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Abbreviations

ALB	Leasing and Non-banking Financial Services Association
ASLR	Association of the Leasing Companies of Romania
BSE	Bucharest Stock Exchange
CEE	Central and Eastern Europe
EBIT	Earnings before interest and taxes
EC	European Commission
ECB	European Central Bank
EM	Emerging markets
EPS	Electronic Payment System in Romania
EU	European Union
FDI	Foreign Direct Investment
FIC	Financial Investment Company
FMA	Fund Managers Association
GDP	Gross Domestic Product
GEO	Government Emergency Ordinance
GVA	Gross value added
HH	Herfindahl Hirschmann index
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
ISC	Insurance Supervisory Commission
MCIT	Ministry of Communications and Information Technology
MPF	Ministry of Public Finance
NBFI	Non-bank financial institutions
NBR	National Bank of Romania
NIS	National Institute of Statistics
NSC	National Securities Commission
NUUCITS	National Union of Undertakings for the Collective Investment of Transferable Securities
PIB	Payment Incident Bureau of the National Bank of Romania
PPSSC	Private Pension Scheme Supervisory Commission
ReGIS	Romanian electronic Gross Interbank Settlement
ROA	Return on assets
ROE	Return on equity
SaFIR	Settlement and Financial Instrument Registration
SENT	System for Electronic Net Settlement run by TransFonD
SEPA	Single Euro Payments Area
SMEs	Small- and medium-sized enterprises
STFD	Short-term foreign debt
WEO	World Economic Outlook

Contents

CHAPTER 1. OVERVIEW **7**

CHAPTER 2. INTERNATIONAL ECONOMIC AND FINANCIAL ENVIRONMENT **10**

CHAPTER 3. FINANCIAL SYSTEM AND ITS RELATED RISKS **15**

3.1. Structure of the financial system **15**

3.2. Banking sector **17**

3.2.1. Structural developments 17

3.2.2. Structure of assets and liabilities 21

3.2.3. Capital adequacy........ 25

3.2.4. Loans and credit risk........ 34

3.2.5. Liquidity risk 41

3.2.6. Market risk........ 45

3.2.7. Profitability and efficiency 46

3.3. Non-bank financial sector **49**

3.3.1. Capital market........ 49

3.3.2. Insurance market........ 53

3.3.3. Private pension funds........ 55

3.3.4. Non-bank financial institutions........ 56

CHAPTER 4. DOMESTIC MACROECONOMIC RISKS **61**

4.1. Real sector **61**

4.1.1. Real convergence........ 61

4.1.2. The importance of the real estate sector and real estate assets to financial stability........ 64

4.2. Financial policies **67**

4.2.1. Lending policy and companies' and households' access to financing........ 67

4.2.2. Exchange rate policy and its implications on financial stability........ 71

4.3. External balance **72**

4.3.1. Current account deficit and its financing........ 72

4.3.2. Short-term foreign debt........ 75

4.4. The agreements with the IMF and the European Union – support for strengthening macroeconomic equilibrium and the financial system **77**

CHAPTER 5. COMPANIES AND HOUSEHOLDS 80

5.1. Risks arising from non-financial companies 80

5.1.1. Economic and financial performance 80

5.1.2. Bank debt servicing risk 81

5.1.3. Companies' capacity to withstand shocks 86

5.2. Household sector risks 88

5.2.1. Household balance sheet position and saving 88

5.2.2. Romanian depositors' behaviour in the context of diminished confidence in the banking system (October 2008) 91

5.2.3. Household indebtedness 94

CHAPTER 6. FINANCIAL MARKET INFRASTRUCTURE 101

6.1. Liberalisation of the correspondent banking arrangements 101

6.2. ReGIS payment system stability 101

CHAPTER 1. OVERVIEW

Since the previous Financial Stability Report, the financial system in Romania has evolved in an environment strongly marked by the global financial and economic turmoil. By the time turbulences became manifest, the Romanian economy had reported high economic growth for several years, accompanied however by the build-up of a relatively significant external deficit, as well as by the rise in short-term external debt. The banking sector, which holds a key position in the financial system, withstood these pressures well. Financial stability was confronted with a new vulnerability – external financing volatility. The repercussions of the deteriorating external economic environment affected the Romanian economy with a certain time lag, adversely impacting the loan portfolio quality. However, credit risk remains the banking sector's major vulnerability. The National Bank of Romania, in its capacity as supervisory authority, responded to the new threats by meeting the specific liquidity needs, more strictly monitoring of banks, adopting measures to improve the prudential regulation framework and, signing, together with the Government, financing agreements with the International Monetary Fund and the European Union. These agreements ensure the adequate financing of the current account deficit and render economic and financial policies more credible.

The previous Report, incorporating the information available at the end of 2008 Q1, described the first stages of the global economic and financial crisis, emphasising the elevated risk that short-term developments worsen, with a negative impact on Romania's economic and financial sectors. *The international economic and financial environment* has deteriorated ever since, whereas future developments are surrounded by high uncertainties. The present external environment leaves its mark on Romania by (a) the worsening of risk perception of the country, including the contagion effects from regional evolutions; (b) the contraction of foreign markets; (c) external financing difficulties; and (d) at microeconomic level, the coupling of the solvency risk with the liquidity risk. The transmission of external conditions into the domestic economy *via* such channels represents an increasing challenge for the Romanian financial system, where banks hold a key position.

First, the deteriorating market sentiment towards Central and Eastern European countries, including Romania, has tended to weigh on the dynamics of financing costs spreads and of exchange rates of these countries. Second, the contraction of foreign markets has a bearing on the Romanian exporting companies, which hold a significant share in banks' portfolios. However, it is to be noted that, from a regional perspective, Romania's exports have been less affected so far. Third, external financing has become less readily available and more expensive, illustrating foreign creditors' enhanced risk aversion and the competition for resources generated by governments. Finally, the persistence of the global crisis leads to the contraction of economic activity, including firms being forced out of the market.

Domestic macroeconomic developments have a significant impact on the soundness of the financial system. The economic contraction, materialised in the first quarter of 2009, represents a new vulnerability which corresponds to the deterioration of the financial position of companies and to a rise in unemployment, with significant negative repercussions on the financial system, particularly on banks. On the other hand, the current account deficit – which, over the previous years, posed a serious challenge to the banking sector as well – is narrowing relatively fast and therefore is less

harmful to financial stability, particularly if the adjustment does not cause a decline in investment and, thereby, exports. Another new challenge to financial stability originates in the banking sector itself: the less readily available domestic (and external) financing sources – an obvious risk over the past months – may generate serious constraints on the repayment of debts by companies.

The economic decline is already a fact in Romania as well. The resumption of economic growth is surrounded by persistent uncertainties. Comparisons at international level suggest that, against the background of the global crisis, countries reporting fast growth rates show a tendency to undergo large-scale contractions. Romanian authorities need to take into account this risk while formulating/adjusting economic and financial policies; from this standpoint, drawing financial resources from international financial institutions represents a timely measure. The expansion of public investment and competitiveness of Romanian firms becomes an important objective in order to support sustainable economic growth. The construction and real-estate sectors – by their dynamics, share of the economy and dependence on domestic and external financing – turn out to be important for the maintenance of financial stability, while risks from lending to these sectors went up.

The economy may currently face the risk of a strong adjustment of the current account similar to that of economic growth. An orderly unwinding of the current account deficit provides a better trade-off between the present available sources for its financing and the associated risks. A disorderly adjustment, although desirable from the financing perspective, brings about the severe deterioration of exporters' and importers' financial position and the risk of a contraction in investment. Exporters, in particular, have taken considerable domestic and foreign loans that generated an elevated overdue payment ratio over the past months.

The short-term external debt is one of the most serious vulnerabilities currently facing financial stability, a vulnerability which was actually absent since the capital account liberalisation until the onset of the global financial crisis. Its share in the external debt comes in at 43 percent, with more than 80 percent being accounted for by the private sector. The sources of vulnerability are the narrowing of external financing starting with end-2008 and the perception of risks in the region and in Romania (also as compared to the level of the country's foreign exchange reserves). External financing in foreign currency of Romanian banks amounts to almost one third of their balance sheet liabilities, out of which around one half is on the short term. Over the past few months, this vulnerability dropped markedly in intensity, after the main parent banks committed to maintaining exposure to Romania and following the signing of financing arrangements with the IMF and the European Union. These agreements provide not only the resources for covering the external financing deficit, but also credibility.

The widening imbalance between companies' and households' foreign currency-denominated assets and their foreign currency-denominated liabilities (net liabilities) poses a more persistent vulnerability for the economy and the financial stability, given that, since 2004 until the end of March 2009, it increased more than six times. The dynamics of this ratio illustrated favourable market expectations regarding the domestic economic growth and the exchange rate evolution. Relaunching the economy as soon as possible will diminish the financial costs borne by companies and households and, thereby, will contain the negative impact on the banking sector.

In 2008, *companies'* financial position remained relatively sound, and so did their capacity to absorb moderate shocks. The decline in economic activity in late 2008, manifest in 2009 Q1 as well, will make debt servicing to banks more difficult; SMEs are deemed to pose the largest credit risk. Moreover, companies' significant resort to short-term financing represents a weakness of the

sector, particularly against the background of tighter lending conditions imposed by banks that might limit these credit lines.

During the past 12 months, risks to financial stability associated with *households* rose beyond the expectations in the previous Report: households' indebtedness was on the rise, especially in foreign exchange, in the long run, and for consumer goods (a tendency strongly repressed towards end-2008 and thereafter), the overdue payment ratio virtually doubled and net wealth deteriorated. Contrary to the tendency seen in the preceding years, households' net wealth shrank in 2008, particularly on account of the decreasing value of assets in households' portfolio. Households' position in relation to the banking sector (the foreign currency position and that of net debtor) fared worse. The deterioration of banks' external financing conditions led, during the past months, to the reconsideration by banks of strategies used for managing assets and liabilities, with a focus on taking deposits from households.

The banking sector continued to report positive financial soundness indicators, displaying good capitalisation and noticeable financial results. Stress testing analyses indicate a solid absorption capacity of moderate shocks. Two vulnerabilities are more prominent, being fuelled by the global economic and financial crisis, namely credit risk and liquidity risk. Starting with the latter part of 2008, the quality of loan portfolio has seen a sharper deterioration, indicating particularly the slower economic activity and the weaker domestic currency. The deterioration is not even across banks, the largest ones posting higher levels of overdue and doubtful loans. In spite of the faster worsening of loan portfolios of late, the quality of these portfolios overall is in line with the EU requirements. Likewise, the coverage by provisions of non-performing loans in the balance sheets of credit institutions in Romania is higher than that reported by several EU Member States.

Capital adequacy is satisfactory both at aggregate and individual level. However, the persistent effects of the global economic and financial crisis call for the consolidation of banks with a view to withstanding potential strong shocks. To this end, the National Bank of Romania decided that banks should ensure and maintain, at least during 2009-2010, a solvency level of 10 percent at least, a prudential measure recommended by the IMF as well. Furthermore, in order to assess *ex ante* the need for additional capital, so as to meet the solvency threshold set forth amid a possible worsening of the economic environment, the National Bank of Romania and the IMF agreed upon carrying out some bank stress testing scenarios. The outcomes of these scenarios pinpoint the level of own funds subsequent to applying the set of shocks and, implicitly, the funds required for attaining the 10 percent solvency ratio. All banks underwent the stress testing exercise, based on stress factors included in the Government's economic programme. According to the baseline scenario used during the testing, own funds drop by about 21 percent, while in order for the solvency threshold to be attained, an additional capital contribution in amount of EUR 1 billion is still needed. Banks facing the need to bring in additional funds confirmed the intention of their shareholders to comply with the minimum 10 percent solvency requirement for 2009 and 2010.

The Romanian capital market posted developments similar to those recorded by other stock markets in the region, especially during the strongest turbulences on global financial markets, namely a downward trend accompanied by considerably higher volatility. Stock market capitalisation also reported a strong contraction, while the level of stock market liquidity remained relatively flat.

CHAPTER 2. INTERNATIONAL ECONOMIC AND FINANCIAL ENVIRONMENT

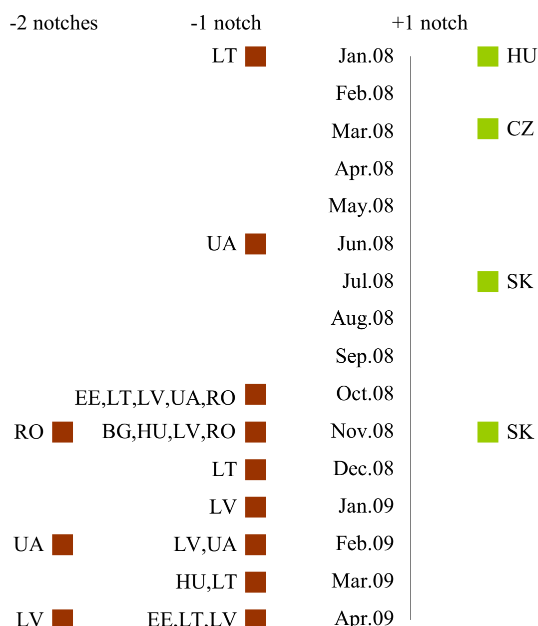
The international macroeconomic and financial environment has undergone major negative changes since the previous Report. The magnitude and intensity of the economic and financial crisis have been underestimated by authorities worldwide. The uncertainties surrounding future developments remain high. In Romania, the main challenges posed by the external sector refer to (A) the worsening perception of risks, including contagion effects from the adverse regional developments, (B) the contraction of external markets, (C) the less readily available external financing and (D) the replacement of global liquidity risk by solvency risk.

(A) International financial turbulences which started in 2007 translated into a full-fledged crisis one year later. Starting September 2008, this crisis has intensified, affecting seriously world economic growth (Box 1). The 3.2 percent international economic advance forecasted for 2008 is expected to be followed by a 1.3 percent decline in 2009 (IMF, WEO - April 2009).

In the beginning, the crisis impacted predominantly developed economies. However, the risk aversion in these countries showed rapidly through into emerging economies. The Central and Eastern Europe (CEE) region was also affected (Chart 2.1). Market sentiment began to weigh increasingly on the dynamics of spreads and of exchange rates in the CEE countries (Chart 2.2). The region was classified as a high-risk area, within which Romania is not immune and the contagion has spread from one country to another. Forecasts for the region are pessimistic: economic declines are broad-based, companies disinvest, unemployment is on the rise, current account deficits undergo (disorderly in some cases) adjustments and fiscal deficits widen significantly (Table 2.1).

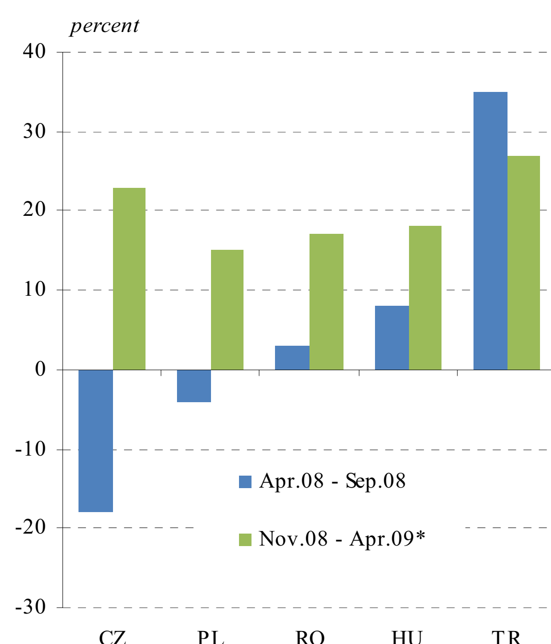
Under the circumstances, restoring confidence in the favourable outlook for the region is essential.

Chart 2.1 – Rating changes in CEE (S&P, Fitch and Moody's rating agencies)



Source: Bloomberg

Chart 2.2 – Changes in the correlations between exchange rates and the risk-aversion indicator (VIX)



* correlations adjusted according to Forbes, Rigobon (2002)

Source: Bloomberg, NBR calculations

(B) Economic activity in Romania's main trading partners (Germany, Italy and France) is expected to witness some of the largest contractions in the euro area (between -5.4 percent and -3.0 percent, EC, May 2009). Consumer confidence in these countries has seen a sharp decline (Chart 2.3), with a bearing on the demand for imports as well.

