The interpretation of this relationship is that the current account deficit occurs when the economy absorbs more than it produces i.e the current account deficit reflects the excess of absorption over the income.

The second macroeconomic relationship refers to the link between aggregate savings and investment and the balance of payments current account. According to this macroeconomic relationship, balance of payments current account (CAB) "ex post" is equal to the difference between the savings (S) and investment (I) in the national economy i.e S - I = CAB. The interpretation of this relationship is that the current account deficit occurs when investment exceeds domestic saving, wherein this difference must be covered using a foreign (imported) savings.

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6) Richard Barth, William Hemphill, IMF Institute (2000), "Financial Programming and Policy".

II. FLOW OF FUNDS ACCOUNT FOR THE MACEDONIAN ECONOMY

Data sources

National accounts – trends and effects of the crisis

The System of national accounts (SNA) represents a useful statistical framework for macroeconomic analysis because it is flexible enough to adapt to different economic theories and models and to meet the demands of countries with different levels of development. National accounts in Macedonia are mostly prepared and presented in accordance with the internationally standards and definitions given in the SNA 2008.[7]

Table 1. National accounts in the R.Macedonia (2004-2013)

	(in mill. Denars)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1	Final consumption	267382	282322	308328	342361	405487	392912	407052	429450	427573	447578
2	Gross Investments	59902	62913	68809	89927	110405	107600	108218	120548	134962	115886
3	Absorption (1+2)	327284	345235	377137	432288	515892	500512	515270	549998	562535	563464
4	Exports of goods and services	108815	130220	149219	191111	209557	160933	202166	252229	245866	254906
5	Imports of goods and services	-163637	-180403	-206296	-258410	-313721	-250710	-283324	-342438	-349781	-344174
6	Income, net	-1962	-5673	-1614	-17049	-5703	-2968	-5879	-7533	-9086	-11210
7	Transfers from abroad, net	38554	52232	60081	61941	60270	69376	84173	91068	100446	94966
8	Gross Domestic Product (GDP) (1+2+4+5)	272462	295052	320060	364999	411728	410735	434112	459789	458620	474196
9	Gross National Product (GNI) (8+6)	270500	289379	318446	347940	408025	407767	428233	452256	449534	462986
10	Gross National Disposable Income (GNDI) (9+7)	309054	341611	378527	409881	466295	477143	512406	543324	549981	557952
11	Gross National Savings (10-1)	41672	59289	70199	67520	60808	84231	105354	113874	122408	110374

Source: State statistical office of the R.Macedonia and own calculation

According to available data and calculation, GNDI of the R.Macedonia in the period 2005-2013 registered a continuous increase with an average annual growth rate of about 7%. Within the gross national disposable income, final consumption, gross investment and net transfers from abroad increase the GNDI while net imports of goods and services and net income from abroad act in a opposit direction. The crisis caused a slowdown in the growth rate of the GNDI – the average GNDI growth rate in the pre-crisis period (2005-2008) was about 11%, while after the crisis (2009-2013) it was around 4%. This is due to the significantly reduced absorption in the period after the crisis (reduced by 10 percentage points on average), with simultaneously reduced final consumption and investment.

The two macroeconomic categories that are important in terms of compiling flow of funds matrices in the economy, investment and savings, for the period 2005-2013 registered an average annual growth rate of about 8% and 13% respectively. The crisis caused a significant reduction in the annual growth rate of investment (17% in the period before the crisis to 1% after the crisis). On the other hand, the savings growth rate recorded a moderate increase (from 12% on average before the crisis to 14% after the crisis).

Balance of payments - trends and effects of the crisis

The balance of payments is a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy with the rest of the world. Transactions, for the most part between residents and nonresidents, consist of those involving goods, services, and income; those involving financial claims on, and liabilities to, the rest of the world; and those (such as gifts) classified as transfers, which involve offsetting entries to balance—in an accounting sense—one-sided transactions.[8]

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7) United Nations, "System of National Accounts 2008".

8) "Balance of Payment Manual", IMF, 6th edition, 2009.

