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THE TRANSMISSION MECHANISM AND CONSEQUENCES FROM THE GLOBAL ECONOMIC CRISIS FOR THE MACEDONIAN ECONOMY

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Abstract

The global economic crisis had a a significant impact on many economies in the world, especially on the small and open economies where the transmission channels of the crisis had their own specifics. Therefore in this paper we try to analyze the transmission mechanism of the global crisis in a small and open economy - the Republic of Macedonia, which reveals some key points in which this group of countries is extremely vulnerable in terms of global distortions. The main transmission channels determined by the specific features of the Macedonian small and open economy are primarily the fall in global economic activity (especially the fall in the economic activity of our main trade partners); the disturbance in international capital markets, the loss of investors' confidence in markets and their risk aversion. The paper elaborates the main transmission channels, as well as their effects on almost every segment of the Macedonian economy: the real sector, financial sector, fiscal sector and the external sector.

Introduction

The specific transmission channels of the Global economic crisis to the Macedonian economy are primarily determined by the characteristics and sprecifics of the Macedonian economy – the trade integration, financial integration and the influence of the global trends on expectations and confidence of economic subjects. Macedonia, as a small and open economy, can not achieve solid growth rates and function successfully isolated from its surrounding (trade partners, foreign investors, international capital markets etc.). The significantly large net foreign trade of about 115% of GDP, the high level of euroization (foreign exchange deposits are almost 45% of M4), the low predictability of the money demand and the strong import dependence of the Macedonian export sector are the main reasons for the strategy of de facto fixed exchange rate conducted by NBRM, which is another determinant of the transmission mechanism. Therefore, the current account deficit (significance of imports), FDI and portfolio investments, the access to international capital markets and the changes in world market prices are all significant factors which, with an existence of a de facto fixed exchange rate, determine the stability of the Macedonian economy and the reaction of monetary policy. We shortly indicate the main transmission channels (transmission scheme) of the crisis, which is elaborated in more details further below (see figure no.1). The main transmission channels determined by the specific features of the Macedonian economy are primarily the fall in global economic activity (especially the fall in the economic activity of our main trade partners); the disturbance in international capital markets, the loss in investors' confidence in markets and their risk aversion. These key transmission channels in the period of the collapse of "Lehman Brothers" caused a fall in Macedonian exports related to the fall in foreign effective demand, limited financing sources and rising prices of finance, lower FDI, portfolio investments and private transfers (as a dominant source of financing the current account deficit). This further caused a fall in the production in the export sectors (the generators of GDP growth), a fall in credit activity and thus led to a restriction and higher prices of financing sources for households and businesses, a fall in the securities markets' activity, pressures on the exchange rate etc.

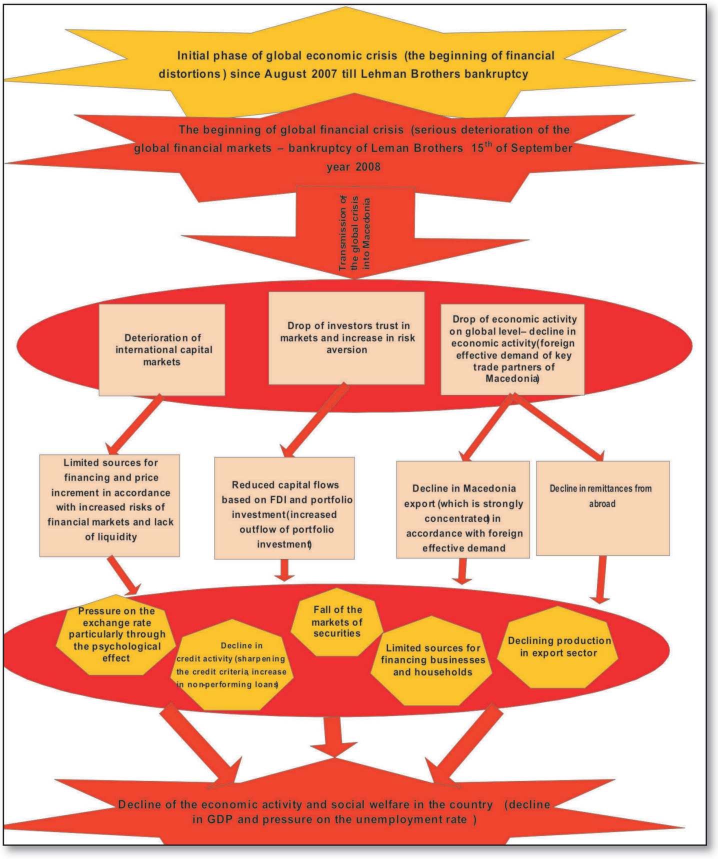


Figure no. 1

Transmission of the Global economic crisis to the Macedonian economy

Source: Authors

In the pre-crisis period, Macedonia had rising GDP growth rates, low inflation rates, maintained low budget deficits (even surpluses in some years), a declining trend of public debt, a mild recovery of the export sector and a modest decrease in unemployment rates (see table no. 1). The stance of the key macroeconomic indicators represent on one transmission channels of the global crisis to the Macedonian economy, and on the other hand, main determinants of the key macroeconomic policies undertaken in the period of high impact from the crisis and afterward.