Table 2.1 – Main macroeconomic indicators of countries in the area

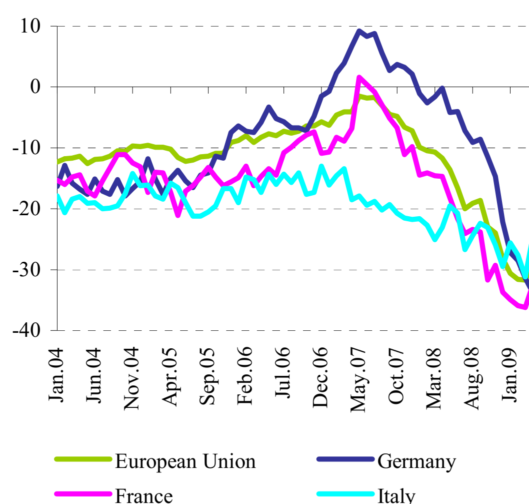
percent

	2008 (estimates)							2009 (forecasts)						
	BG	**LV**	**HU**	**PL**	**RO**	**HR**	**TR**	**BG**	**LV**	**HU**	**PL**	**RO**	**HR**	**TR**
GDP	6	-4.6	0.5	4.8	7.1	2.4	1.1	-1.6	-13.1	-6.3	-1.4	-4	-3	-3.7
Gross fixed capital formation	20.4	-13.2	-2.6	7.9	19.3	8.2	-4.6	-12.7	-24	-10.6	-6.2	-6.5	-7.5	-7.9
Unemployment	5.6	7.5	7.8	7.1	5.8	8.4	9.4	7.3	15.7	9.5	9.9	8	9.6	13.1
Inflation	12	15.3	6	4.2	7.9	6.2	10.4	3.9	4.6	4.4	2.6	5.8	3.1	7.3
Current account deficit/GDP	-24.8	-13.6	-8.4	-5.3	-12.3	-8	-5.7	-18.8	-1.5	-5	-4.7	-7.4	-5.9	-1.8
Public debt/GDP	14.1	19.5	73	47.1	13.6	32.2	39.5	16	34.1	80.8	53.6	18.2	34.6	42.7
Fiscal deficit/GDP	1.5	-4	-3.4	-3.9	-5.4	-2	-2.1	-0.5	-11.1	-3.4	-6.6	-5.1	-3.3	-4.6

Source: European Commission, spring forecasts, May 2009

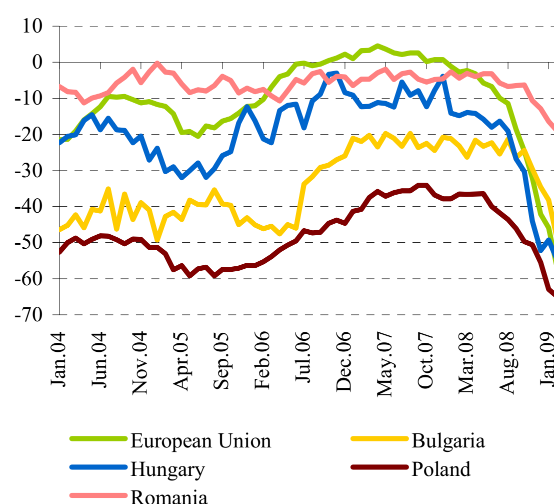
Consequently, given that Romania's export markets are adversely affected, domestic firms engaged in foreign trade activities might encounter problems. The significant depreciation of the leu starting with the autumn of 2008 has helped alleviate difficulties somehow. Exporting companies contributed by almost 16 percent to value added creation (June 2008), holding about 10 percent of loans granted (December 2008)[1], which explains their importance to the Romanian economy and the banking sector. Until 2009 Q1, Romania counted among the least affected CEE countries in terms of export activity (Chart 2.4).

Chart 2.3 – Consumer confidence indicators in Romania's main trading partners (balance, seasonally adjusted)



Source: European Commission

Chart 2.4 – Indicators on the change in the volume of export orders in EU countries (balance, seasonally adjusted)

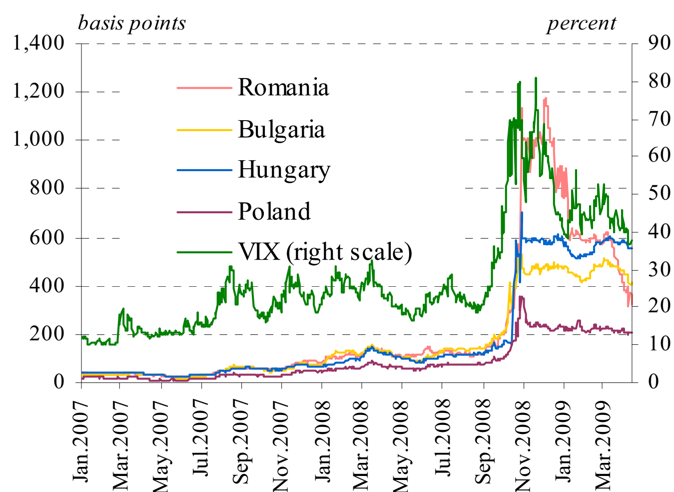


Source: European Commission

[1] Calculations based on a sample including the largest 1,000 exporting companies (December 2006), which accounted for more than 80 percent of total exports.

(C) Access to financing has become more difficult and more expensive given that (i) international creditors are reluctant to providing further liquidity, (ii) governments all over the world have started to compete strongly with the private sector for resources[2], and (iii) some rating agencies downgraded Romania's rating to below "investment grade"[3], thereby worsening the perception of sovereign risk. In 2008, Romanian companies and financial institutions resorted heavily to foreign loans, which totalled EUR 13.7 billion (thereby fuelling external debt), a volume roughly equal to the volume of new domestic bank loans granted to companies and households in 2008.

Chart 2.5 – Developments in government bond yield spreads* compared to expectations on market volatility (VIX)



* against German Bunds

Source: Bloomberg

Market sentiment is weighing increasingly heavily on the setting of the financing cost for the European emerging countries (Chart 2.5). As a matter of fact, the larger resort to CDS when assessing sovereign risk (in spite of the low level of liquidity and transparency of these instruments), heightens the role played by sentiment changes while determining loan costs.

The financing provided on an increasingly larger scale by the IMF to emerging countries is aimed at alleviating the pressures on the costs of and access to financing.

(D) Financial turbulences sparked concerns over the liquidity risk management. Nevertheless, the emergence of the economic crisis enhances the probability that the solvency risk across companies might take precedence over the liquidity risk. Romania's financial stability may be affected by contagion from both directions.

Table 2.2 – Provision of liquidity by the authorities in home countries and its effects on the financing in the host country (Romania), September 2008 – March 2009, EUR million

Country of origin of the capital	Loans granted by the authorities in the home country to their financial institutions	The change in own capital of Romanian subsidiaries [a, b]	The change in external liabilities of Romanian subsidiaries [a]
Greece	n.a.	-99	-1,641
Austria	2,988	-373	-652
The Netherlands	17,755	76	36
Italy	13,199	-31	134
Hungary	-15,437	-30	26
France	1,002	18	722

[a] Stands for the change in the cited period of bank liabilities; the outcomes reflect the significant contribution, following the adjustment of amounts in euro (the national currency depreciated during the reported period by more than 13 percent); the drop in external liabilities does not necessarily imply a lower exposure of a banking group to Romania.

[b] Includes also the effect caused by the worsening bank loan portfolio quality, which led to higher provisioning.

Source: central bank websites, NBR calculations

[2] The lavish fiscal plans, simultaneously with the active contribution of automatic stabilisers (implying lower budget revenues and larger expenditures) put pressure on governments worldwide to identify additional financing sources. A large part of such financing might come from foreign loans.

[3] In terms of sovereign rating, Romania was assigned opposite ratings. Thus, two rating agencies (S&P: BB+ since October 2008, negative outlook, and Fitch: BB+ since November 2008, negative outlook) consider that our country faces a higher risk, i.e. above "investment grade", whereas two other rating agencies (Moody's: Baa3 since October 2006, stable outlook, and JCRA, BBB- since December 2008) state that Romania's sovereign risk falls within "investment grade".

(D1) Liquidity risk: Central banks in the countries of origin of the Romanian banking capital pumped considerable amounts into their financial systems with a view to resuming lending and restoring smooth money market functioning.

These inflows had a different impact on financial resources of Romanian banks' subsidiaries; thus, some of them posted higher own capital and external liabilities, whereas others saw an opposite development (Table 2.2). Under the circumstances, domestic loans seem to play an increasingly important role.

(D2) Solvency risk: The economic and financial crisis is expected to generate significant losses worldwide. According to the IMF estimates (GFSR, April 2009), they might total almost USD 4,000 billion, of which two thirds would be incurred by banks. The decline in global economic activity and the materialisation of losses will generate contagious effects also on (I) the domestic banking sector and (II) Romania's real economy.

Table 2.3 – Contagion channels of the global crisis (December 2008)

percent

(I) via the Romanian banking sector			(II) via Romania's economy			
Home country of shareholders	GDP estimate for 2009	Share in the Romanian banking sector's capital	Home country of shareholders[4]	GDP estimate for 2009	Share in	
					Domestic bank loans	GVA*
Greece	-0.9	30	The Netherlands	-3.5	2.2	6.8
Austria	-4.0	24	Italy	-4.4	1.3	1.5
The Netherlands	-3.5	12	France	-3.0	1.2	3.0
Italy	-4.4	6	Germany	-5.4	1.2	3.7
Hungary	-6.,3	6	Austria	-4.0	0.9	3.6
France	-3.0	6	Turkey	-3.7	0.6	0.5

*June 2008

Source: European Commission, NTRO, MPF, NBR calculations

(I) Thus, the economic downturn in the countries of origin of Romanian banking capital (Table 2.3) will make it harder for debtors in these countries to service their debts. The solvency of parent banks will be damaged, adding to the already existing liquidity problems. Consequently, the need to recapitalise parent banks will diminish the resources they might channel towards their subsidiaries abroad. Against this background, the main foreign banks' commitment to maintaining their exposure to Romania might lessen this risk somehow.

(II) Non-resident shareholders of companies operating in Romania may encounter difficulties in preserving their cross-border investment at the same level. As a result, foreign-owned local companies might witness a drop in the financing via this channel, which may dampen their activity. These companies hold a relatively significant share of total domestic bank loans (almost 15 percent) in value added formation across the economy (Table 2.3) and in Romania's external debt (more than 40 percent of both short-term debt and medium- and long-term debt, March 2009).

[4] Cyprus ranks second, but it is likely that the shareholders registered in this country might only take advantage of the taxation provisions on company registration (to a certain extent, the same holds for the Netherlands).

Box 1: Measures taken at global level to counter the effects of the crisis

The state of global financial markets worsened abruptly starting September 2008 after the bankruptcy of US-incorporated Lehman Brothers investment bank. Confidence among participants dropped sharply, with the risk premiums rising to overly high levels. Consequently, interbank market functioning was severely hurt and banks with excess liquidity were reluctant to lend their surplus to other credit institutions.

The response of governments and central banks to avert the effects of the crisis was unprecedented. Fiscal and monetary policies were put on a strongly expansionary path. Key measures adopted by central banks were aimed at: (i) substantial and fast easing of monetary policy; (ii) increasing the volume and frequency of open-market operations in order to provide the necessary liquidity and (iii) enlarging the range of eligible collateral and maturities pertaining to the provision of liquidity. Major central banks joined efforts and correlated to a larger extent their monetary policy actions.

In fact, central banks appear to be granted a stronger formal mandate with a view to ensuring financial stability by resorting to measures for the reorganisation of regulatory and supervisory structures (e.g. *Blueprint for a modernized financial regulatory structure* in the USA or the *“De Larosière Report”* in the EU).

The narrowing of the room for manoeuvre of monetary policy caused the fiscal stimulus play a greater role. Such measures envisaged either the support for the banking system via recapitalisations, government guarantees, programmes for toxic assets purchase, or the boost of aggregate demand by raising government investment, cutting taxes or implementing programmes for fostering new motorcar purchases, granting subsidies to employers, etc. In OECD countries, fiscal packages approved until March 2009 for 2008-2010 period accounted for 3.4 percent of these countries’ GDP (OECD, *Fiscal packages across OECD countries: Overview and country details*, March 2009).

Despite such efforts, lending conditions remained tight, whereas aggregate demand and employment continued deteriorating in many countries. The difficulties encountered by non-financial corporations in securing financing and the weaker demand due to wealth and balance sheet effects entailed severe repercussions on the output volume. The world economy posted a significantly slower growth rate; a decline is expected for 2009. Economic and financial integration has allowed not only positive effects, but also negative ones to be rapidly transmitted abroad, and even countries without direct exposure to sophisticated derivatives could not escape unscathed. A global crisis requires global solutions. The IMF is increasingly involved in such solutions and in providing financial assistance to a growing number of emerging countries, of which many in Central and Eastern Europe (Hungary, Ukraine, Latvia, Poland, Romania).

Fiscal and monetary policy measures were backed by the expansion of the coverage limit per depositor. Across the EU, the regulations on deposit guarantee schemes were amended: the guarantee threshold was raised to EUR 50,000 (and is due to reach EUR 100,000 by end-2010), coinsurance was abandoned, and the time span for making compensatory payments was reduced. A proposal of revising capital requirements for EU-wide credit institutions is also underway. It deals with improved management of large exposures, liquidity risks, securitised products risks, better supervision of cross-border banking groups and higher-quality bank equity.

CHAPTER 3. FINANCIAL SYSTEM AND ITS RELATED RISKS

3.1. Structure of the financial system

The domestic financial system is subject to pressures from the global financial market turmoil, and the risks are on the upside. Financial institutions in Romania do not have exposures to the high-risk assets that had a destabilising effect on the global financial system, but the indirect impact was felt, to a different extent, by all the segments of the domestic financial market. The start of collecting resources by pension funds (Pillar 2) was the main element contributing to the development of the financial system in 2008 and the first part of 2009.

The capital market was the hardest hit by the global financial market turmoil due to the possibility of rapid fund transfers and the high sensitivity to information from the financial environment and real economy. The capital market is the first to react during periods of instability, but it also has the capacity to recover ahead of other financial sectors and real economy, amid return of investors' confidence. Pension funds benefit from an insignificant volume of payments made in case of invalidity or demise and the growth rate of assets under management is expected to remain high in the years ahead. The growth rate of the other components of the financial system decelerated markedly in 2008, particularly in the latter half of the year.

Table 3.1.1 – Developments in financial system assets[5]

percent of GDP

Financial intermediaries[6]	2004	2005	2006	2007	2008
Credit institutions	36.6	44.6	50.6	61.0	62.4
Insurance companies *	1.9	2.2	2.5	3.0	3.0
Pension funds	-	-	-	-	0.2
Investment funds	0.2	0.2	0.3	0.3	0.2
Financial investment companies **	1.3	1.8	2.3	2.8	1.2
Non-bank financial institutions	3.6	4.5	4.7	7.2	8.4
Total	**43.6**	**53.3**	**60.4**	**74.3**	**75.4**

* total assets; ** estimates

Source: ALB, NBR, NSC, ISC, PPSSC, NIS

The financial system saw no consolidation in 2008. The number of companies active in the financial sectors with substantial capital requirements such as credit institutions and insurance companies remained relatively unchanged, while the number of insurance brokers and investment funds rose considerably. Moreover, the number of institutions notified based on the European single passport moved up (Table 3.1.2).

[5] Financial investment companies were not included in the table due to their small volume of assets, the transactions on own account holding modest shares in the activity of these institutions.
[6] Classification in accordance with ESA 95 standards

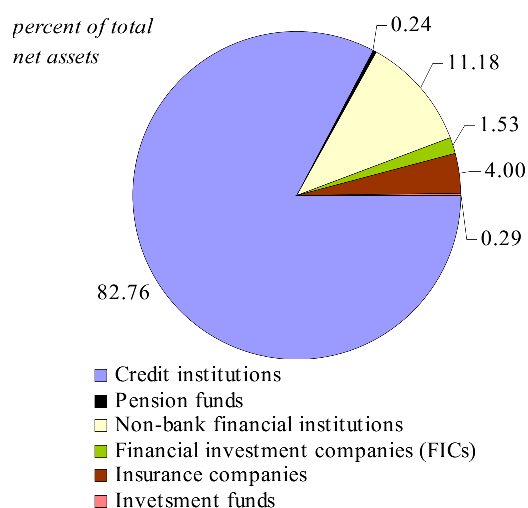
Table 3.1.2 – Number of financial institutions

	Active institutions		Institutions notified based on the European single passport	
	2007	2008	2007	2008
Credit institutions	42	43	126	174
Insurance companies	42	44	177	80
Insurance brokers	382	459	528	365
Pension funds	25	23	-	-
Investment funds	50	71	13	33
Financial investment companies (FICs)	5	5	-	-
Investment firms and their branches	71	71	316	661
Non-bank financial institutions (General Register)	218	238	-	-
Non-bank financial institutions (Entry Register)	4,284	4,513	-	-

Source: NBR, NSC, ISC, PPSSC

Credit institutions and non-bank financial institutions further held the largest share of total financial assets in 2008, slightly on the rise up to 93.9 percent. The decrease of asset prices in the capital market had a negative impact on the portfolios of financial investment companies (SIFs) and investment funds, while insurance companies remained at the same level (Chart 3.1.1).