Table 2. Balance of payments of the R.Macedonia (2004-2013)

	(in mill. EUR)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1	Current account (2+3+4+5)	-362	-122	-23	-421	-862	-457	-144	-189	-226	-147
2	Goods, net	-914	-858	-1001	-1181	-1763	-1560	-1448	-1648	-1757	-1584
	Exports	1345	1643	1914	2472	2693	1933	2530	3211	3107	3206
	Imports	-2259	-2501	-2915	-3653	-4455	-3492	-3978	-4859	-4863	-4791
3	Services, net	-46	-29	17	28	9	16	37	97	46	78
	Credit	364	417	479	597	692	618	681	797	819	874
	Debit	-410	-446	-462	-569	-683	-601	-645	-700	-773	-796
4	Income, net	-30	-88	-21	-281	-94	-47	-100	-131	-148	-182
	Credit	68	79	107	155	185	128	147	161	163	151
	Debit	-98	-167	-128	-436	-280	-175	-247	-293	-310	-333
5	Current transfers, net	628	853	982	1012	985	1133	1367	1494	1632	1542
	Credit	664	887	1015	1081	1033	1181	1414	1542	1688	1616
	Debit	-36	-34	-33	-69	-48	-48	-47	-49	-55	-74
6	Capital account, net	-4	-2	-1	4	-12	20	12	9	20	18
7	Financial account (without financing) (8+9+10)	373	473	324	594	823	487	191	502	330	57
8	Direct investment, net	260	75	345	507	409	137	159	337	78	253
9	Portfolio investment, net	9	201	73	114	-51	104	-57	-76	77	-159
10	Other investment, net	105	198	-93	-27	464	246	90	241	175	-36
11	Errors and omissions	15	-5	4	-40	-24	27	1	9	18	28
12	Overall balance (1+6+7+11)	23	344	304	136	-75	77	62	331	142	-44
13	Financing (14+15)	-23	-344	-304	-136	75	-77	-62	-331	-142	44
14	Use of IMF credits and loans, net	-7	4	-8	-42	0	0	0	0	0	0
15	Reserve assets	-16	-348	-296	-95	75	-77	-62	-331	-142	44

Source: National bank of the R.Macedonia and own calculation

Republic of Macedonia in the period 2004-2013 realized continuous balance of payments current account deficit, in an amount of about 295 million EUR on average. Expressed as a percentage of GDP, the average current account deficit in the analyzed period was 4.8% od GDP - in the pre-crisis period average deficit was almost twice higher compared to the period after the crisis (6% of the GDP versus 3% od BDP). In conditions of increased trade deficit, declining current account deficit was due to the significantly higher inflow of transfers from abroad.

The main determinant of the balance of payments current account deficit is trade deficit (on average 1.4 billion EUR per year), partially offset by relatively high inflows of current transfers (on average around 1.2 billion EUR per year). In the financial account, the largest inflow was generated from direct investment (on average 256 million EUR). With the outbreak of the global economic crisis the direct investment inflows declined. The balance of payments overall balance in the period 2004-2013 is positive (with the exception of 2008 and 2013 godina) with amount of about 130 million EUR (about 2% of GDP) - approximately the same increase is registered in the foreign reserves. This means that in biggest part of the analyzed period inflows in the financial account are higher than the current account deficit, resulting in foreign reserves increase.

Monetary survey - trends and effects of the crisis

Monetray survey are consolidated balance sheets of depository corporations sector (monetary authority and depository institutions). This means that monetary survey consolidates data from individual balance sheets of monetary authorities and deposit money banks in a survey, thus providing a statistical assessment of various definitions of money and credit.

Table 3. Monetary survey of the R.Macedonia (2004-2013)

(in mill. EUR)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 Foreign assets, net	1067	1105	1454	1758	1782	1481	1549	1624	2027	2050	1866
2 Domestic assets, net (3+4), (5-1)	258	438	323	464	1090	1702	1839	2158	2119	2280	2692
3 Domestic credits	707	901	936	1192	1990	2764	2923	3349	3414	3657	4028
Central government, net	-72	-67	-250	-348	-146	-90	-39	187	8	68	210
Public non-financial corporations	8	11	8	6	5	2	7	7	5	6	8
Private sector	770	956	1176	1533	2130	2846	2946	3144	3385	3561	3784
Other financial corporations	1	0	0	0	1	6	10	11	12	15	16
Local government	0	0	0	0	0	0	0	0	4	7	10
4 Other items, net	-449	-463	-612	-728	-900	-1062	-1084	-1192	-1295	-1377	-1336
5 Broad money - M4 (6+7+8+9)	1324	1542	1777	2222	2872	3184	3388	3781	4147	4330	4558
6 Currency in circulation	231	231	236	265	298	287	266	276	314	327	337
7 Demand deposits (non-government sector)	230	240	266	326	480	595	588	657	683	745	801
8 Short-term deposits (non-government sector)	799	1005	1206	1540	1950	2032	2187	2345	2527	2468	2407
9 Long-term deposits (non-government sector)	64	67	69	91	144	271	348	504	623	790	1013