Table no. 1 Key macroeconomic indicators for Macedonia

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP (% constant prices)	4,5	-4,5	0,9	2,8	4,6	4,4	5,0	6,2	5,0	-0,9	2,9	3,1	1,0
Inflation (end of period, %)	5,8	4,0	0,8	2,7	-2,2	1,6	3,1	6,7	4,1	-1,6	3,0	2,8	2,0
Export of goods and services (change in %)	20,4	-15,6	-5,1	-5,9	13,1	11,0	8,3	12,0	-7,0	-15,7	24,2	10,5	5,0
Unemployment (% of total)	31,7	30,5	31,9	36,7	37,2	37,3	36,0	34,9	33,8	32,2	32,1	31,4	31,9
Public expenditures (% of GDP)	33,7	40,3	40,5	37,4	35,2	34,0	32,5	31,6	33,4	33,2	32,0	31,2	31,3
Budget balance (% of GDP)	2,5	-6,3	-5,6	-0,1	0,4	0,2	-0,5	0,6	-0,9	-2,7	-2,4	-2,5	-2,5
Total public debt (% of GDP)	47,9	48,8	42,9	37,9	35,6	39,5	32,0	24,0	20,6	23,8	24,2	27,7	30,9
Current account balance (% of GDP)	-1,9	-7,2	-9,5	-4,0	-8,1	-2,5	-0,4	-7,1	-12,8	-6,8	-2,1	-2,7	-4,0

Note: Estimations start from 2011

Source: International Monetary Fund, World Economic Outlook Database, October 2012

The beginning of the global economic crisis (which first emerged as a financial crisis) in August 2007, with strong effects on a global level, did not have a pronounced impact on the Macedonian real or financial sector (I phase – until the bancrupcy of "Lehman Brothers"), having in mind the conservative banking sector model practiced before the crisis:[10]

No exposure to risk instruments, which would cause a chain reaction of the modest securities market in Macedonia.

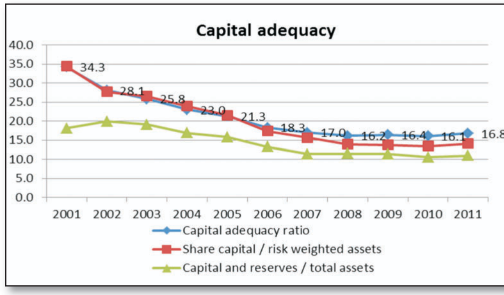
A strong deposit base and a small financing dependence on non-residents (a credit-deposit ratio below 100%). Although the banking sector is in a dominant ownership of foreign financial institutions, the significantly low share of borrowing of Macedonian banks from the foreign parent banks protected the Macedonian financial sector against the first pressures for deleveraging in the financial sector on a global level.

A significantly high capitalization of the banking sector (see chart no. 1).

Adequate liquidity of the banking sector (see chart no. 2).

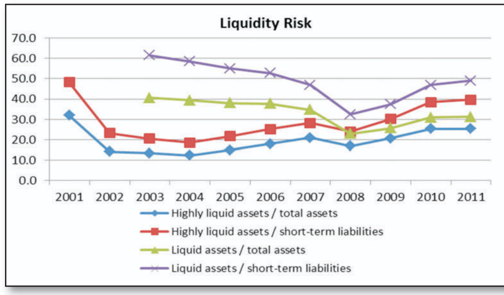
10) See more details on the financial system and its characteristics in the Report on financial stability in the Republic of Macedonia in 2011. Available from: http://nbrm.mk/WBStorage/Files/WebBuilder_Izvestajza_FSR2011.pdf

Chart no. 1



Source: NBRM

Chart no. 2



Source: NBRM

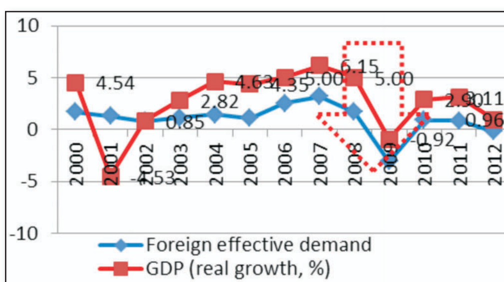
The collapse of "Lehman Brothers" on 15th September 2008 marked the second phase of the global crisis, in which the global markets deteriorated quickly, the liquidity risks started to threaten the solvency of financial institutions and through numerous channels the crisis spilled over from the financial to the real sector, slowing down the global economic activity and freezing the global financial flows. A small, open, import dependent economy like Macedonia could not remain immune to the second round of effects from the global crisis and they hit the economy strongly toward the end of 2008 and in 2009, when, after a longer period, the economic activity in the country fell by 0,9%.