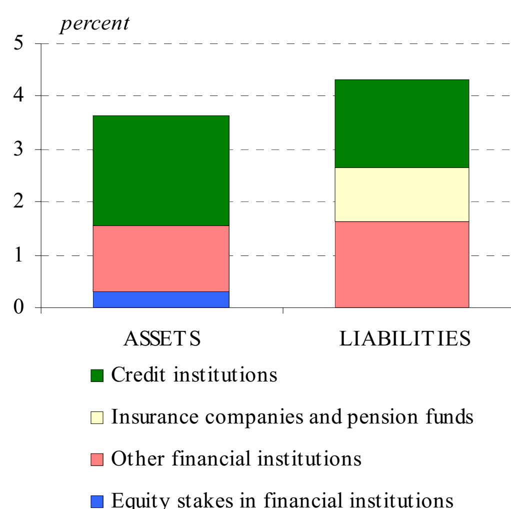
Chart 3.1.1 – Structure of the Romanian financial system in 2008



Note: For insurance companies, total assets were used.

Source: NBR, NSC, ISC, PPSSC

Chart 3.1.2 – Exposures of credit institutions to the financial sector at end-2008



Source: NBR

Pension funds represent an element of stability within the financial system due to their orientation towards long-term investment and the contribution to increase liquidity levels on the financial markets. In addition, these funds also represent a factor facilitating the financial education of the population by developing a saving-investment type of behaviour and by improving the capacity to assess the balance between the risks taken and the returns on investment.

Credit institutions' claims and exposures to the financial sector are insignificant (Chart 3.1.2). Equity stakes in the capital of certain financial institutions held by credit institutions amount to

0.2 percent of total assets of the banking system at end-2007 and at end-2008 respectively, showing low capital ties. Banks' exposure to the other components of the financial system developed steadily, accounting for 1.8 percent of total assets at end-2007, i.e. 1.7 percent at end-2008. The same tendency can be seen in relation to the banks' claims on the other components of the financial system that accounted for 2.6 percent of total liabilities at end-2007 and end-2008 respectively. The impact on credit institutions' stability caused by shocks from financial investment companies via balance sheet assets and liabilities is low, without excluding however the contagion risk that may influence the behaviour of non-financial entities.

The creation of complex financial products and the need to cut costs stimulate the establishment of multiple activity groups in the financial sector. Financial groups are present in Romania as well, most of them as part of international groups as foreign financial capital is prevalent. During periods when global financial markets are calm, the large contribution of foreign capital acts as a stability anchor for the domestic financial system, but at presents it represents a considerable risk. Assessing only the activity of financial groups in Romania, the possibility of capital requirements-based arbitrage is low due to the regulations specific to each financial sector, harmonised with the European legislation, and the excessive transfer of risks between financial sectors may be mitigated by prudential supervisory measures. Both the benefits and risks associated to financial groups in Romania are limited due to their preponderantly single-sector orientation (credit institutions holding a very large share).

3.2. Banking sector

3.2.1. Structural developments

In 2008 and 2009 Q1, the structure of the Romanian banking sector witnessed no notable changes. The tendency regarding territorial expansion and the rise in staff numbers was alleviated in the final part of the year amid the global financial crisis. The concentration degree which was moderate stuck to the downward path.

In 2008 and 2009 Q1, the structure of the Romanian banking sector saw no significant changes (Table 3.2.1). The licensing of a foreign capital bank (BCR Banca Pentru Locuințe), the establishment of a new Bucharest-based branch (DEPFA Bank Plc. Dublin), after another bank's discontinuing activity as a result of a merger (Banca di Roma) or the changes in a bank's shareholding (ABN AMRO Bank, currently RBS Bank România S.A., following its being taken over by Royal Bank of Scotland) did not alter the structure of the banking sector. Starting with January 2009, CitiBank România S.A. changed its bank status – from Romanian legal entity with foreign capital into the Romania-based branch of Dublin-based CitiBank Europe.

At end-2008, in Romania, there were 43 credit institutions compared to 42 at end-2007, out of which 32 were licensed by the NBR to operate as Romanian legal entities, 10 branches of EU banking groups and a credit cooperative network. At end-March 2009, the number of credit institutions was unchanged, the only modification, at structure level, being the shift in status of CitiBank.

Moreover, mention should be made about the notifications regarding the intention expressed by 174 foreign institutions to provide financial services on the territory of Romania. Some of the applicants were trying to gain access to the Romanian financial market, in an attempt to receive a favourable endorsement from the supervision authorities based on the European single passport,

given that cross-border operations proved to be an opportunity, especially on the corporate financing segment.

On the other hand, credit institutions in Romania, in their pursuit to gain a larger market share, further showed the tendency to expand their territorial activity by establishing 1,067 new outlets. In December 2008, 88 new outlets were registered, 6 units less than in November 2008, while in the first three months of 2009 they totalled only 65, 26 and 23 respectively.

Table 3.2.1 – Structural indicators of the Romanian banking system

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 Q1
Number of credit institutions*	41	41	41	39	39	40	40	39	42	43	43
Number of banks with majority private capital	37	37	38	36	36	38	38	37	40	41	41
Number of banks with majority foreign capital, of which:	26	29	32	32	29	30	30	33	36	37	37
– Branches of foreign banks	7	8	8	8	8	7	6	7	10	10	11
Number of banks per 100,000 inhabitants	0.18	0.18	0.18	0.18	0.18	0.18	0.19	0.18	0.19	0.2	0.2
Assets of banks with majority private capital/Total assets (%)	53.2	53.9	58.2	59.6	62.5	93.1	94.0	94.5	94.7	94.7	93.6
Assets of banks with majority foreign capital/Total assets (%)	47.5	50.9	55.,2	56.4	58.2	62.1	62.2	88.6	88.0	88.3	86.7
Assets of top five banks/Total assets (%)	66.7	65.5	66.1	62.8	63.9	59.2	58.8	60.3	56.3	54.4	54.3
Herfindahl-Hirschmann index	1,296	1,375	1,427	1,381	1,264	1,120	1,124	1,171	1,046	926	906

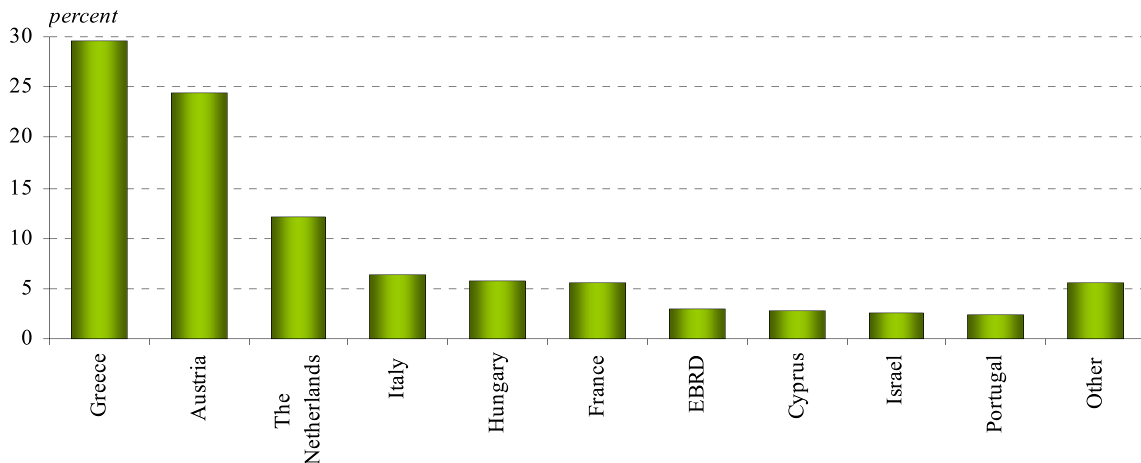
* Including CREDITCOOP

Source: NBR

The slowdown in hiring or even the staff cuts did not have a strong impact on the number of employees in the system, which stood at 71,622 at end-December 2008 and 70,458 at end-March 2009 respectively. The two said tendencies caused the drop in the value of the indicator "number of employees per outlet" from 12 in 2007 to 11 in December 2008 and 10.8 in March 2009.

From the viewpoint of the homeland of capital of credit institutions operating in Romania at end-March 2009 (Chart 3.2.1), the novelty was the switch between the two top positions. Thus, in terms of capital contribution, Greece came in the lead, holding 30.7 percent of aggregate foreign capital reported at end-March 2009 by domestic banks, Austria came in second with 23.5 percent and third came the Netherlands with 11.9 percent.

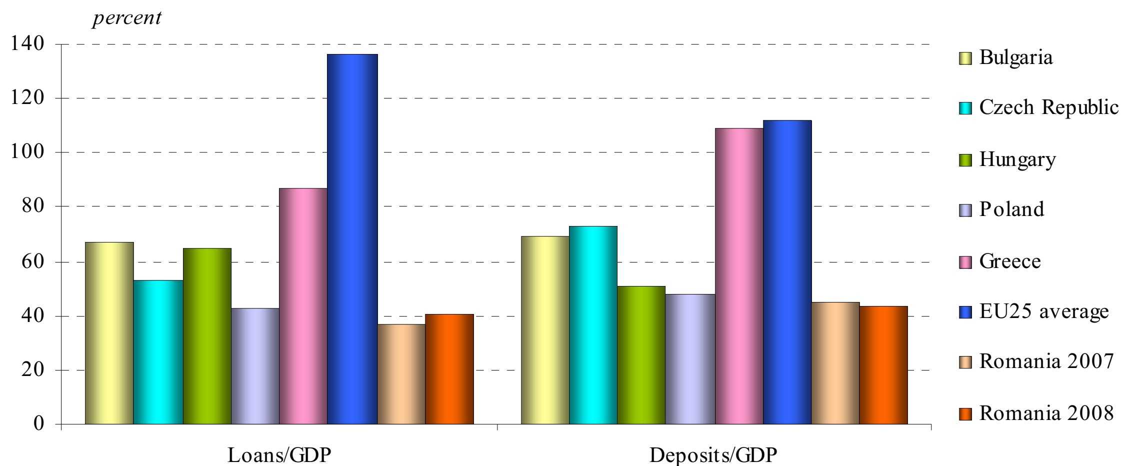
Chart 3.2.1 – Structure of shareholding by country (percent of total foreign capital)



Source: websites of central banks, NBR

As concerns financial intermediation, Romania continues to rank much below the average for the EU countries, in spite of the significant growth rates of non-government credit reported until 2008 H1 (Chart 3.2.2).

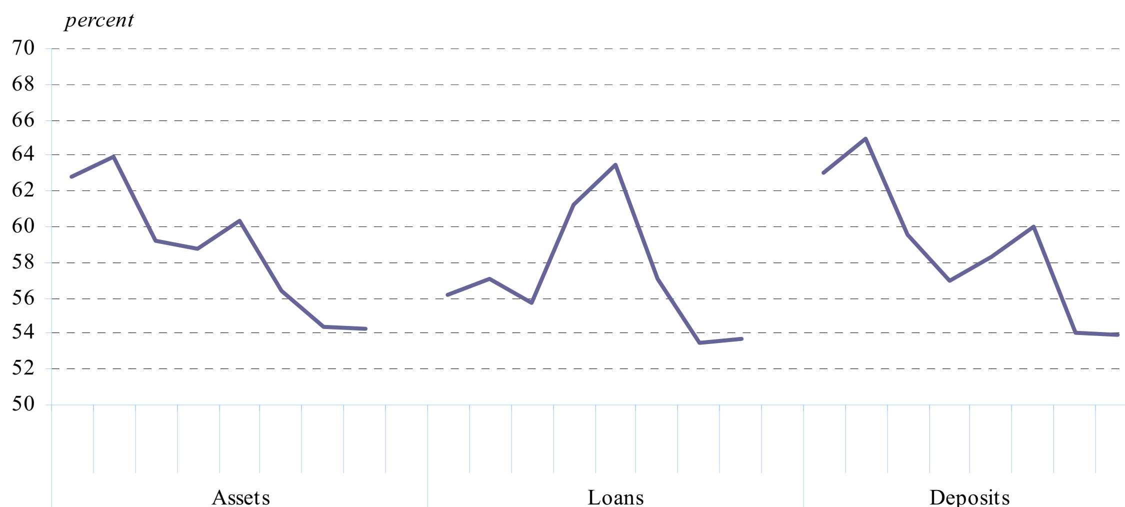
Chart 3.2.2 – Financial intermediation



Note: For EU countries the data used refer to 2007.
Source: websites of central banks, NBR

Compared to the previous year, **bank concentration** in the Romanian banking system (Chart 3.2.3) diminished slightly in 2008 and 2009 Q1 on both components (loans and deposits). At end-March 2009, the market share of the top five banks in total assets shrank to 54.3 percent, yet on the assets side developments were uneven. The market share of loans contracted to 53.7 percent, while that of government securities portfolio accounted for 39.9 percent. The lower bank concentration of the banking system was also manifest on the liabilities side, the top five banks holding 53.91 percent of total deposits.

Chart 3.2.3 – Bank concentration during 2002-2008 (end of year) end-March 2009 (top five banks)

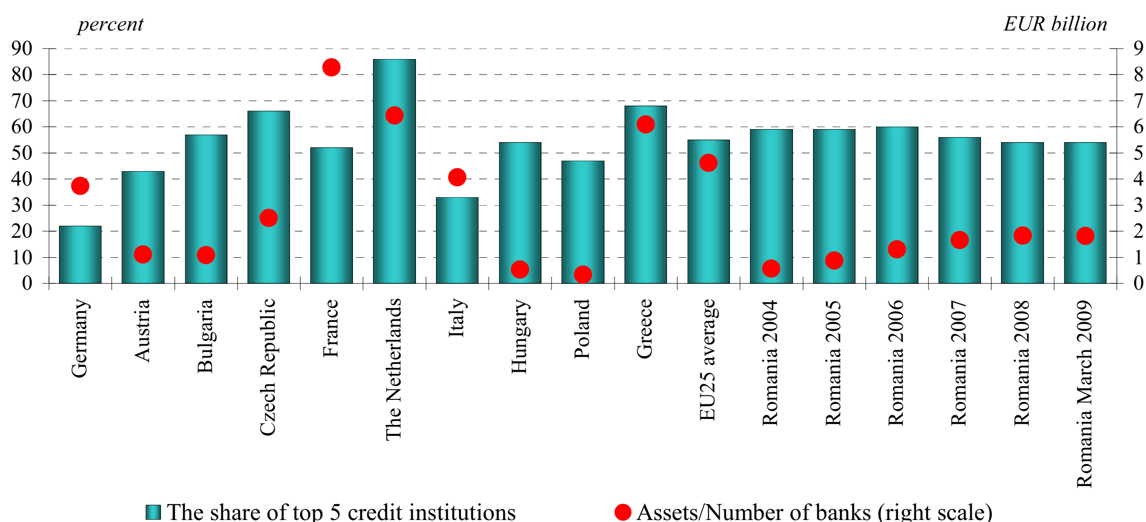


Source: NBR

Starting with 2006, the value of Herfindahl-Hirschmann index entered a slightly downward path, still posting a moderate concentration.

Compared to the other EU Member States, in terms of the share held by the top five credit institutions in aggregate assets, Romania ranks close to the average for EU 25 (Chart 3.2.4).

Chart 3.2.4 – Concentration degree*



*For EU countries, the data used refer to 2007.

Source: NBR, ECB

Sticking to an upward trend, the level of aggregate assets relative to the number of credit institutions is higher than that in neighbouring countries such as Hungary, Bulgaria, Poland and even some developed economies.

3.2.2. Structure of assets and liabilities

Amid the uncertainties induced by the global financial crisis, the balance sheet structure of the Romanian banking sector saw significant changes. The deposits taken from companies and households, slightly on the wane, remained the main financing source of banks in Romania. Foreign liabilities, the second main item of the balance sheet, followed an upward path until November 2008, subsequently declining slightly. Similar to the previous tendencies, in the first part of 2008, credit institutions invested primarily in the domestic market chiefly in the form of loans to the private sector, which, starting with the final months of the year, posted a markedly lower growth rate in favour of government securities.

In 2009 Q1, the NBR's creditor position towards the Romanian banking system strengthened as the central bank succeeded in gradually accommodating banks' increasing demand for reserves by making active use of open market operations, particularly repo transactions. This prevented the exchange rate from turning excessively volatile and allowed the smooth functioning of the interbank money market, along with the relative stabilisation of interbank rates around the policy rate. Moreover, central bank's operations improved the liquidity of the banking system by increasing the stock of government securities held by banks, government credit offsetting the contraction in loans to the private sector.

3.2.2.1. Dynamics of bank assets

Domestic assets continued to be the main component of aggregate asset structure of the Romanian banking sector, bolstered particularly by the claims on the domestic non-bank sector, which accounted for more than half of bank asset volume (Table 3.2.3). The dynamics of loans to the private sector slowed down markedly starting with 2008 Q4, hitting a three-year record low. Thus, at end-September 2008, the growth rate of loans to the private sector dropped in nominal terms from 50.5 percent (or 40.2 percent in real terms) to 33.7 percent at end-2008 (or 25.8 percent in real terms), and 23.1 percent at end-March 2009 (or 15.4 percent in real terms), compared to a year earlier. The slowdown was more pronounced in the case of leu-denominated loans, so that the share of foreign currency-denominated loans in total loans to the private sector kept expanding to reach a three-year-and-a-half record high (59.0 per cent at end-March 2009), due almost entirely to the weaker leu. The dynamics of both corporate and household sectors slowed down by roughly one third from the prior period and each sector came to hold one third of aggregate assets at end-March 2009.