Source: National bank of the R.Macedonia

Net foreign assets of the banking sector in R.Macedonia in the period 2004-2013 registered a continuous increase (with the exception of 2008 and 2013), with cumulative growth of around 800 million EUR. The increase is due to significant increase of net foreign assets of NBRM (approximately by 1.2 billion EUR), while net foreign assets of the deposit money banks declined (by about 430 million EUR because of increased foreign liabilities). At the same time, net domestic assets of the depository institutions recorded a cumulative increase of about 2.4 billion EUR, almost entirely determined by the growth of domestic credit to the private sector (by about 3 billion EUR). Regarding the money supply (deposits of the non-government sector) in the period 2004-2013 a cumulative increase of about 3.2 billion EUR was registered, mainly due to the increase of short-term deposits of the non-government sector (by 1.6 billion EUR). The crisis caused: (1) a significant reduction in the growth rate of loans to the private sector, and (2) preference for long-term savings, which was not the case before the crisis.

Central government budget - trends and effects of the crisis

Government financial statistics records and presents transactions between government sector and other sectors in the economy (including rest of the world sector). This statistic is prepared in accordance with the recommendations and standards contained in the IMF GFS Manual.[9]

Table 4. Central government budget of the R.Macedonia (2004-2013)

(in mill. EUR)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 Total revenues (2+3+4+5+6)	1455	1646	1700	1955	2227	2097	2148	2229	2245	2278
2 Taxes and contributions	1325	1380	1480	1687	1879	1793	1828	1929	1908	1965
3 Non tax revenues	103	226	175	227	300	268	229	209	205	193
4 Grants	17	24	23	15	22	14	24	18	49	56
5 Capital revenues	10	15	15	23	23	19	59	62	72	55
6 Other revenues	0	0	7	3	3	4	9	13	10	9
7 Total expenditures (8+13)	1437	1635	1728	1920	2289	2275	2320	2416	2533	2590
8 Current expenditures (9+10+11+12)	1339	1469	1577	1695	1961	2056	2070	2128	2228	2321
9 Wages and allowances	350	373	383	386	340	370	368	376	369	367
10 Goods and services	135	212	218	242	306	265	239	227	238	242
11 Interest	38	43	51	48	43	40	52	56	69	75
12 Transfers	817	842	925	1020	1272	1381	1412	1469	1552	1637
13 Capital expenditures	98	166	151	225	327	219	249	288	305	270
14 Budget balance (1-7)	**17**	**11**	**-28**	**35**	**-62**	**-178**	**-171**	**-187**	**-288**	**-313**
15 Financing	**-17**	**-11**	**28**	**-35**	**62**	**178**	**171**	**187**	**288**	**313**
16 Foreign borrowing, net	4	173	-200	-172	13	174	85	335	70	91
17 Domestic borowing, net	-22	-184	227	137	49	3	87	-148	218	221
Memorandum items										
18 Gross disposable income (1-11-12)	600	761	724	888	911	677	685	704	624	565
19 Consumption (8-11-12)	484	584	600	628	646	635	607	603	607	608
20 Saving (18-19)	115	177	124	260	265	41	78	101	17	-43

Source: Ministry of finance and own calculations

9) In R. Macedonia the Government finance statistic is prepared according to the IMF GFS Manual 1986, meaning that the data in the Macedonian budget are presented on cash basis, not on accrual basis (IMF GFS Manual 2001).

After a realization of relatively balanced budgets in the period 2004-2008, in the period 2009-2013 higher budget deficits were achieved (for a cumulative amount of 1.1 billion EUR), which corresponds with the more expansive fiscal policy guided in the period after the the crisis. Gross disposable income of the central government in the period 2004-2013 amounted about 715 million EUR on average, with an average amount of consumption of 600 million EUR, savings of 115 million EUR and the state's investment of 230 million EUR. The crisis caused a decline of GNDI of the central governmen, as a result of reduced savings (while government consumption remained almost unchanged). As a consequence of these trends in 2013 government consumption exceed its GNDI, thus resulting in a negative value of central government saving. Expressed as % of GDP, government saving is around 2% of GDP on average, with relatively small share of investment of about 3.5%.

2. Construction and analysis of account of flows of funds among the sectors in the Macedonian economy

Based on the data from the underlying macroeconomic statistics and according to the methodology described above a matrix of cumulative financial flows among the main sectors of the Macedonian economy was constructed. The analysis of the matrix shows that in the period 2004-2013 the difference saving-investments in Macedonia is negative, i.e investments are permanently higher than savings (cumulative by 2.9 billion EUR, or by 4.7% of GDP). Analyzed by periods, net borrowing position of the Macedonian economy after the crisis declined - from 1.8 billion EUR in the five years before the crisis to 1.1 billion EUR in the five years after the crisis.