Trade integration

The trade integration (about 60% of the exports to EU) and openness contributed for the most significant and effective transmission mechanism of the global crisis to the Macedonian economy to be the fall in economic activity in our biggest trade partner countries, i.e. the foreign effective demand. In order to get a clearer picture of the importance of the foreign effective demand (export) for the Macedonian economy, chart no. 3 shows the movement of the real GDP in Macedonia and the foreign effective demand in the period form 2000 to 2012.

Chart no. 3

Foreign effective demand and GDP



Source: Authors' calculations, SSO, data on GDP by constant prices are taken from IMF - World Economic Outlook Database October 2012[11]

11) The foreign effective demand is calculated as a sum of weighted indices of GDP of the most important trade partners of the Republic of Macedonia. The weights are based on the share of export to these countries in the total exporst. The countries included are: Germany, Greece, Italy, Netherlands, Belgium, Spain, Serbia, Croatia and Bulgaria.

Chart no. 4

Macedonian export to the biggest trade partners

Source: SSO of RM

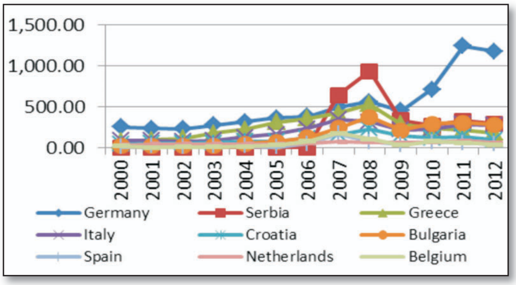


Chart no. 3 clearly shows the transmission channel, that is, the high dependence of the GDP movement and the foreign effective demand – the movement of economic activity of our biggest trade partners. Analyzed by countries, a largest contribution to the decrease in foreign effective demand in 2009, of 3,1%, was due to the fall in economic activity in Germany and Italy, followed by the contribution from the fall in Greece and Serbia. The recovery of the global economy, especially the moderate economic growth in the Eurozone and the South East European Countries, influenced also the intensity of recovery of the foreign effective demand for Macedonian products. After the deep fall in 2009, the foreign effective demand gradually improved during 2010, with an average growth of 0,8%. In 2011, the foreign effective demand maintained the level from 2010, while in 2012 new pressures arised for its reduction. In 2012, the biggest impact on the foreign effective demand came from the fall in economic activity in Greece (from 3,5% in 2010 to 6,9% in 2011 and further to 6% in 2012) and the continuing deterioration of the economic activity in Germany, Serbia, Italy, Spain (there was a decrease in economic activity in all the countries that consistute our foreign effective demand) (see chart no. 4). Another characteristic of the Macedonian export which increases its sensitivity to the global trends and confirms the importance of this transmission channel is its high level of concentration in ceratin industries (see chart no. 5). In 2012, almost half of the export was concentrated in three products (iron and steel, clothing, chemical materials and products), which had dramatic falls in prices during the crisis. The concentration of the export by countries (although after the crisis it is mildly more diversified) is another feature that addidtionally increases the vulnerability of the Macedonian export sector in times of global disturbances (in our case also a special sensitivity to regional disturbances). Namely, before the crisis (2006) as much as ¾ (74,7%) of the Macedonian export was allocated to six countries: Serbia, Germany, Greece, Italy, Bulgaria and Croatia (see chart no. 6).

Chart no. 5

Most exported products from RM (2012)

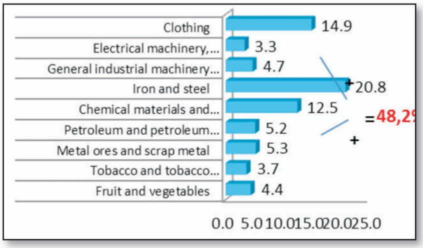
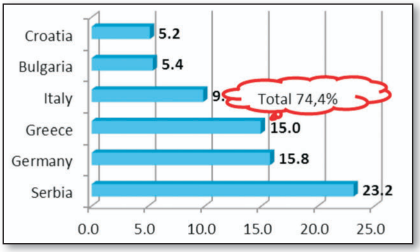


Chart no. 6

Share in Macedonian exports – 2006 (%)