Table 3.2.2 – Asset structure of credit institutions operating in Romania

percent of total assets

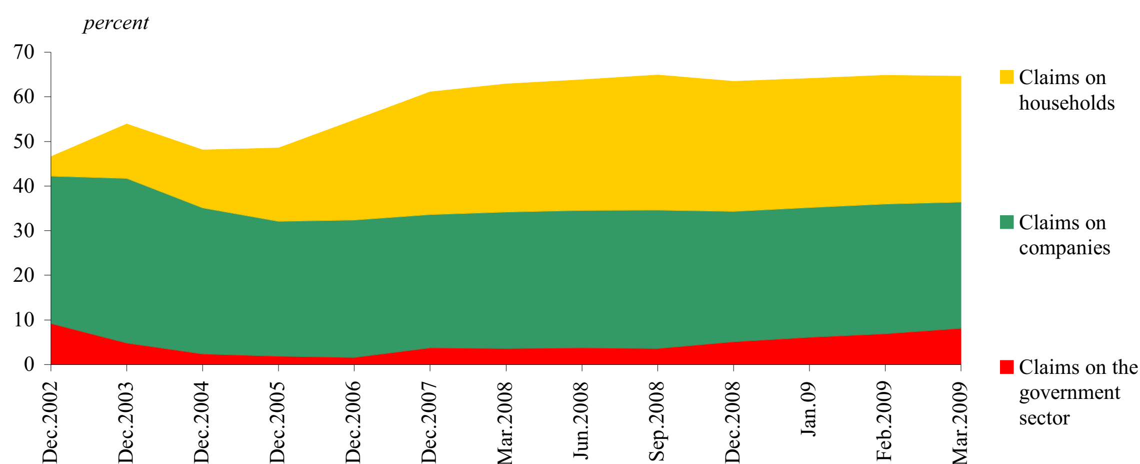
	2004	2005	2006	2007	Sep. 2008	Oct. 2008	Nov. 2008	Dec. 2008	Jan. 2009	Feb. 2009	Mar. 2009
Domestic assets, of which:	***94.3***	***96.5***	***97.4***	***98.3***	***98.7***	***97.8***	***98.2***	***98.5***	***98.3***	***98.0***	***98.1***
Claims on the NBR and credit institutions, of which:	36.5	40.0	34.9	28.8	23.5	23.6	23.2	23.8	23.6	22.8	23.0
– Claims on the NBR	28.5	37.5	31.3	24.9	20.6	21.4	21.4	21.8	21.5	20.8	21.0
Claims on domestic non-bank sector, of which:	48.1	48.5	54.8	61.2	65.0	63.9	64.6	63.4	64.1	64.8	64.6
– Claims on the government sector	2.4	1.9	1.6	3.7	3.7	3.8	4.1	5.0	6.1	6.9	8.1
– Claims on companies	32.7	30.2	30.8	29.9	31.0	30.3	30.5	29.2	29.1	29.1	28.3
– Claims on households	13.0	16.4	22.4	27.6	30.3	29.8	30.0	29.2	28.9	28.8	28.2
Other assets	9.6	8.0	7.7	8.3	10.2	10.3	10.4	11.3	10.6	11.0	10.5
Foreign assets	***5.7***	***3.5***	***2.6***	***1.7***	***1.3***	***2.2***	***1.8***	***1.5***	***1.7***	***2.0***	***1.9***

Source: NBR

Dynamics of loans to households decelerated notably when they were denominated in Swiss francs as, in the final months of 2008, banks relinquished almost entirely lending in this currency.

The same as in prior years, placements with the central bank accounted for the largest share of inter-bank placements (91 percent at end-March 2009), due especially to minimum reserves[7]. Claims on government stuck to the upward path, as illustrated by the faster growth of government securities portfolio which doubled compared to the previous period (Chart 3.2.5).

Chart 3.2.5 – Developments in the shares of claims on households, companies and the government sector in total assets



Source: NBR

3.2.2.2. Development of own, attracted and borrowed resources

The structure of liabilities in the Romanian banking system indicates the prevalence of the domestic component sustained mostly by deposits taken from non-banks, which held almost half of bank liabilities (Table 3.2.3).

Table 3.2.3 – Liability structure of credit institutions operating in Romania

percent of total liabilities

	2004	2005	2006	2007	Sep. 2008	Oct. 2008	Nov. 2008	Dec. 2008	Jan. 2009	Feb. 2009	Mar. 2009
Domestic liabilities, of which:	84.1	79.1	77.5	71.7	70.2	69.4	68.3	69,3	70,0	70.9	71.2
Interbank deposits	3.0	2.5	3.6	3.8	2.7	4.0	2.2	2.1	4.2	5.2	6.0
Non-bank sector deposits, of which:	64.9	61.0	58.1	52.6	49.0	46.8	47.0	47.8	46.1	46.1	45.8
– Government sector deposits	2.6	3.5	3.1	2.9	2.9	2.9	2.9	3.1	2.8	2.9	2.8
– Corporate and household deposits	62.3	57.5	55.0	49.7	46.1	43.9	44.1	44.6	43.3	43.2	42.9
Capital and reserves	11.7	12.2	11.8	9.9	10.4	10.7	11.0	10.7	10.3	10.5	10.7
Other liabilities	4.5	3.4	4.0	5.4	8.1	7.8	8.1	8.8	9.3	9.7	8.7
Foreign liabilities	15.9	20.9	22.5	28.3	29.8	30.6	31.7	30.7	30.0	29.1	28.8

Source: NBR

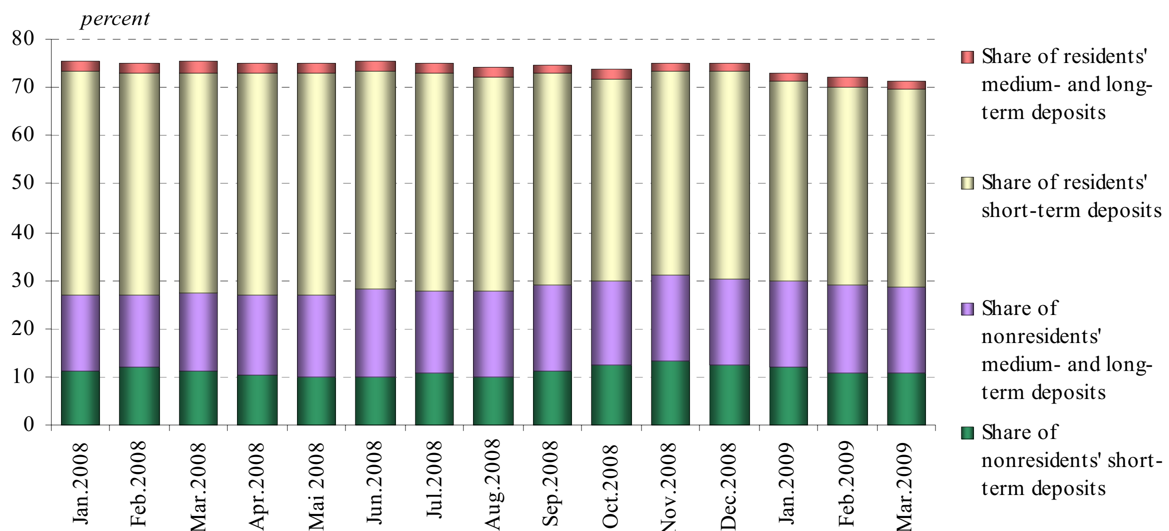
[7] NBR monetary balance sheet data

Albeit declining as a share in balance sheet liabilities, deposits taken from companies and households were still credit institutions' main source of funding, holding around 43 percent at end-March 2009. The slowdown of deposits on both components (households and companies) occurred amid the worsening economic environment and the expectations regarding the economic and income developments. As regards overnight deposits, the dynamics of both leu- and foreign currency-denominated placements of households decelerated, while in the case of companies, the slowdown was reported for foreign currency-denominated deposits. The higher interest rates on new time deposits and the exemption from taxation of time deposit interest income and saving instruments[8] prompted depositors to migrate from overnight to time deposits[9].

Deposits taken from the interbank market as well as the government sector continued to hold relatively small shares in balance sheet liabilities. Starting with the last two months of 2008, the interbank money market began to calm down and very short term interest rates followed the same downward trend, hovering around the policy rate. The large share of interbank deposits in the first months of 2009 was attributable mainly to repo operations by the central bank.

The slightly upward path of domestic currency- and foreign currency-denominated deposits from non-residents as a share in total resources was discontinued starting with November 2008, following the contraction of the share of short-term deposits (Chart 3.2.6).

Chart 3.2.6 – Share of deposits taken from residents (companies and households) and non-residents in total liabilities, by maturity

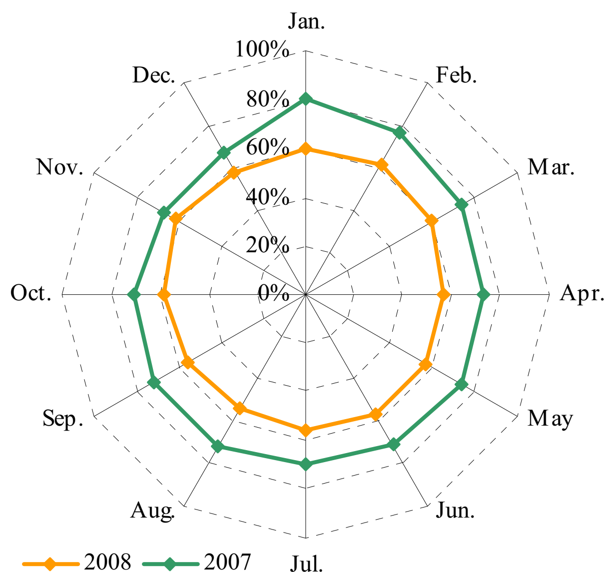


Source: NBR

Foreign liabilities over currency-denominated loans to the private sector declined slightly given the more difficult access of credit institutions to external financing (Chart 3.2.7).

[8] Government Emergency Ordinance No. 200/2008 on amending and supplementing Law No. 571/2003 on Tax code.
[9] Based on data in Inflation Report May 2009.

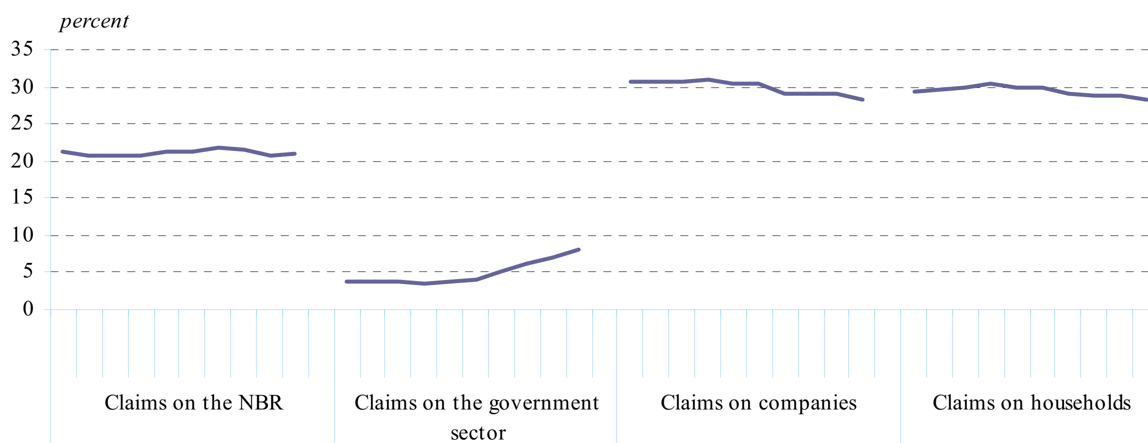
Chart 3.2.7 – Foreign liabilities/foreign currency-denominated loans to the private sector



Source: NBR

During November 2008 – March 2009, capital and reserves experienced minor swings, as a share in aggregate liabilities, ranging between 10.3 percent and 10.7 percent, on the background of capital increases made by banks' shareholders.

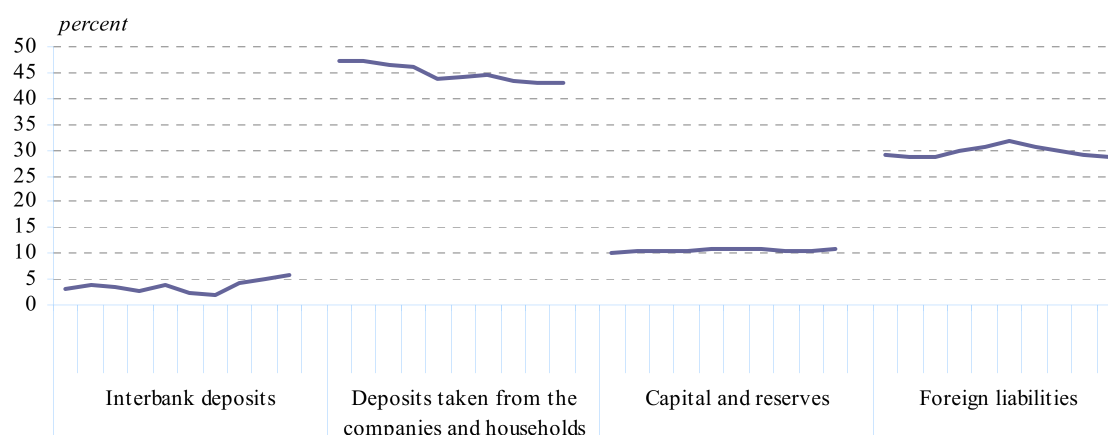
Chart 3.2.8 – Structure of main domestic asset categories during June 2008 – March 2009 (end of month)



Source: NBR

Therefore, amid the deepening of the global financial crisis, credit institutions' financing sources, which had been negatively affected, especially starting with 2008 Q4, by the tighter external financing conditions as well as by the falling liquidity surplus in the banking system, were directed chiefly towards lending in the first part of 2008 and towards expanding government securities portfolios starting with 2008 Q4.

Chart 3.2.9 – Structure of main liability categories during June 2008 – March 2009 (end of month)



Source: NBR

3.2.3. Capital adequacy

The Romanian banking system remains adequately capitalized, but the fallout from the global financial crisis made itself felt starting with 2008 Q4, in particular as regards the external liquidity channel and the loan portfolio as a result of a weaker leu and economic slowdown. All credit institutions posted solvency levels higher than the minimum solvency ratio. A positive development is the deceleration of the downward trend in the solvency ratio compared to the previous years, against capital increases by the shareholders of credit institutions and the slowdown in non-government loans.

Since end-2008, the central bank has strengthened the monitoring of the financial and prudential standing of credit institutions, by requesting monthly assessments of the solvency ratio from the banks that featured a solvency level lower than the average for the entire banking system and recorded losses. Amendments made to certain prudential regulations consisted in the incorporation of intermediate profit into the calculation of own funds as well as the incorporation of up to 25 percent of the level of collateral provided by the debtor in the calculation method used for setting provisions for loans classified under "loss". Both measures will contribute to the rise in the volume of credit institutions' own funds.

In the context of the global financial crisis, a positive element is the commitment of parent banks, which own the nine top banks in Romania, to maintain exposures to their subsidiaries and to recapitalise them with a view to securing a solvency ratio of at least 10 percent.

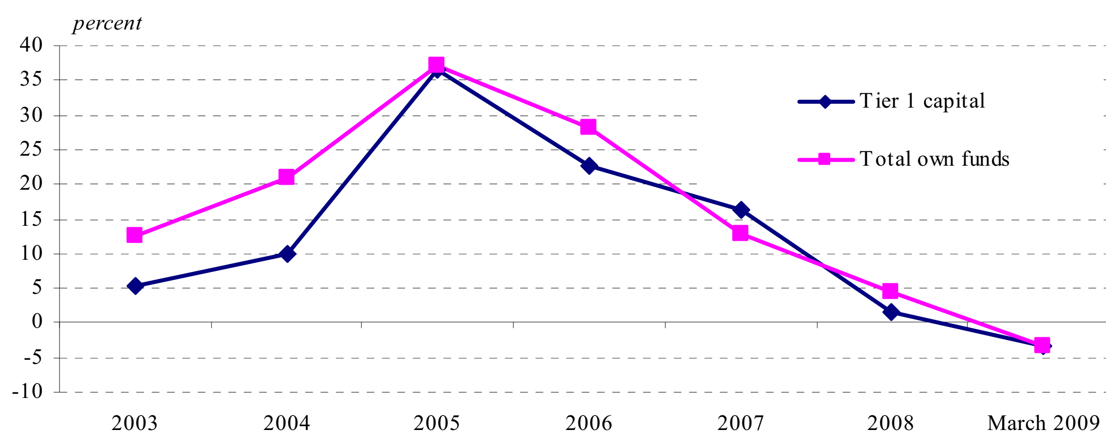
3.2.3.1. Development of own funds of banks, Romanian legal entities

Following up the trend from 2006, the dynamics of *own funds* of banks, Romanian legal entities, and of their major item – *Tier 1 capital* (Chart 3.2.10) hit a six-year record low in real terms in December 2008. This development was attributable to the losses reported by a number of banks that hold 10 percent of aggregate bank assets (with a direct impact on the level of Tier 1 capital) as

well as to the amendments made in August 2008 to prudential regulations[10] that are aimed at removing from the calculation of Tier 1 capital (total own funds respectively) the most volatile item, i.e. the result of the current financial exercise representing profit. In fact, even before the enforcement of the said amendment, only part of the banks recording profit incorporated the respective amount in eligible reserves due to the prudential regulations in force consisting in the auditing of the financial result representing profit. As a result, in 2008, share capital and eligible reserves were the main sources of Tier 1 capital.