Analysed by sectors in the analyzed period, both private sector and central government are net borrowers with higher amount of net borrowing in the private sector - 2.9% of GDP (private sector) vs 1.9% of GDP (central government). The overall investments of the private sector are around 22% of GDP, while saving is around 19% of GDP.

Table 5. Flow of funds account in the R.Macedonia (cumulative 2004-2013)

(in mill. EUR)	Private sector	Central government	Banks	Abroad
I. Net borrowing/lending (Saving - Investment gap)	-1785	-1166	0	2951
II. Foreign financing	3062	576	-720	-2918
Capital transfers	65	0	0	-65
Direct investment	2557	0	0	-2557
Net foreign borrowing	440	576	0	-1016
Change in net foreign assets	0	0	-720	720
of which: International reserves - central bank	0	0	-1247	0
III. Domestic financing	-504	589	-85	0
Change in domestic credits	2886	445	-3331	0
Change in broad money	-3246	0	3246	0
Other domestic financing	-145	145	0	0
IV. Other items, net	-772	0	805	-33
Vertical check	0	0	0	0

Source: State statistical office, Ministry of finance, NBRM and own calculations

Chart 1.

Saving – investment gap: private vs government sector (effects of crisis)

(mill. EUR)

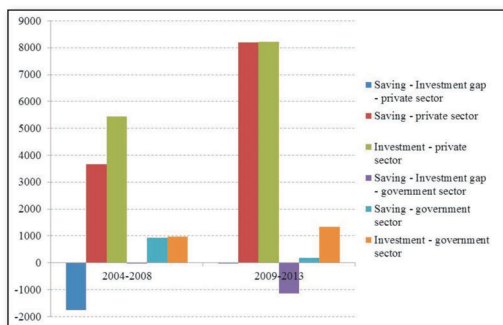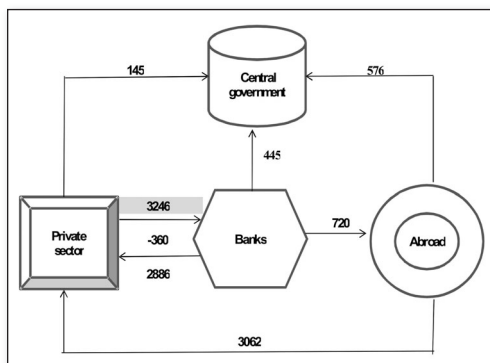*Source: State statistical office, Ministry of finance, NBRM and own calculations*

Chart 2.
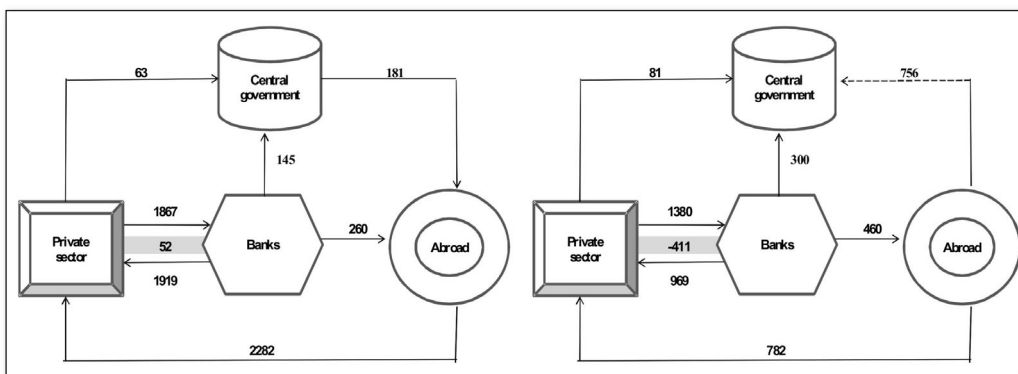
Flow of funds among the sectors in the Macedonian economy

(in mill. EUR)

(cumulative, 2004-2013)

(cumulative, 2004-2008 before the crises)   **(cumulative, 2009-2013 after the crises)**

Source: own calculations

The crisis caused a significant reduction in the net debt position of the private sector of 1.8 billion EUR (in the period 2004-2008) to only 24 million EUR in the period 2009-2013 (Chart 1). This decline is mainly due to the significant increase in the savings of the private sector - from 3.9 billion EUR in the pre-crisis period to 8.2 billion EUR in the post-crisis period. At the same time an opposite movement was registered in the central government - significantly increase of its net borrowing position (from 27 million EUR in the pre-crisis period to 1.1 billion EUR in the post-crisis period). This shift is due to the significant reduction in central government saving (from 940 million EUR to 200 million EUR), with a simultaneous increase in investment (by about 360 million EUR) as a result of fiscal authorities response to the global economic crisis.