Source: SSO of RM



The significance of the global economic activity for the Macedonian export is confirmed in studies of the income elasticity of the Macedonian export to global activity. Thus, Kadievska-Vojnovik and Uneska (2007) show that the income and price elasticity of the export are statistically significant and are 1,51 and -0,73, respectively. This menas that in the long run, a growth of world income of 1%, would increase the demand for Macedonian exports by 1,51%, while a growth of 1% in relative prices would determine lower exports by 0,73% (higher domestic prices relative to foreign prices cause a fall in exports). This indicates that the Macedonian export is more sensitive to changes in the world income, than to changes in prices. This indicates that the price characteristics of the Macedonian export are not the key determinant of the foreign demand, which focuses more on the qualitative aspects of exports. Thus, if exporters wish to increase their sale on the world markets, it is necessary to increase the non-price aspects of the export (quality, distribution, marketing etc.) for which a sensitive international capital can be found. Considering the high level of concentration of the Macedonian export to only a few products, primarily for reproduction (iron and steel and their products, oil derivatives, clothing and textile based on lon-production), it is obvious that it is necessary to invest in the qualitative aspects of produsts, in order to attract foreign consumers whose standard grows with the growth of the disposable income.

The reduced global activity and the effects on the Macedonian economy (through decreased market confidence, restricted access to financial sources, decreased export demand, a slow recovery of the domestic import demand) contributed to a fall in the foreing trade activity of Macedonia and a reduction of the current account deficit – after its peak of 12,8% of GDP in 2008, it gradually decreased to 6,8% of GDP in 2009, just to further contract to only 2,1% of GDP in 2010 and after that it remains on a lower level compared ot the pre-crisis period from 2001 to 2008 (see chart no. 7). The countries from the region recorded a large increase in their current account deficits in the pre-crisis period, followed by their contraction – lowest levels of current account deficits in the post-crisis period 2009-2012 are recorded in Macedonia and Croatia (see chart no. 8). In terms of a decreased global activity, an important effect on the balance of payments came from private transfers, which are a dominant and stable source of financing for the current account deficit of the Macedonian economy. As a result of the global crisis, private transfers, after a rising trend in the pre-crisis period, recorded a stagnation at the beginning of the global crisis and a decrese in 2008 (delayed effect from the crisis) of 5,5% compared to the previous year, followed again by a rising trend in 2010 (see chart no. 9).

Chart no. 7

Sources: International Monetary Fund,

World Economic Outlook Database, October 2012

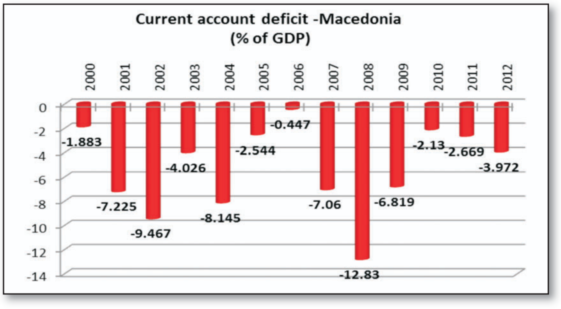


Chart no. 8

Sources: International Monetary Fund,

World Economic Outlook Database, October 2012

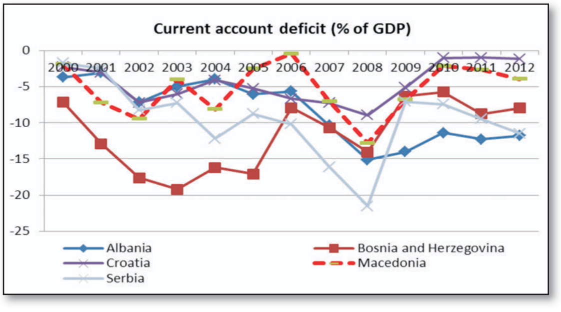
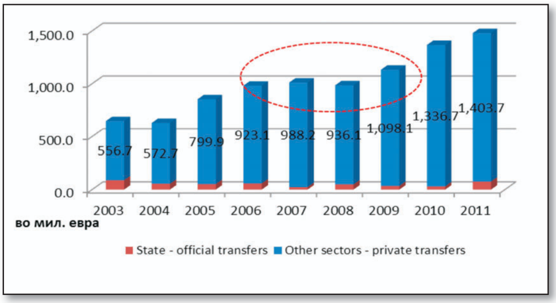


Chart no. 9



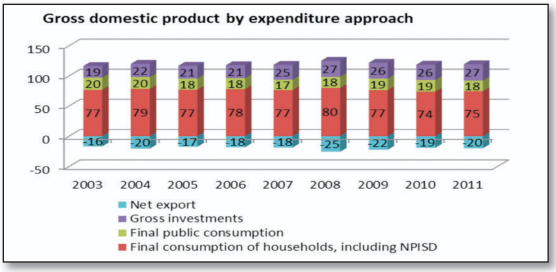
Sources: NBRM

The reduced global activity and the decreased export demand for Macedonian products (as well as the fall in the domestic demand) contributed significantly to a fall and change in the composition of the key determinants of GDP. The industrial production index recorded a historical drop of 8,7% in 2009 and 4,8% in 2010. A biggest fall was recorded in mining and quarrying and manufacturing, while the electricity and gas supply sector, due to its specifics, the monopolistic position, the fall in prices on the global markets, the decreased imports, in condition of an increased domestic production in the crisis period, recorded a significant increase.