Amid higher expenses with provisions for credit risk related to non-banks, the lower volume of Tier 1 capital reported in March 2009 by 22 credit institutions (holding 39 percent of aggregate assets) due to losses is a matter of concern. In March 2009, this development led to a relative decline in the own funds of banks, Romanian legal entities, for the first time in the past nine years. Although the extent of the decline is relatively small (1 percent of Tier 1 capital reported for December 2008), banks' capitalisation is very closely monitored by the central bank. Actually, prudential regulations stipulate that the amounts relative to the items included in own funds (Tier 1 capital and core Tier 2 capital) must be available for the credit institution for immediate and unrestricted use in order to cover any risks or losses as soon as they emerge.

Chart 3.2.10 – Real growth pace of total own funds and Tier 1 capital



Source: NBR

In the context of amendments to prudential regulations, in December 2008, the share of *Tier 1 capital* in total own funds of banks, Romanian legal entities diminished by more than 2 percentage

[10] Regulation No. 10/8/15.08.2008 issued by the NBR and the NSC on amending and supplementing Regulation No. 18/23/14.12.2006 issued by the NBR and the NSC repeals provisions of Art. 4 letter d) on incorporating into the calculation of Tier 1 capital "the net profit of the latest financial exercise, brought forward until its allocation to the destinations set by the General Meeting of Shareholders, to the limit of the amount intended to be earmarked for each of the destinations stipulated under letters a)-c). Therefore, Tier 1 capital consist of: a) subscribed and paid-up share capital, except cumulative preferential shares or, where appropriate, the endowment capital made available to the branch in Romania by the third-country credit institution; b) share premiums, received entirely, related to the share capital; c) legal reserves, statutory reserves and other reserves, as well as the brought forward positive result of the previous financial exercises, left after the distribution of profit in accordance with the decision made at the General Meeting of Shareholders. In accordance with this amendment, Tier 1 capital includes only the primary sources of capitalisation.

points (Table 3.2.4), while the contribution of *Tier 2 capital*[11] increased due to the larger volume of subordinated loans taken by credit institutions. The share of Tier 1 capital was relatively unchanged in March 2009 as well, when a number of banks reported losses. It is noteworthy that, even though the share of Tier 2 capital in Tier 1 capital rose in 2008 (up to 34 percent), the growth potential of this item stays high[12], credit institutions having further resort to secondary sources of capitalisation in order to develop their activity.

Table 3.2.4 – Development of own funds and capital adequacy indicators

percent

Indicator	31.12.2004	31.12.2005	31.12.2006	31.12.2007	31.12.2008	31.03.2009
Share in total own funds:	100	100	100	100	100	100
Tier 1 capital	78.1	77.7	74.3	76.7	74.6	74.5
Equity capital	49.4	49.2	46.5	46.0	49.7	51.2
Current profit/loss	17.9	14.0	11.4	10.8	-	-1.7
Subordinated loans*	4.8	10.6	14.0	15.8	20.4	21.6
Revaluation reserves*	14.9	10.0	8.8	11.3	10.1	10.1
Solvency ratio (> 8 percent)	20.6	21.1	18.1	13.8	12.3	12.0

* Tier 2 capital

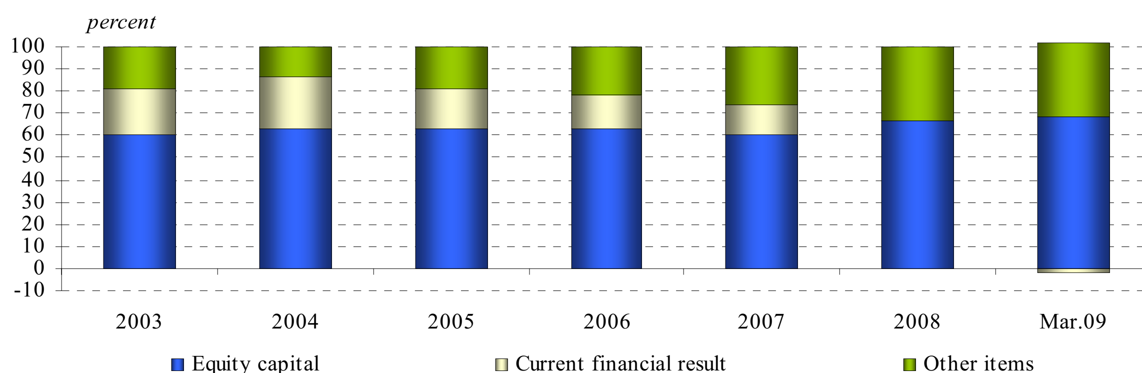
Source: NBR

In 2008, e*quity capital* was still the main supporting item of Tier 1 capital, its share expanding up to 66.5 percent. This development was partly attributable to the removal of the current financial result representing profit from the calculation of Tier 1 capital as well as to the rise in equity capital. Thus, in 2008, out of 32 credit institutions, Romanian legal entities, the shareholders of 18 banks raised their equity stakes. Moreover, the Central Cooperative Bank CREDITCOOP raised its equity capital and two out of nine foreign bank branches operating in Romania raised their endowment capital, which led, in 2008, to a 12.6 percent annual real growth of aggregate equity capital of the Romanian banking system**,** below the same types of investments as in 2005 and 2006. In 2009 Q1, two other banks reported new capital contributions, posting increases of 48 percent and 63 percent respectively compared to the level at end-2008. In addition, two other foreign bank branches operating in Romania and the Central Cooperative Bank CREDITCOOP also reported capital contributions, albeit small in volume. Moreover, it is worth noting that, until August 2008, the profit of the current financial exercise represented an important supporting item of Tier 1 capital (Chart 3.2.11). On the other hand, the losses reported in 2009 Q1 by many commercial banks had a negative impact on the volume of total own funds.

[11] *Regulation No. 18/23/2006 issued by the NBR and the NSC on own funds of credit institutions and investment firms* Section 2 stipulates that Tier 2 capital shall comprise: a) base Tier 2 capital; b) additional Tier 2 capital. Base Tier 2 capital consists of: a) reserves from tangible asset revaluation, adjusted for the related fiscal obligations, which are foreseeable upon calculating own funds; b) other items that fulfill the conditions provided for in Art.14 paras.1 and 3 of the Regulation; c) perpetual securities and other similar instruments that fulfill cumulatively the conditions referred to in Art.15 of the Regulation. To these may add the cumulative preferential shares (other than those representing items of the additional Tier 2 capital). The additional Tier 2 capital includes temporary cumulative preferential shares and capital in the form of subordinated loans, by observing the conditions set forth in Art.16 of the Regulation.

[12] With a view to establishing a sound capital base so as to ensure the prevalence of primary sources of capitalisation, Art. 21 para. 1 let. a) of *Regulation No. 18/23/2006 issued by the NBR and the NSC on own funds of credit institutions and investment firms* sets forth that the total Tier 2 capital which may be considered when calculating own funds shall be no higher than 100 percent of Tier 1 capital. The NBR may allow credit institutions to exceed, upon request, the above-mentioned limit, but only provisionally and under exceptional circumstances.

Chart 3.2.11 – Structure of Tier 1 capital



Source: NBR

Subordinated loans taken by credit institutions, Romanian legal entities, became the main supporting item of Tier 2 capital, accounting for up to 20.4 percent of total own funds of banks, Romanian legal entities, in December 2008 and 21.6 percent in March 2009. Although *wealth revaluation reserves* declined in December 2008 as well as March 2009, they remained, however, an important contributor to Tier 2 capital (a 10 percent contribution).

3.2.3.2. Analysis of solvency

In 2008, the downtrend followed by the overall solvency ratio[13] of credit institutions, Romanian legal entities[14] (Chart 3.2.12), decelerated to 12.3 percent at end-December 2008 and to 12.03 percent at end-March 2009.

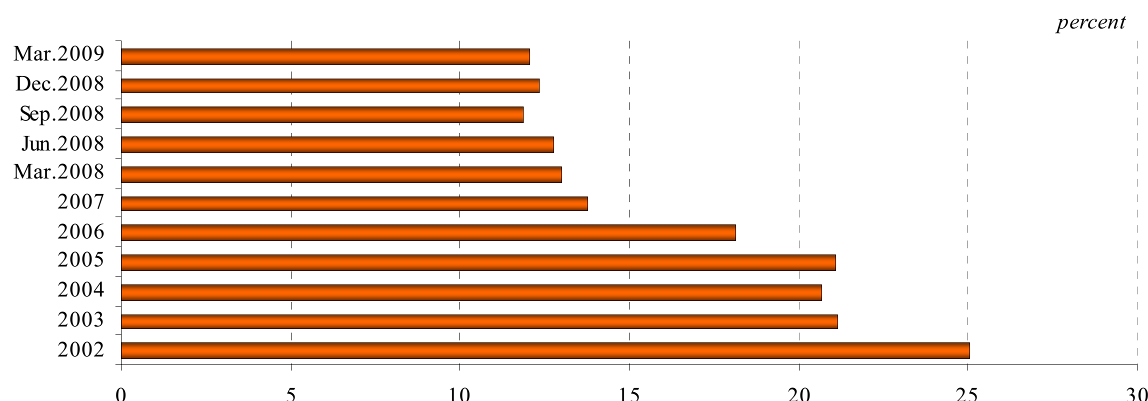
The determinants responsible for these developments were capital increases made by credit institutions and the slowdown in non-government credit, particularly in the final part of 2008 and 2009 Q1.

Even amid the persistent overall downtrend, the aggregate solvency ratio stuck to an adequate level, which exceeds the minimum level stipulated in the prudential regulations applicable in Romania (8 percent), harmonised with those in force in the EU.

[13] Starting with 2008 Q1, credit institutions have reported a solvency ratio in compliance with Basel II principles. The regulations require credit institutions, Romanian legal entities, ranches of third-country credit institutions operating in Romania, financial investment companies, credit co-operatives within credit cooperative networks and investment management companies to maintain a level of own funds at least equal to the amount of capital requirements for credit risk, dilution risk, position risk, settlement risk, counterparty credit risk, currency risk, commodities risk and operational risk. Capital requirements are different in terms of credit institutions approach, namely Basic Approach, Standardised Approach, Alternative Standardised Approach, Advanced Measurement Approach.

[14] Prudential requirements for own funds are not applicable to branches of foreign banks in EU Member States and, therefore, neither to prudential indicators calculated based on these requirements. Starting with 1 January 2007, own funds of branches of foreign banks in EU Member States shall consist of Tier 1 capital. Moreover, these foreign bank branches shall also be subject to provisions of Regulation No. 13/18/2006 issued by the NBR and the NSC on the minimum capital requirements of credit institutions and investment firms.

Chart 3.2.12 – Trend of solvency ratio (2002 – 2009 Q1)



Source: NBR

Among banks with a market share higher than 5 percent at end-2008, only one bank reported a solvency ratio lower than 10 percent. Upon the same date, only one bank holding a market share lower than 1 percent of aggregate bank assets reported a solvency ratio close to the minimum level stipulated in prudential regulations; this situation improved in January 2009, when a higher capital contribution was made.

As of 1 January 2008, prudential regulations requiring the application of Basle II principles in capital adequacy assessment came into force. In the case of banks holding a market share higher than 5 percent of aggregate assets, 91 percent of capital requirements were established for *credit risk, counterparty credit risk, dilution risk and risk of incomplete transactions,* calculated based on the standardised approach. The second category of risks for which banks calculated capital requirements included *operational risks,* accounting for 8 percent of total; most banks with a market share higher than 5 percent resorted to the basic approach. Other two banks used the standardised approach and the advanced measurement approach respectively. For *position risk, currency risk and commodities risk* banks set 1 percent of total capital requirements, the assessment being based on the standardised approach. The banks under review did not calculate capital requirements for settlement/delivery risk. All the banks under review reported a solvency ratio higher than the minimum level stipulated by regulations; they reported a surplus of own funds accounting for 36 percent of total capital requirements calculated at end-2008.

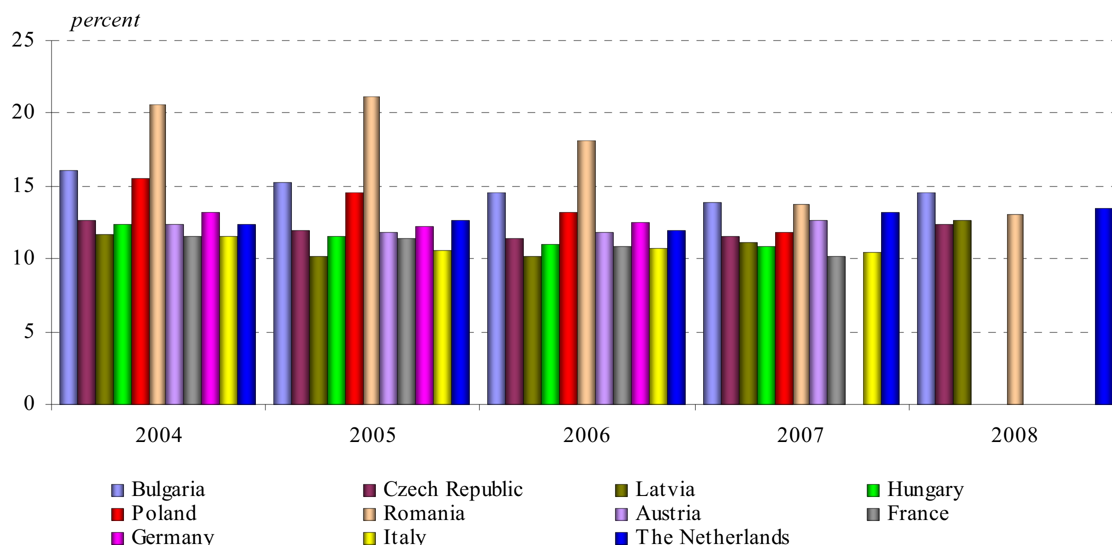
The regulated level of capital adequacy indicators calculated for Large and Complex Banking Groups (LCBGs) in the euro area[15], increased in the first nine months of 2008, in spite of the reduction in retained income, which hit their profitability. The main reasons behind this development were capital increases in 2008 (accounting for 15 percent of the capital base, partly from government funds) and the fall in risk-weighted assets in 2008 H1. Thus, the ratio between Tier 1 capital to risk-weighted assets moved up to 8.7 percent in September 2008 from 7.9 percent at end-2007 in the case of a sample group of credit institutions under review. Similarly, the aggregate solvency ratio grew to 11.7 percent in September 2008 from 10.6 percent in December 2007. Accordingly, the capacity to absorb shocks improved in the case of credit institutions which showed an insufficient capital adequacy level compared to the risks taken. This development emerged after the worsening of capital adequacy ratio in 2007.

The solvency ratio calculated for the Romanian banking system at aggregate level was, in December 2008, comparable with the solvency ratio reported by many EU Member States (Chart 3.2.13). This development suggests that, in order for the banking activity to develop further – which correspond to a relatively modest financial intermediation level in Romania –, many credit

[15] ECB, Financial Stability Review, December 2008

institutions will have to resort to the expansion of own sources, either primary sources (on account of capitalisations and increase in eligible reserves) or secondary sources (such as subordinated loans) to the amount laid down in the regulations in force.