Analysing the financing part of the matrix, in the period 2004-2013 the net borrowing position of the private sector is almost entirely financed from abroad (a cumulative amount of about 3.1 billion EUR - mostly in the form of foreign direct investment). In the domestic financing a negative amount was registered, which means that the private sector in Macedonia "gives" more than it uses funds from the other sectors of the economy. In the transactions with the banking sector, the private sector appears as a net creditor in an amount of 360 million EUR. The banking sector appears as a net lender to both the external sector and central government. Simultaneously the government sector uses almost identical amounts from domestic and foreign sources in order to finance its net borrowing position.

Dynamic analysis of the sources of funding points to a significant displacement mainly as a result of the global economic crisis. This shift in the sources of financing corresponds to the significant changes in the positions of the private sector and the central government that were explained above. The banking sector from net creditor to the private sector in the period 2004-2008 becomes a net debtor to the private sector in the period 2009-2013 – the banking sector receives more funds in the form of deposits than it gives to in a form of loans, thus reflecting a growing caution of banks in times of crisis and increased risks. At the same time, the banks raise funds kept in foreign banks and increase the amount of funds transferred to the central government - mainly through the increased purchase of government securities. Also the inflow from abroad to the private sector is significantly reduced. Significantly increased net borrowing position of the central government in the last five years besides the banks mostly is financed from abroad - Eurobond issuance and use of foreign credits. This represents a change in direction in the relationship between the government sector and abroad.

Concluding remarks

Based upon theoretical grounds and international methodological principles and standards, an effort has been made for establishing and developing a consistent framework for analyzing flow of funds in the Republic of Macedonia. The matrices has been constructed and a quantitative analysis has been conveyed on the flows of financial funds amongst the sectors in the Macedonian economy for the period 2004-2013. The data from major macroeconomic accounts - national accounts, budget, monetary statistics and balance of payments - were used for preparation of the matrices for the Macedonian economy. The main findings of the analysis of flows of funds account in Macedonia are the following:

- In the period 2004-2013 saving-investment gap for the Macedonian economy is negative (investments are permanently higher than savings on average about 5% of GDP), as a result of the net borrowing position of the private sector (saving-investment gap of about 3% of GDP) and of the government sector (about 2% of GDP);

- The crisis caused a significant reduction in the net borrowing position of the private sector mainly as a result of the significant increase in the savings of the private sector. At the same time an opposite movement was registered in the central government - significantly increase of its net borrowing position as a result of fiscal authorities response to the global economic crisis;

- The net borrowing position of the private sector is almost entirely financed from abroad, while government sector uses almost identical amounts from domestic and foreign sources in order to finance its net borrowing position in the period 2004-2013;

- The global economic crisis caused significant displacement of the sources of funding mainly as a result of the global economic crisis. The banking sector changed its net creditor position to net debtor position to the private sector raising funds kept in foreign banks and increases the purchases of government securities. Also the inflow from abroad to the private sector was significantly reduced, while government increased use of funds from abroad.

References:

International Monetary Fund (2001), "Monetary and Financial Statistics Manual";

International Monetary Fund (2009), "Balance of Payments Manual";

EUROSTAT, European Commision (1995), "European System of Accounts";

United Nations, "System of National Accounts 2008";

International Monetary Fund (1986), "A Manual on Government Finance Statistics";

International Monetary Fund (2001), "A Manual on Government Finance Statistics";

International Monetary Fund (2004), "Republic of Macedonia: Report on the Observance of Standards and Codes—Data Module, Response by the Authorities, and Detailed Assessments Using Data Quality Assessment Framework";

European Central Bank (2008), "The Monetary Presentation of the Euro Area Balance of Payments", Occasional Paper No 96;

Michael Burda and Charles Wyplosz (2009), "Macroeconomics: A European Text", fifth edition;

Andrew B. Abel, Ben S. Bernanke, Dean Croushore (2008), "Macroeconomics";

Jellema, S. Keuning, P. McAdam and R. Mink (2004), "Developing a Euro Area Matrix: Issues and Applications", ECB Working Paper No 356;

Bank of Slovenia (2006), "Financial Accounts Methodology and the Compilation Process";

Pedro Abad, "Compiling the flow of funds of the Spanish economy", IFC Bulletin, No.21, 2005;

Publication and internet sites of National bank of R.Macedonia, State statistical office and Ministry of finance.