The economic contraction in 2009 was mainly due to the significant fall in the sectors of mining and quarrying, manufacturing, electricity, gas and water supply, hotels and restaurants, transport and communication and other sectors, excluding the sectors of wholesale and retail trade and agriculture, hunting, forestry and fishing, which grew in that period. In the following year (2010), the construction sector (as a result of the government measures for exit from the crisis and the large number of undertaken capital investments[12]) took on a leading role with the highest growth rates, followed by modest growth rates in other sectors (agriculture, wholesale and retail trade, hotels and restaurants etc.) due to the modest recovery of global markets.

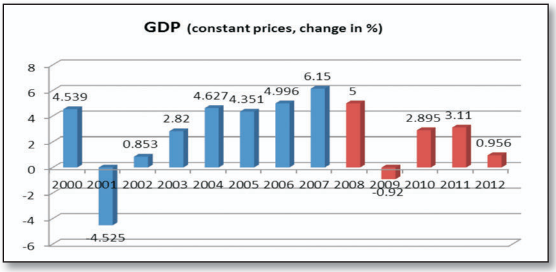
Considering GDP by expenditure approach, the growth of domestic demand and the increase in gross-investments had the largest contributions in the pre-crisis period and their deceleration in the crisis period is the main reason for the decline in economic activity. The government tries to compensate for the reduction of household consumption and investments in the crisis period by increasing public expenditures in order to stimulate the domestic economy and to prevent downward tendencies of economic activity (see charts no. 10 and 11).

Chart no. 10



Source: SSO

Chart no. 11



Source: International Monetary Fund, World Economic Outlook Database, October 2012

12) The construction sector continued to record high growth rates in the period 2011/2012 and to have a significant role in the recovery of the economic activity of the country.

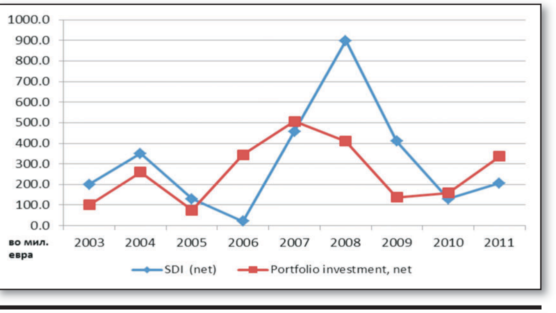
The deceleration of economic activity on a global and domestic level, also slowed the decreasing trend of the unemployment rate in the country, which is still on a record high level of 30%, despite the numerous government measures for coping with the crisis and reducing the unemployment (see chart no. 12).

The disturbance of the international capital markets and the fall in investors' confidence

The disturbance of the international capital markets and the fall in investors' market confidence and their risk aversion is the second transmission channel through which the effects of the global crisis transmitted to financial markets, capital markets and reflected on the investment (real) sector of the country. This secondary wave of the global crisis affected the Macedonian economy by decreasing the FDI and portfolio investment inflows, limiting the financing sources and increasing their price on the credit markets, as well as by a mild decerease in private transfers (as a dominant item in financing the current account deficit).

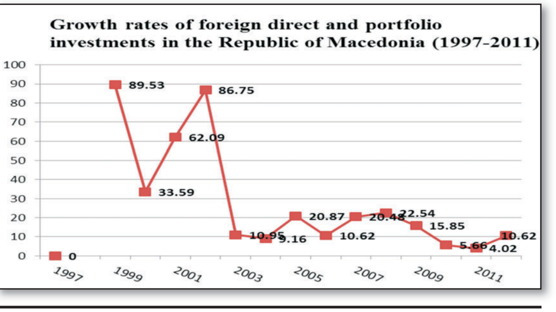
Most often the expected scenarios during a global crisis on the capital markets and of investors' confidence related to FDI and portfolio investments are characteerized by: an insignificant inflow of equity capital, having in mind that a large part of the investors face a lack of liquidity and risks surrounding investments; a reduction of reinvested profits and an increasse in dividend payments, which go to foreign investors; complementing the need for additional financing with decreasing net-inflows based on within company borrowing as a result of higher payments for used loans from parent companies, a decrease or withdrawal of portfolio-investments which are especially sensitive to the movements on the global markets and a significant fall in the turnover and prices on the securities' markets. Most of the mentioned scenarios can be noticed by analyzing the dynamics of these variables for the Macedonian economy in terms of crisis. Chart no. 13 and chart no. 15, which show the net-movements of FDI and portfolio-investments (in mil. Euro), as well as chart no. 14, which presents their growth rates clearly show the upward trend of these variables (high growth rates) in the pre-crisis period and their downward trend after the crisis hit. It is especially interesting to point to the sensitivity of portfolio-investments. Their trend of growth began before the FDI and started to decline significantly with the first signals of the crisis on the global markets in 2008, when the FDI reached their peak in the country. It is normal, as mentioned, in terms of a crisis for foreign investors to reduce the share of reinvested profit and to withdraw larger amounts of capital and dividends. This is confirmed with the decline in reinvested profit in the country in the amount of 113,7 mil. Euros in the midst of the crisis.