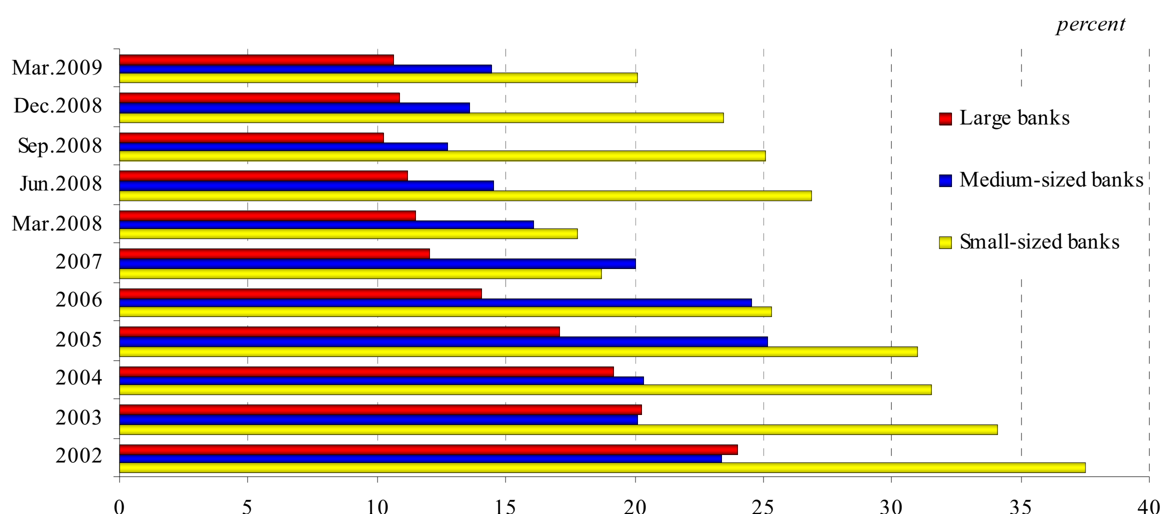
Chart 3.2.13 – Trend of solvency ratio in EU Member States



Source: IMF, Global Financial Stability Report (October 2008); NBR

In 2008, the solvency ratio calculated by group of banks in terms of assets held[16] (Chart 3.2.14) saw mixed developments: (i) large banks further posted the lowest solvency ratio; (ii) the solvency ratio for medium-sized banks ranged between the highest and the lowest levels; (iii) small-sized banks showed the highest solvency levels, albeit slightly on the wane in the final months of the year.

Chart 3.2.14 – Solvency ratio by group of banks (2002-2009 Q1)

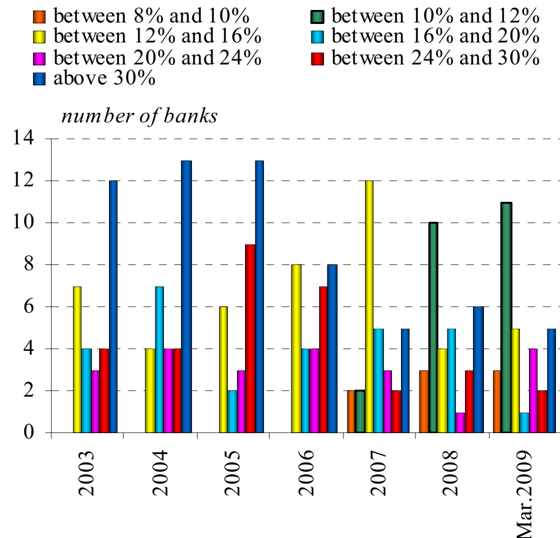


Source: NBR

[16] For assessment purposes, the NBR classifies banks in terms of their asset shares in total assets in the banking system. *Large banks* are defined as banks whose asset share is larger than 5 percent of total, *medium-sized* banks are banks whose assets hold shares ranging between 1 and 5 percent of total, while *small-sized banks* are defined as banks whose assets account for less than 1 percent of aggregate assets.

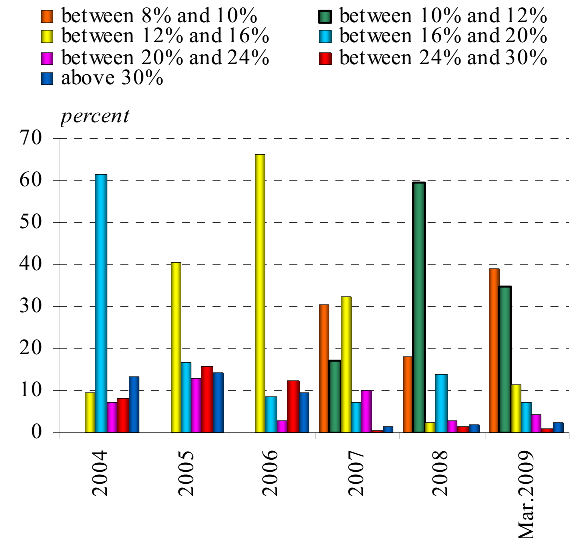
In 2008, banks' tendency to migrate towards lower capital adequacy levels continued (Chart 3.2.15), particularly in the range from 10 percent to 12 percent.

Chart 3.2.15 – Banks in terms of solvency ratio



Source: NBR

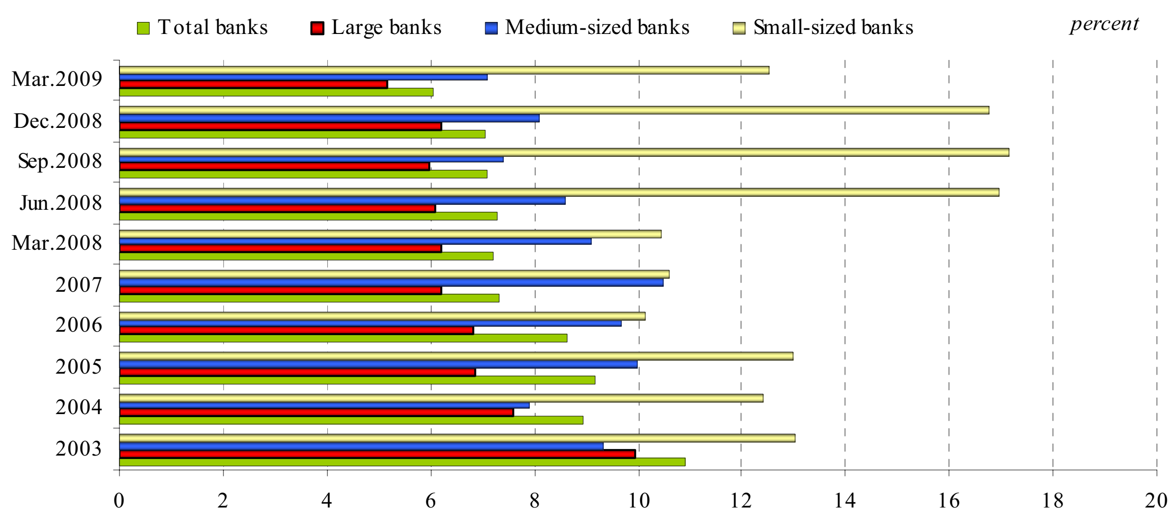
Chart 3.2.16 – Bank assets in terms of solvency ratio



Source: NBR

This migration tendency is illustrated by the bank asset distribution in terms of solvency ratio (Chart 3.2.16). At end-2008, 60 percent of bank assets were concentrated on the segment of banks which reported, at that time, a solvency ratio between 10 percent and 12 percent. Only 18 percent of bank assets (compared to 31 percent at end-2007) were held by banks reporting a solvency ratio between 8 percent and 10 percent. This positive trend was lost in March 2009, when 39 percent of assets were held by banks reporting the above-mentioned solvency ratio. Another 35 percent of assets were held by banks reporting a solvency ratio between 10 percent and 12 percent.

Chart 3.2.17 – Tier 1 capital ratio by total banks and group of banks

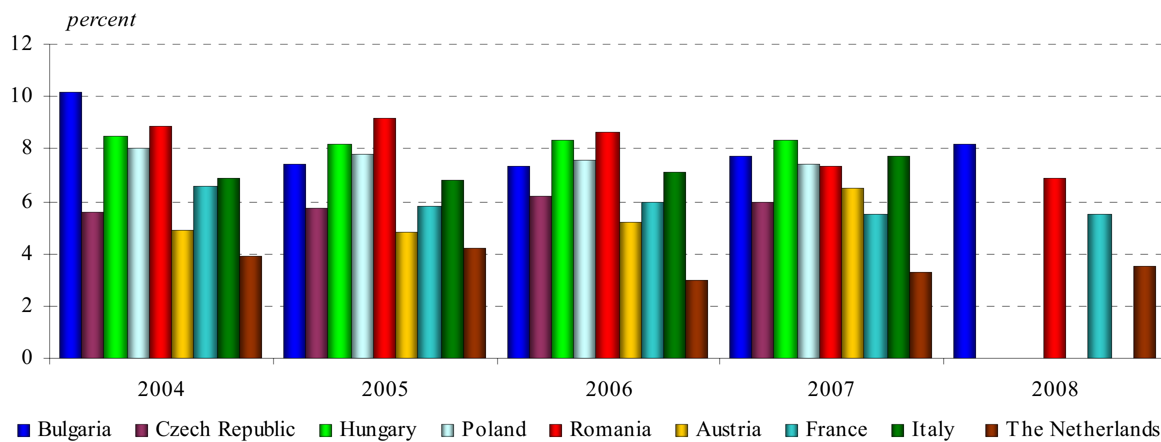


Source: NBR

Credit institutions'[17] level of financing from own sources, calculated for the entire banking system witnessed no substantial decline in 2008, yet the indicator lost 1 percentage point in 2009 Q1 (to 6 percent). It is noteworthy that the level of financing by group of banks saw mixed developments (Chart 3.2.17), the group of large banks posting the lowest level of financing from own sources (5.2 at end-March 2009). Due to capital injections starting with 2008 H2 the level of financing from own sources of small-sized banks moved up to 12.5 percent in March 2009.

Following these developments, Romanian banks' financing from own sources, calculated at aggregate level, remained comparable to that in EU member states, given that, in 2008, many international banks were recapitalised from government funds or shareholders' funds.

Chart 3.2.18 – Comparative trend of Capital/Assets indicator in selected EU countries



Source: IMF, Global Financial Stability Report (October 2008); NBR

[17] Credit institutions' level of financing from own sources was calculated based on the indicator "Tier 1 capital ratio", which is determined as a share of Tier 1 capital in total assets at average value.

Box 2. Measures adopted by the NBR as regards supervision of capital requirements and ensuring their adequate level

By virtue of the responsibilities in the field of supervision, the NBR supervises the developments in financial and prudential indicators, as reported by credit institutions. Given the fallout from the global crisis on the economic and financial environment of Romania, the central bank imposed monthly reports on capital adequacy[18] on the credit institutions that posted losses and a solvency ratio below the average system-wide. At the same time, for a foreign-owned bank, the regulatory authority required the monthly report of the solvency ratio and that its level should not be lower than 10 percent. In addition, in the case of two banks with majority domestic capital, the central bank recommended to maintain a level of own funds allowing the solvency ratio to stay in the double-digit range.

As for regulatory measures, in 2009 the central bank amended **Regulation No. 18/23/2006 issued by NBR and NSC on own funds of credit institutions and investment firms** by returning to the exercising of the option set out in the EU's Capital Requirements Directive (CRD), namely inclusion of interim profits into the calculation of own funds. Thus, the approach to non-exercising such option, in place since August 2008, when the central bank took steps to rein in credit expansion, was abandoned. As such, the calculation of Tier 1 capital may include the interim profits recorded by the day of calculating own funds and the profits of the latest financial year reported by the day of its distribution pursuant to the decisions taken in the general meeting of shareholders, net of any foreseeable charge or dividend at the moment of calculating own funds. The new regulation also ensures harmonisation with the amendments currently envisaged by the Capital Requirements Directive Working Group (CRDWG) and the Committee of European Banking Supervisors (CEBS), as well as with the initiative promoted in the European Parliament in the process of amending CRD. Inclusion of interim profits into the calculation of own funds is permitted only if these profits have been verified by persons responsible for the auditing of the financial statements and if it is proved that those amounts have been evaluated in accordance with the accounting rules and principles, and are net of any foreseeable charge or dividend. For prudential reasons, the regulation maintains the provision on the deduction of the material loss of the current financial year from the own funds' amount, whether or not it has been verified by persons responsible for the auditing of the financial statements. In the current economic climate afflicted by a sharp slowdown in non-government credit growth, the amendment of Regulation No. 18/23/2006 issued by NBR and NSC by including interim profits into the calculation of own funds may act as an incentive on lending.

Adding to the above is the central bank's decision to amend the regulatory framework governing loan classification and provisioning[19] in an attempt at rendering it more flexible. Thus, Regulation No. 3/2009 issued by NBR regarding the classification of loans and investments, as well as the establishment, adjustment and use of credit-risk provisions lays down the following: "the collateral relating to exposures representing the principal of loans/investments classified under 'loss', where the debt service outstanding exceeds 90 days and/or where legal proceedings were taken against the operation or the debtor, shall be adjusted by applying the coefficients set by the lender for each type/case". The level of coefficients may not be higher than 0.25. The lender must have the laying-out documents for setting the level of coefficients laid down in the regulation. In accordance with the new regulation, the collateral relating to exposures representing the current/outstanding interest on the above-mentioned loans/investments shall not be taken into consideration, and the coefficient applied to the collateral amount shall be equal to zero. The amendment will translate into lower provisions for such assets, as the surplus is to be recorded under income, thus benefiting the health of financial and prudential indicators.

[18] In compliance with prudential regulations currently in place, which have been harmonised with European directives, the report on capital requirements is submitted on a quarterly basis.

[19] Pursuant to Regulation No. 5/2002 issued by the NBR regarding the classification of loans and investments, as well as the establishment, adjustment and use of credit-risk provisions, as amended and supplemented subsequently, "provisioning requirements for the loans classified under 'loss', where legal proceedings were taken or where at least one of the amounts of that loan has a debt service outstanding for more than 90 days, shall be set by considering the entire exposure, regardless of the collateral". In methodological terms, this provision is tantamount to the adjustment of the collateral amount by applying a coefficient equal to zero.

3.2.4. Loans and credit risk

The worsening of the domestic economic environment in the last months of 2008 and the first quarter of 2009 caused the decline in demand for loans and the deterioration of claims portfolio of commercial banks on non-bank clients. The growth rate of loans granted to the private sector slowed down markedly in 2008 Q4 to merely half of the previous year's figure in 2008 as a whole. However, credit quality remains relatively adequate, yet its deterioration has become a matter of concern.

The measures adopted by the NBR in 2009 (easing the prudential norms concerning credit risk provisions, providing the possibility to include the interim profit in the calculation of own funds, cutting to zero the minimum reserve ratios on foreign currency-denominated liabilities with residual maturities longer than two years[20]) contribute to the improvement in the financial standing and prudential regime of banks, with favourable effects on the uplift in non-government loans and, implicitly, on real economy.

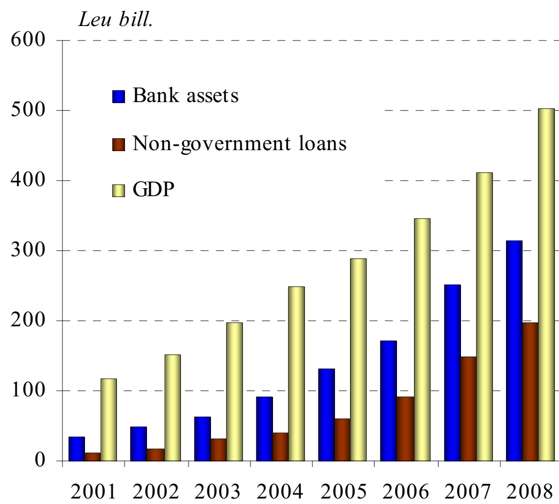
The depreciation of the leu has negative effects on the debtors that took foreign currency-denominated loans. The relative stabilisation of the exchange rate of the leu seen in late March 2009, in the context of negotiations with the IMF and the EU for the conclusion of a stand-by agreement, could lead to the lowering of the above-mentioned risk.

3.2.4.1. Main credit developments

Given the macroeconomic environment plagued by uncertainties and the liquidity constraints on the international markets, 2008 saw the slowdown in the real growth rate of non-government loans (26 percent versus 50 percent in 2007), against the backdrop of sluggish economic growth manifest since 2008 Q4. On the other hand, credit decline was offset by the accounting effect of leu depreciation. Even in these circumstances, non-government loans added 3 percentage points to 39 percent of GDP in 2008 (Chart 3.2.20), being further the main factor behind bank asset expansion (Chart 3.2.19). In late 2008, the slower pace of increase of non-government loans was due to the narrower loan supply on the back of: (i) liquidity constraints on international markets which affected foreign banks with subsidiaries in Romania, (ii) decrease in the liquidity surplus previously recorded by the Romanian banking systems, and (iii) higher risk aversion of banks. As regards loan demand, the major dampening factors were: (i) higher interest rates, (ii) leu depreciation and the uncertainties surrounding exchange rate movements, and (iii) unfavourable prospects for economic growth and unemployment.

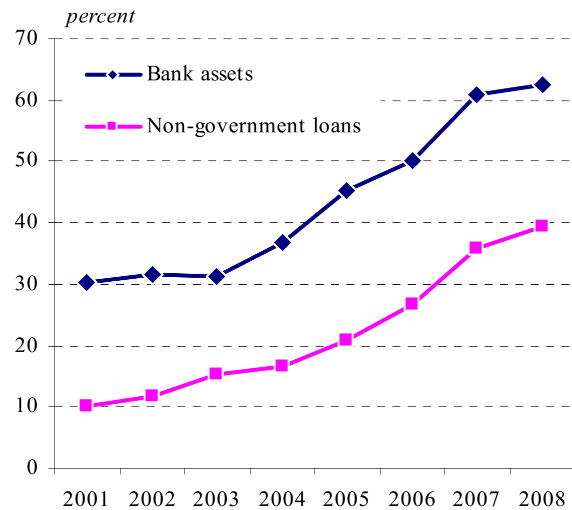
[20] The decision was adopted by the NBR Board in its meeting of 31 March 2009, the minimum reserve requirements ratios standing previously at 40 percent.

Chart 3.2.19 – Bank assets and non-government loans



Source: NBR

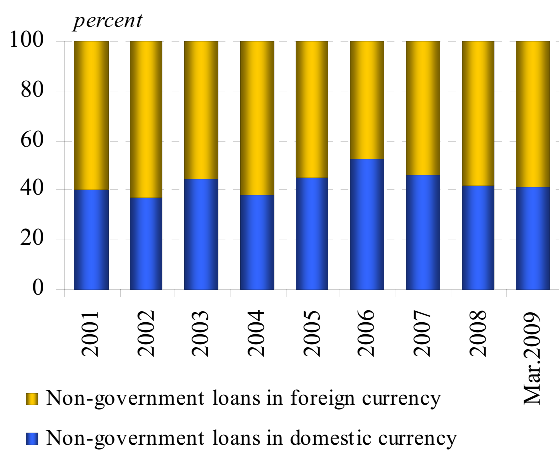
Chart 3.2.20 – Bank assets and non-government loans as a share in GDP



Source: NBR

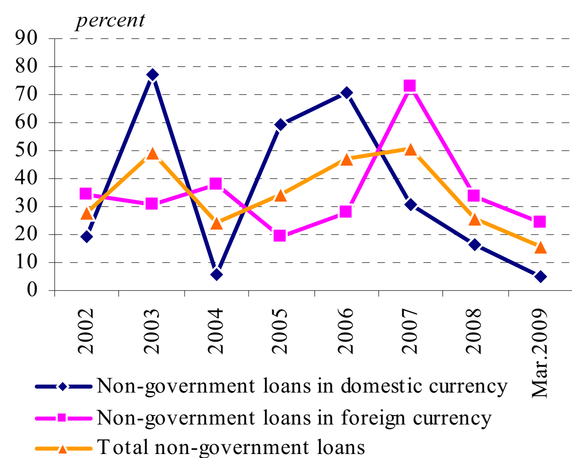
In 2008, the share of foreign currency loans in non-government loans (Chart 3.2.21) increased to roughly 58 percent, a trend which persisted into 2009 Q1 also under the impact of exchange rate movements. Both non-government credit components posted slower growth rates in the period under review (Chart 3.2.22), in the context of a challenging macroeconomic environment and the decline in companies and households' confidence.

Chart 3.2.21 – Non-government loans by currency



Source: NBR

Chart 3.2.22 – Real growth rate of non-government loans – total and by component

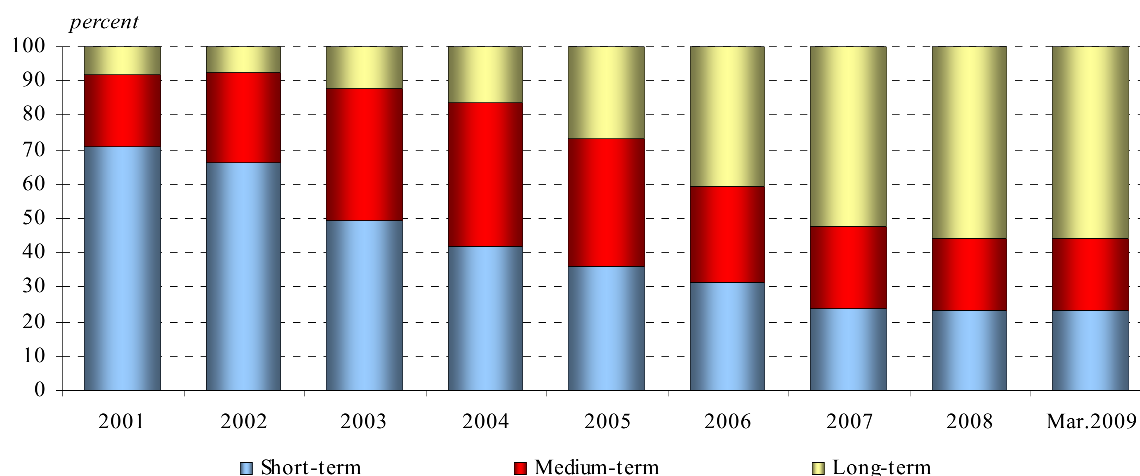


Source: NBR

Despite the increase in the share of long-term loans[21] to 56 percent of non-government credit in late 2008 and in 2009 Q1 (Chart 3.2.23), their growth rate decelerated.

[21] Long-term loans are defined as loans with maturity of over five years.

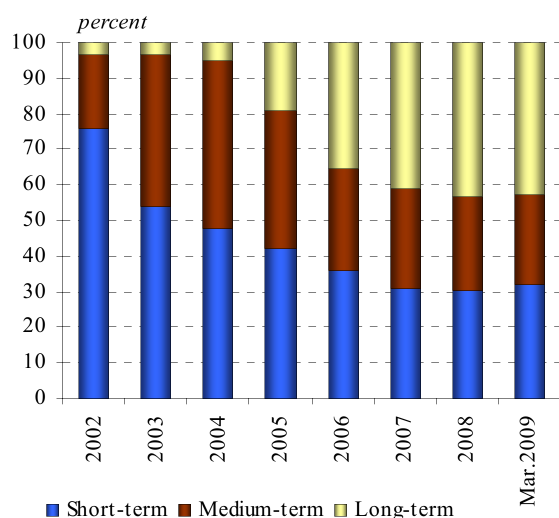
Chart 3.2.23 – Non-government loans by maturity (share in total)



Source: NBR

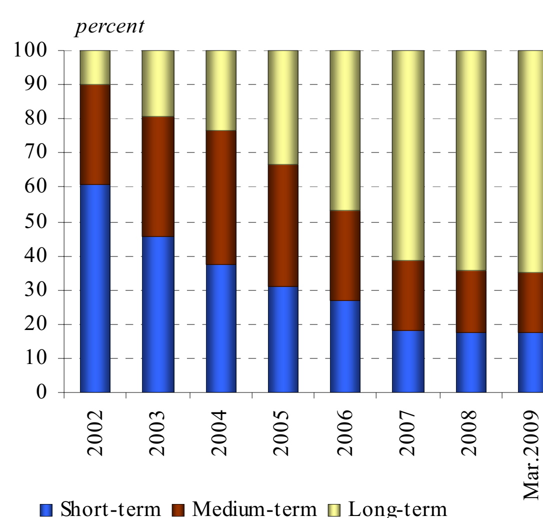
In 2008 and the first three-month period of 2009, long-term loans in foreign currency stayed on a sharper upward trend (their share in foreign currency-denominated non-government loans standing at 65 percent), yet their growth rate was much slower in year-on-year comparison (Chart 3.2.25). In the period under consideration, leu-denominated long-term loans added 2 percentage points to 43 percent of total leu-denominated non-government loans at end-March 2009 (Chart 3.2.24).

Chart 3.2.24 – Non-government loans in domestic currency by maturity



Source: NBR

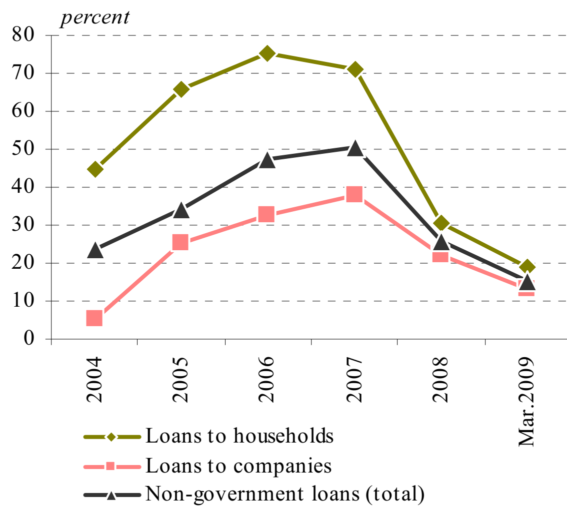
Chart 3.2.25 – Non-government loans in foreign currency by maturity



Source: NBR

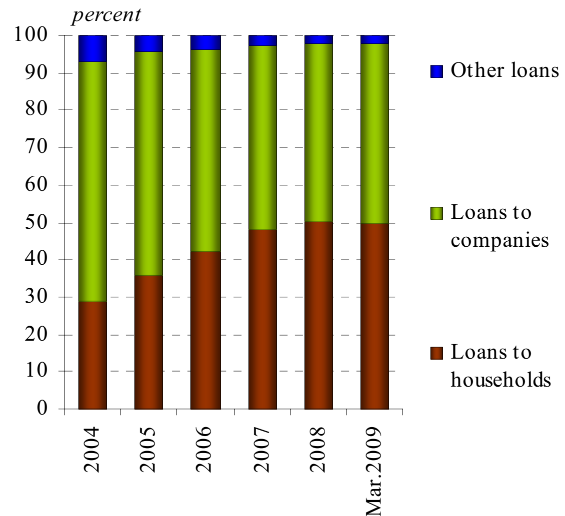
The real growth rate of loans to households slowed down considerably in 2008 (to merely 30.5 percent as compared with 71 percent in 2007) and in 2009 Q1 (19 percent as against end-March 2008). Similarly, the dynamics of loans to non-financial institutions (Chart 3.2.26) decelerated, albeit at a slower pace. Hence, in 2008 and 2009 Q1, the share of loans to households in non-government credit (Chart 3.2.27) moved ahead to 50 percent, also under the impact of the high share of foreign currency-denominated loans, in the context of leu depreciation. As a result, loans to non-financial institutions (holding a share of nearly 48 percent of non-government credit in 2009 Q1) were no longer prevalent, due to a growth rate of merely 22 percent in 2008 and 12.4 percent in 2009 Q1.

Chart 3.2.26 – Non-government loans by component



Source: NBR

Chart 3.2.27 – Non-government loans structure



Source: NBR

3.2.4.2. Credit quality

The slower economic growth, the rise in inflation and the leu depreciation exerted a severe adverse impact in late 2008 and the first months of 2009, as illustrated by the significant deterioration of the quality of banks' loan portfolio. Thus, although the volume of *overdue and doubtful loans granted to non-bank clients*[22] (calculated as both net and gross values)[23] remained at relatively low levels in the loan portfolio granted to non-bank clients (Chart 3.2.28), the fast depreciation rate of these indicators became a matter of concern. The analysis of credit quality by group of banks in terms of asset holdings revealed that, during December 2008 – March 2009, loans recognised in the balance sheets of large banks saw the sharpest deterioration (the share of overdue and doubtful loans in the loan portfolio – calculated as net value – increased from 0.23 percent to 0.70 percent), followed by loans granted by small banks, the share of which increased moderately from 0.58 percent to 0.81 percent, whereas the quality of credit granted by medium-sized banks appears to have improved (the indicator decreasing from 0.62 percent to 0.52 percent in the reviewed period).

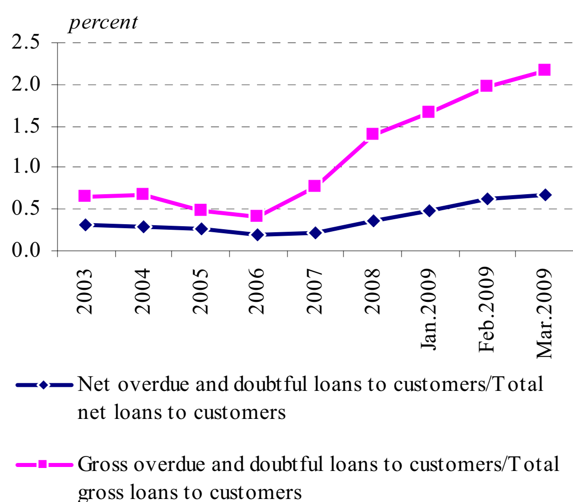
In 2008, the assessment of quality of loans to households revealed a significant rise in overdue loans longer than 30 days (by nearly 28 percent in the number of households and about 70 percent in the volume of overdue loans[24] as compared with data reported in the previous year). Although overdue loans in domestic currency held the largest share (75 percent of total overdue loans longer than 30 days), overdue loans in euro saw the swiftest rise (175 percent as compared with 50 percent in the case of overdue loans denominated in lei) starting with July 2008 and rose even faster during November-December 2008. Nevertheless, in December 2008, loans overdue for more than 30 days accounted for merely 1 percent of loans to households, up 0.2 percentage points as against end-2007.

In 2008, the quality of the portfolio of loans to non-bank clients deteriorated, this trend gaining speed in the first three months of 2009. Thus, the growth rates of loans classified under

[22] Non-bank clients include both companies and households.
[23] Gross value is the accounting value; net value is the difference between gross value and provisions.
[24] Source: Credit Bureau

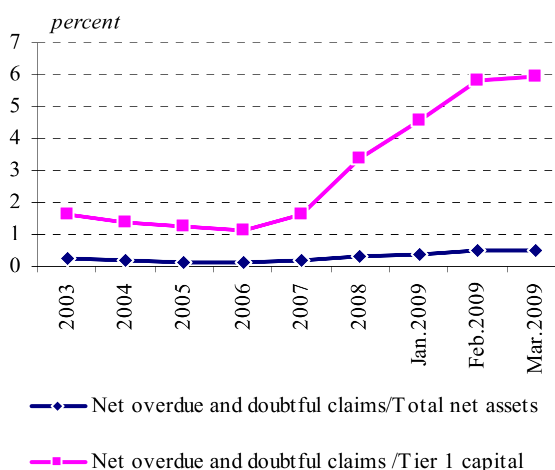
"substandard", "doubtful" and "loss" (unadjusted exposure) were much faster (67 percent, 92 percent and 130 percent respectively) than the 33 percent annual growth rate of credit portfolio of non-bank clients at end-2008. Moreover, in March 2009, credit quality deteriorated at a faster pace (loans classified under the above-mentioned categories saw growth rates of 10 percent, 44 percent and 47 percent respectively versus December 2008, given the marginal rise of 1 percent in total loan portfolio).

Chart 3.2.28 – Credit quality in the banking system



Source: NBR

Chart 3.2.29 – Credit quality in the banking system

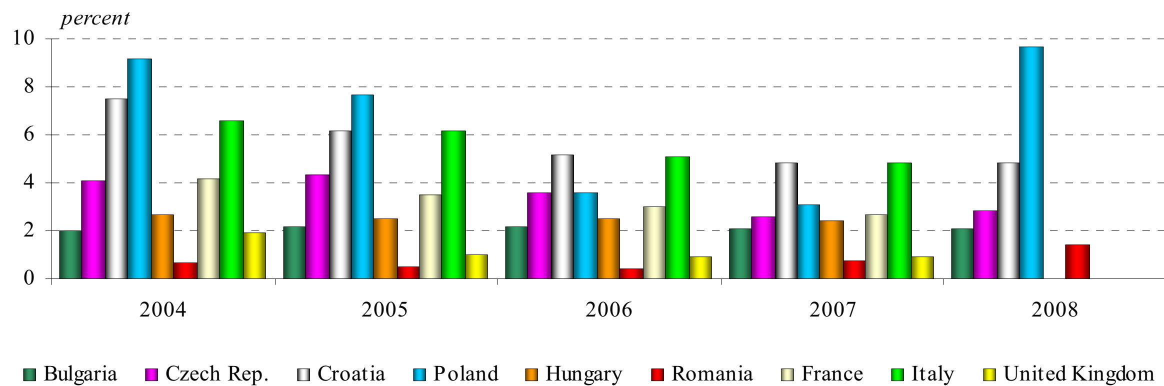


Source: NBR

The effects of the unfavourable macroeconomic context are reflected by the share of *past-due and doubtful claims (net value)* in *total bank assets* and *Tier 1 capital* (Chart 3.2.29), which posted a twofold increase (up to 0.31 percent and 3.38 percent respectively) in 2007-2008 and again in 2009 Q1 (up to 0.52 percent and 5.95 percent respectively). Despite the extremely fast deterioration of loan portfolio quality, which requires the particularly close scrutiny from both banks and the supervisory authority, the volume of past-due claims remains at a relatively low level.

These developments notwithstanding, the quality of the loan portfolio of Romanian credit institutions is better than that of banks in several EU Member States (Chart 3.2.30), owing also to the fact that domestic credit institutions did not hold *toxic assets* in their portfolios and the effects of the global financial crisis and worldwide recession were manifest starting with the final quarter of 2008.