Chart no. 12



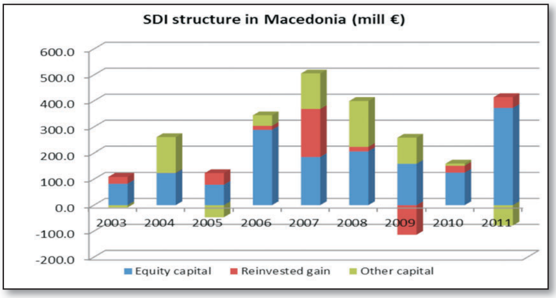
Source: NBRM

Chart no. 13



Source: NBRM

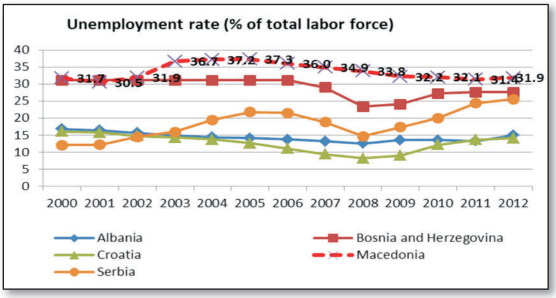
Chart no. 14



Source: NBRM

An overview of the markets of securities in Macedonia (the index of the 10 most traded securities in the countries – MBI10) clearly shows the severity of the crisis and its consequences on this most sensitive market segment (see chart no. 18). The dynamics of MBI10 shows first the expansion (overheating) of the market for securities in the country and the beginning of the collapse of the Macedonian securities exchange (amounting to almost a five time decrease from 10.058 den. on 31.08.2007 to 1.598 den. on 10.03.2009), which corresponds to the global trends of fall in securities' prices and the signals from the capital markets.

Chart no.15

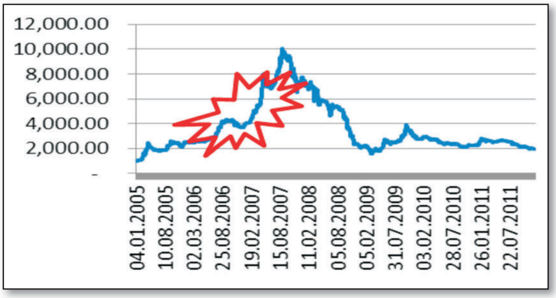


Source:

Macedonian stock exchange (daily data, in denars)

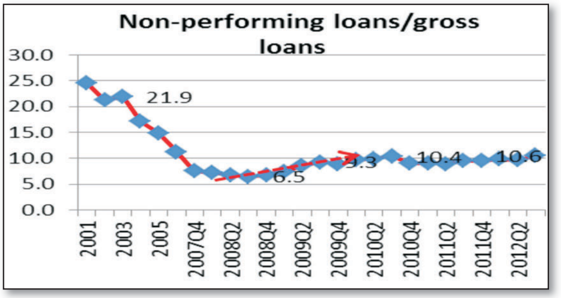
The Macedonian banking sector was not exposed to risk instruments, had a strong deposit base and a low dependence on financing by non-residents, very high ratio of capitalization of the banks and adequate liquidity, which all contributed to maintaining its stability in terms of a crisis on the global financial markets. However, the beginning of the crisis affected several segments of the banking sector – fisrt the declining trend of the ratio of non-performing loans to gross-loans was disrupted. It increased from 6,5 in the last quarter of 2008 to 10,5 in the middle of 2010, followed by its stabilization (see chart no. 17). The profitability of the Macedonian banks, which significantly grew in the pre-crisis period, reached its peak in 2007 (ROAE = 15), when the global crisis started, followed by a dramatic fall and its return in 2011 to the pre-crisis level of 2004 (see chart no. 18).

Chart no. 16



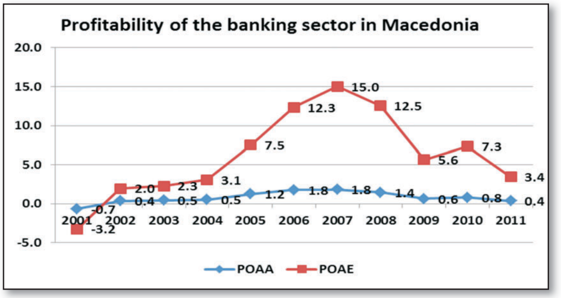
Source: WEO October, 2012

Chart no. 17



Source: NBRM

Chart no. 18

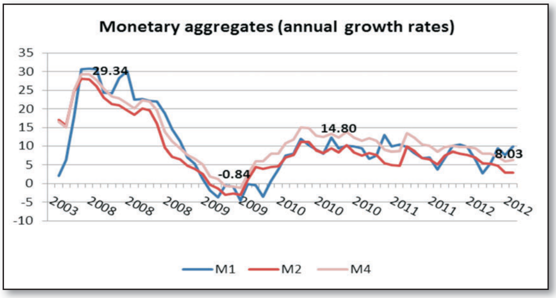


Source: NBRM

Although banks in Macedonia (which are predominantly in foreign ownership) were not directly hit by the processes for deleveraging of their foreign parent banks, indirectly, as a result from the more conservative corporate strategies of their parent companies, they experienced downward trends in crediting and negative effects on the credit channel which represents a bloodstream of the economic activity in a country (especially in countries with a shallow and undeveloped capital market). The declining trends in crediting were additionally determined by the decreased activity and increased risks in the real sector, lower creditworthiness of households/companies, which led to a decreased demand and access to loans, lower growth of the deposit base etc. In the pre-crisis period, the monetary aggregates (cash, deposit money, short term and long term deposits) had high growth rates (M2=17,07%, M3=16,51% in 2004), reaching a peak at the beginning of the crisis in 2007 with almost doubled growth rates M2=28,09%, M3=29,34%) (see chart no. 19). The beginning of the crisis soon affected adversely this pre-crisis expansion of the deposit base.

After reaching a peak in 2007, the monetary aggregates substantially dropped, achieving the lowest grow rates in September 2009: M1= -4,53%; M2= -2,95%; M3= -1,9%, followed by a period of a mild rise and their stabilization on a level far below the pre-crisis level (see chart no. 20). The reduced deposit base, the conservative strategies of the Macedonian banks (strengthening the criteria for credit approval), the rise in prices on international capital markets, the larger risk aversion in the real sector, also contributed to a sustantial fall in credit activity in the banking sector. This opened a new circle, which added to the effects from the global crisis – a fall in credit activity, limited access of businesses to financing during an increased need for finance, a decline in the growth potential and production of firms in terms of deteriorated financial flows in the country, a reduced economic activity, a lower export potential, pressures on unemployment, deteriorated business performances, etc. The growth rates of loans that banks approved to the nonfinancial sector resemble the trajectory evident for the monetary aggregates – a great expansion of total loans from 25% in 2004 to 44,08% in April 2008, followed by a strong deceleration of the growth of total loans which reached the bottom in February 2010, followed by a negligible recovery of the growth rates of denar loans and a more substantial increase in foreign exchange loans.

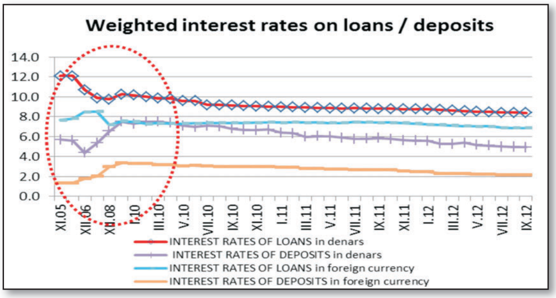
Chart no. 19



Source: NBRM

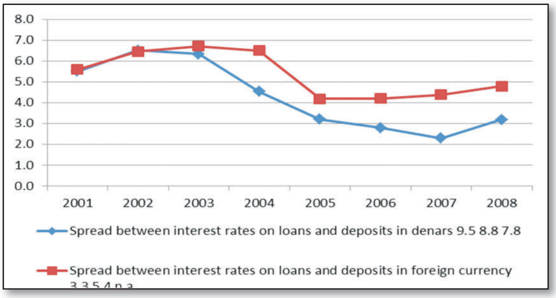
The risks on the global financial markets and their effects on the Macedonian banking sector, beside the volume of loans, also affected the growth of their interest rates, due to the increased risk in the economy and on financial markets. The interest rate on the interbanking market for denar overnight deposits – MKDONIA (Macedonian Denar Overnight Index Average)[13] increased from 4,79% in October 2008 (when their calculation was initiated) to 6,54 in September 2009 (an increase of 1,75 p.p.), followed by its most significant decline due to the numerous measures of NBRM for monetary relaxation.

Chart no. 20



Source: NBRM

Chart no. 21



The weighted average interest rates on loans and deposits had a mild growth with the appearance of the first signals of the global crisis, larger for deposits than for credits. (see chart no. 20). The rising trend of risk in the Macedonian economy for the banking sector is confirmed by the disruption of the declining trend of interest rate spreads of denar/foreign exchange loans/deposits, which was substantail in the pre-crisis expansionary period and a mild increase in the interest rate spreads in the period 2008-2011 (see chart no. 21).

13) See more details on the calculation and historical data on MKDONIA on: http://www.nbrm.mk/?pmenu=mkdonia

Conclusion

Summarizing the key effects and the transmission mechanism of the recent global economic crisis provides an extremely important guide for the manner in which economic policies should be conducted in the future in order to prevent negative effects from global disturbances. The transmission mechanism reveals the "weak links" that enable a transfer of global disturbances. We are aware that the Macedonian economy is not isolated from the global events and that its complete isolation from the disturbances in the surrounding is not possible, but it is possible to detect the critical points and to adopt measures, acts and policies to alleviate those impacts in the future. The effects from the crisis for the Macedonian economy can be summarized as follows:

- Macedonia achieved a rising trend of GDP growth, low inflation rates, maintained low budget defcits, and a declining trend of public debt, a mild recovery of the export sector and a modest decrease of unemployment rates;
- Until the bancrupcy of "Lehman Brotheres", the global crisis had no noticebale effects on the Macedonian real and financial sector;
- The global crisis began to strongly affect the Macedonian economy near the end of 2008 and in 2009 when the economic activity in the country recorded a fall of 0,9% after a longer period;
- The trade integration and openness contributed for the most significant and effective channel of transmission of the global crisis to the Macedonian economy to be the fall in economic activity in the countries that are our biggest trade partners – the foreign effective demand;
- The high level of concentration of the Macedonian export by countries is yet another characteristic that addidtionally increases the vulnerability of the Macedonian export sector in terms of global disturbances;
- Results from studies of the income elasticity of the Macedonian export to the global activity show that in terms of world income growth of 1%, the demand for Macedonian products increases by 1,51%, while a growth in relative export prices of 1% causes a decline in exports of 0,73%;
- The current account deficit, after its historical high at 12,8% of GDP in 2008, gradually declined to 6,8% of GDP in 2009, only to further contract to a low 2,1% of GDP in 2010 and in the following period to be maintained on a lower level than the pre-crisis level from 2001-2008;
- Private transfers, after a period of continuous growth before the crisis, stagnated at the beginning of the crisis and then declined in 2008 (delayed impact from the crisis) by 5,5% compared to 2007, followed again by a rising trend in 2010;
- The industrial production index recorded a historical fall of 8,7% in 2009 and 4,8% in 2010. The economic contraction of 2009 was mainly due to the significant fall in almost all sectors except the sector of wholesale and retail trade and the sector of agriculture, hunting, forestry and fishing, which were still growing in that period. In 2010, the main role belonged to construction with highest growth rates, followed by modest growth rates of the other sectors (agriculture, wholesale and retail trade, hotels and restaurants etc.), as a result of the modest recovery of global markets;
- The largest contribution to the pre-crisis growth of GDP came from the growth of domestic demand and gross-investments, whose deceleration in the crisis period was the key reason for the fall in economic activity. The government puts efforts to substitute for their decline in the crisis peiord by increasing the public expenditures;
- Deceleration of the fall in the unemployment rate, which is still on a record level of around 30%, beside the many employed government measures for dealing with the crisis and decreasing the unemployment;

- The disturbance of international capital markets and the fall in investors' confidence and their risk aversion manifested by declining inflows of FDI, reinvested profit and portfolio investments, limited financing sources and rising prices in credit markets, as well as a mild decrease in private transfers;
- The movement of MBI10 shows the expansion (overheating) of the market for securities in the country in the pre-crisis period and the beginning of the collapse of the Macedonian stock exchange, which coincides with the global trends of fall in prices of securities and the signals coming from the capital markets;
- The trend of declining ratio of non-performing loans to gross loans was interrupted and increased from 6,5 in the last quarter of 2008 to 10,5 toward the middle of 2010, followed by its stabilization;
- The profitability of the Macedonian banks, which had a significant growth in the pre-crisis period, reached its peak in 2007 (ROAE=15) when the global crisis emerged and resulted in a dramatic drop and its return to the 2004 level in 2011;
- The banking sector, despite the effects from the crisis, remains with a high level of capitalization (almost double the required level by law – the value of the capital adequacy raio was 16,2 in 2008 and 16,4 in 2009) and with adequate liquidity (after the mild fall in almost all liquidity indicators in 2008/2009);
- After the expansion of the deposit base before the crisis, the monetary aggregates significantly dropped, reaching the bottom in September 2009, when the growth rates were: M1= -4,53%; M2= -2,95%; M3= -1,9%, after which a period of mild growth followed and later they stabilizied on a level far below the pre-crisis level;
- Bank loans to the nonfinancial sector, after a significant expansion of total loans from 25% in 2004 to 44,08% in April 2008, there was a period of a large reduction of the total credit growth, reaching the bottom in February 2010;
- The weighted average interest rates on loans and deposits recorded a mild growth with the first signals of the global crisis, while the declining trend of interest rate spreads of denar/foreign exchange loans/deposits was interrupted and turned into a mild increase due to the crisis in the period 2008-2011.

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