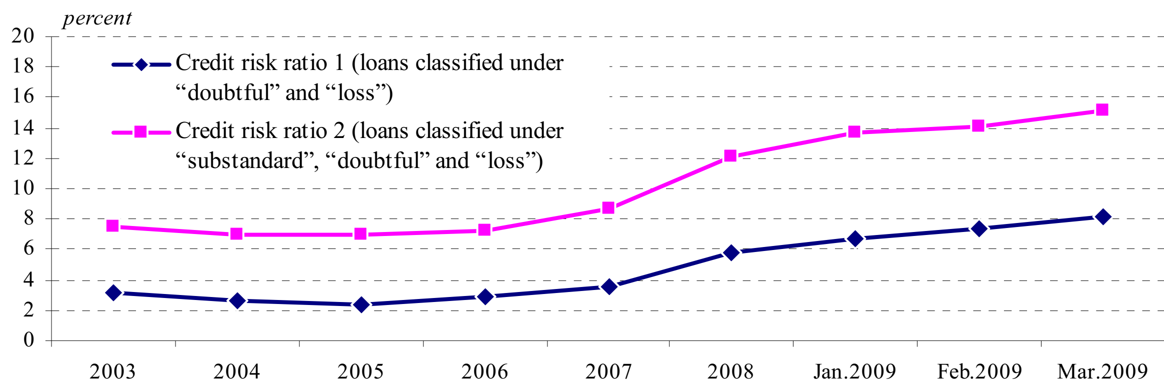
Chart 3.2.30 – Credit quality in the European Union



Source: IMF – Global Financial Stability Report (October 2008); NBR calculations

Credit risk ratios 1[25] and *2*[26] (Chart 3.2.31) stayed on an upward course in 2008 and 2009 Q1, advancing up to 8.1 percent and 15 percent respectively at end-March 2009, which requires closer attention attached to risk management.

Chart 3.2.31 – Credit quality in the banking system (shares in total loans and interest)



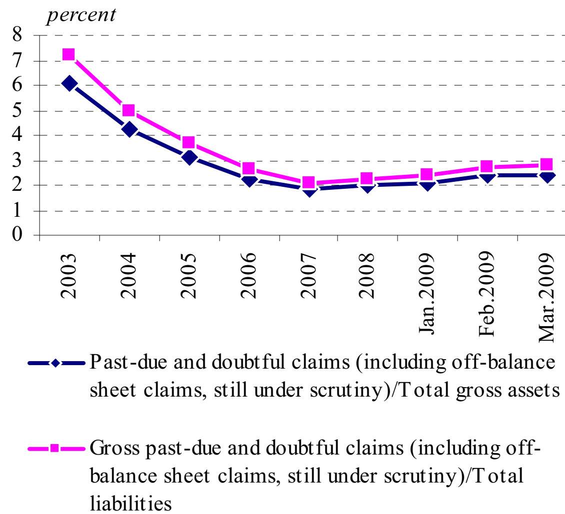
Source: NBR

The improvement in indicators calculated as a ratio of past-due and doubtful claims (including off-balance sheet claims, still under scrutiny), on the one hand, to total bank assets (gross value) and total bank liabilities, on the other, seen during the past four financial years, came to a halt in 2008 (Chart 3.2.32). Moreover, these indicators depreciated at a faster pace in the first three months of 2009.

Coverage with provisions of risk-weighted exposure of bank and non-bank loans, interbank placements and associated interest classified under "substandard", "doubtful" and "loss" (Chart 3.2.33) stayed on the upward course that had started in 2006. This development emerged as the volume of provisions increased markedly, as a result of changes in the structure of loan portfolios (adjusted values), such as the higher share of claims classified under "loss" (from 3.6 percent in December 2007 to 14.8 percent in March 2009).

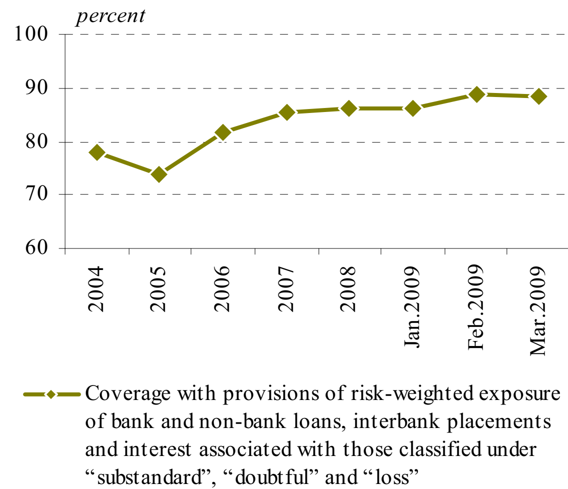
[25] *Credit risk ratio 1* is the ratio of unadjusted exposure (accounting value) relative to bank and non-bank loans, interbank placements to interest classified under "doubtful" and "loss" in to total loans, interbank placements and related interest.
[26] *Credit risk ratio 2* is the ratio of unadjusted exposure (accounting value) relative to bank and non-bank loans, interbank placements to interest classified under "substandard", "doubtful" and "loss" in total loans, interbank placements and related interest.

Chart 3.2.32 – Credit quality in the banking system



Source: NBR

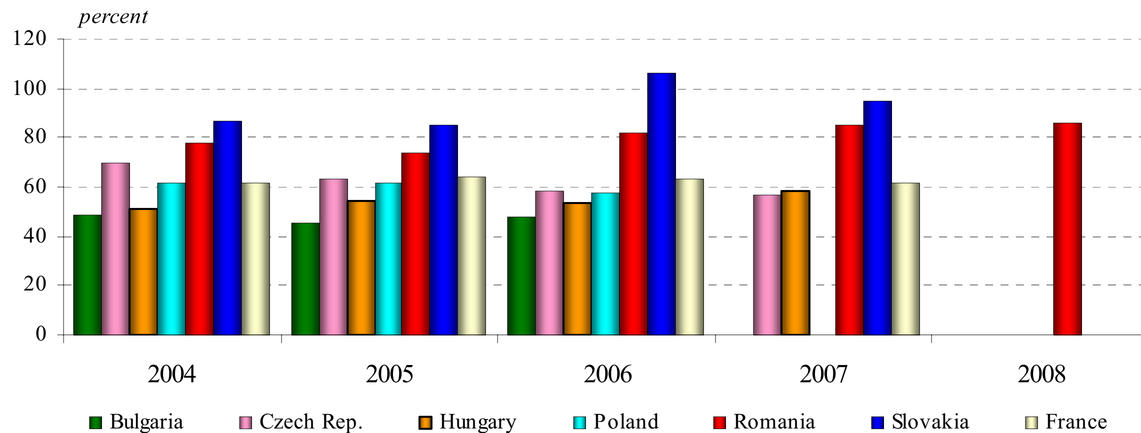
Chart 3.2.33 – Coverage of claims classified under "substandard", "doubtful" and "loss"



Source: NBR

The coverage with provisions of non-performing loans[27] recognised in the Romanian banks' balance sheets follows a slightly upward trend, being higher than that reported by other EU Member States (Chart 3.2.34).

Chart 3.2.34 – Coverage of non-performing loans in selected European Union countries



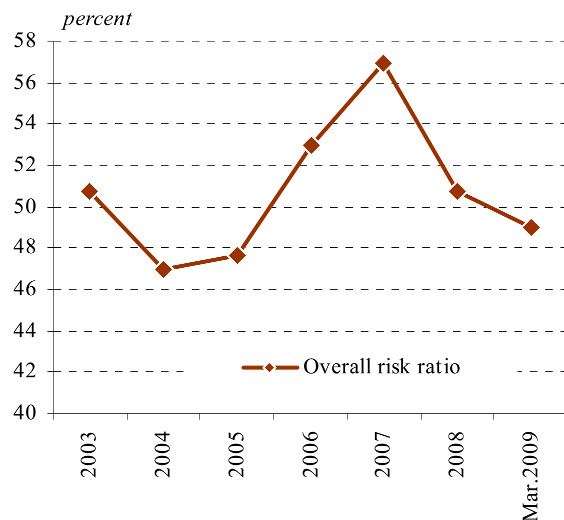
Source: IMF – Global Financial Stability Report (October 2008); NBR calculations

Overall risk ratio[28] improved (Chart 3.2.35), as a result of the slowdown in the growth rate of non-government credit and the shift in banks' focus to less risky placements, this trend being further manifest in 2009 Q1.

[27] The indicator "Coverage with provisions of risk-weighted exposure of bank and non-bank loans, interbank placements and related interest classified under "substandard", "doubtful" and "loss" was used in the case of Romania. It is worth mentioning that when non-performing loans are defined as loans and interest classified under "loss" (including overdue loans for more than 90 days), the coverage with provisions equals 100 percent, as banks must establish 100 percent provisions for this asset category, in compliance with prudential requirements applicable in Romania.

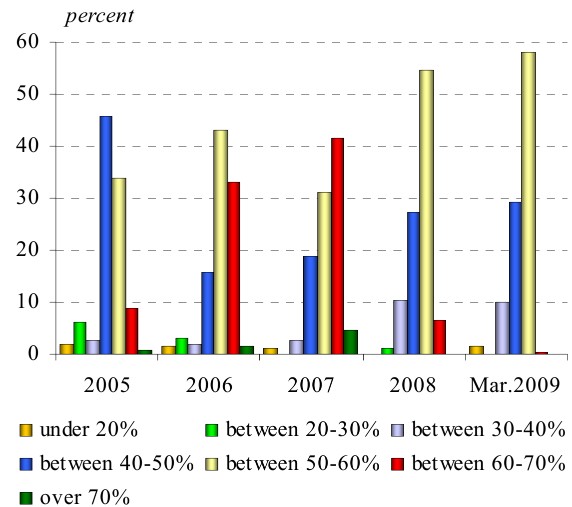
[28] *Overall risk ratio* is calculated as a ratio of the sum of balance sheet items and off-balance-sheet items at risk weighted value, on the one hand, to the sum of balance sheet items and off-balance-sheet items at book value, on the other hand.

Chart 3.2.35 – Developments in overall risk ratio



Source: NBR

Chart 3.2.36 – Net asset distribution based on overall risk ratio



Source: NBR

As a result of increased risk aversion of banks, in the context of challenging macroeconomic conditions, bank asset distribution based on overall risk ratio improved in 2008 (Chart 3.2.36). Hence, credit institutions with an overall risk ratio between 50-60 percent held 55 percent of bank assets. A positive aspect is the significant decline in the share of assets held by banks with an overall risk ratio between 60-70 percent (down from 42 percent in December 2007 to merely 7 percent in December 2008). This downtrend continued in 2009 Q1, when such credit institutions held only 1 percent of total assets of banks, Romanian legal entities.

3.2.5. Liquidity risk

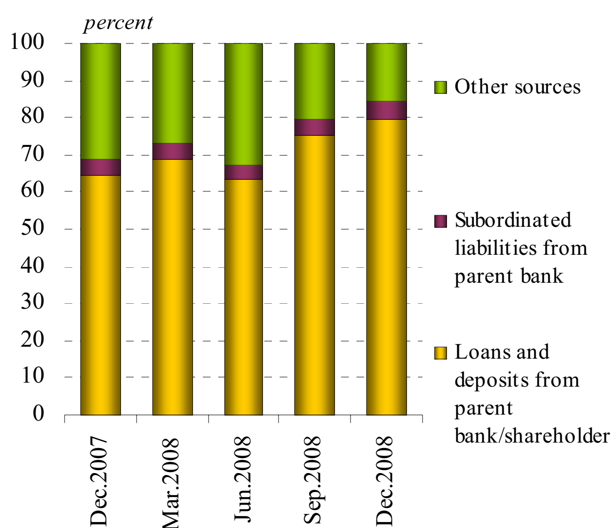
Starting with 2008 Q4, the impact of global economic and financial crisis on the Romanian banking sector has been increasingly strong via the indirect channel, namely that of external liquidity and worsening macroeconomic conditions. The deterioration of global liquidity was mainly reflected by the rise in financing costs and the risks associated with their short maturity. The short-term external debt of banks[29] is a potential vulnerability, which seems to be offset in the context of the commitment assumed by the parent banks of the main nine credit institutions with foreign capital in order to maintain their exposure to Romania[30].

The main concern regarding liquidity crunch refers to its impact on the future credit growth and its potentially negative effect on credit risk.

However, the central bank's interventions entailed the improvement in banking system liquidity in 2009 Q1. Moreover, the risks associated with the less favourable developments, generated by external shocks or domestic causes, appear to be significantly lowered due to the external financing arrangements concluded with the IMF and the EU, as well as with other international financial institutions[31], and to the implementation of the coherent macroeconomic and structural policy mix envisaged therein.

[29] EUR 10.7 billion in 2009, namely 8 percent of GDP.
[30] The statement of banks participating in the meeting held in Vienna on 26 March 2009, which was reconfirmed at the Brussels meeting on 19 May 2009.
[31] According to the Memorandum of Understanding concluded with international financial institutions in March 2009, Romania has taken loans in amount of EUR 12.95 billion from the IMF, EUR 5 billion from the EC, EUR 1 billion from the World Bank and EUR 1 billion from the EBRD. The funds can be drawn in two years' time.

Chart 3.2.37 – Share of financing from parent banks in total deposits, loans and subordinated liabilities from credit institutions



Source: NBR

The liquidity in the Romanian banking system stayed on a downward trend in the past five years, in the context of higher intermediation (but at a lower magnitude towards the end of 2008), as well as of financial market turmoil. *Deposits from companies and households* remained the main financing source of credit institutions' assets, despite their narrower share in liabilities, down from 49.7 percent at end-2007 to 44.6 percent at end-2008 and 42.9 percent at end-March 2009.

Loans/deposits[32] ratio rose steadily to an all-time high of 128.7 percent in October 2008. In December 2008, in the context of tighter lending conditions for all types of debtors, this indicator dropped to 122.1 percent for a short time period, whereas in January, February and March 2009, it exceeded the December figure (128.3 percent, 127.4 percent and 124.7 percent respectively) on the back of loans increasing at a faster pace than deposits.

The second source used by credit institutions for asset financing was *foreign liabilities*, whose share in aggregate liabilities went up to 30.7 percent at end-December 2008, though at a slower pace, while it followed a downward course in 2009 Q1, falling to 28.8 percent at end-March 2009. The expansion of foreign currency-denominated loans made a significant contribution to the rise in the Romanian banking system's reliance on external financing. Parent banks provided Romanian credit institutions with 84.4 percent of total *deposits, loans and subordinated liabilities from credit institutions* at end-2008, as against roughly 69 percent in the same year-ago period (Chart 3.2.37).

The most likely risk scenario is that where these parent banks:

- would be themselves hit by liquidity shortage (due to their own performance or that of their subsidiaries in countries other than Romania), also given the significant capital concentration by home country. However, the quick response of the European decision-making bodies, including those in the home countries[33] of parent banks, led to a stabilisation in their liquidity;

- would contain the support for their subsidiaries in Romania as a result of worsening perception of the country's risk profile, the change in investor sentiment on the Central and Eastern Europe as a whole being manifest through the rise in the risk premium of EUR-denominated funds. The challenge to the national banking system would be posed by the

[32] Balance sheet data were used.
[33] Ever since October 2008, the government of Austria took support and stabilisation measures for the banking system in amount of EUR 100 billion euro *(*Press Release of the National Bank of Austria, 19 February 2009*)*. Measures aimed at consolidating the liquidity and capital of financial institutions worth roughly EUR 2,900 billion were applied by EU Member States, including Greece *(*Press release of the Bank of Greece, 16 February 2009*)*.

fact that such resources, which are largely medium- and long-term funds[34], are difficult to replace by other resources with similar maturities, which could have an impact on both their future volume and maturity.

Given the market conditions and in compliance with current regulations[35], the NBR required credit institutions to draw up alternative financing plans presenting the risk liquidity management strategies in the context of crisis, by observing the requirements of the legal framework applicable in this field. The banks that did not conclude alternative financing agreements will permanently hold unpledged securities in their portfolios, which could be used to access the lending facility provided by the central bank, in the event of a liquidity shortage on an individual basis.

Moreover, in its attempt to avoid the excessive rise in the volatility of the leu exchange rate as well as to ensure the smooth functioning of the interbank market and implicitly the conditions necessary for continuing intermediation in 2009 Q1, the central bank provided an adequate liquidity volume by actively resorting to money market operations, particularly repo transactions. Banks raised funds also by making recourse to the lending facility. Furthermore, in order to improve liquidity conditions in the banking system, the minimum reserve ratios on leu-denominated deposits were cut from 20 percent to 18 percent on 24 November 2008, whereas the minimum reserve ratios on foreign currency-denominated liabilities with residual maturities longer than two years were lowered to 0 percent from 40 percent starting with 24 May – 23 June 2009 reserve maintenance period.

The share of *domestic interbank deposits in total liabilities* remained low (2.1 percent of total liabilities as at 31 December 2008), the contamination risk of the banking system via this channel being limited. The assessments of the interbank contamination test are indicative of a low systemic risk, the interbank bilateral exposure being generally small in relation to own funds and the liquid assets held by creditor banks. The concentration of interbank liabilities calculated based on the Herfindahl-Hirschman index declined from 1,009 percentage points to 902 percentage points during 31 March 2008 – 31 March 2009, while interbank connectivity fell from 10.85 percent to 7.31 percent.

Systemic risk, considering the worst-case scenario, namely the simulation of the concurrent insolvency of three credit institutions, is of merely 2.04 percent, whereas the systemic process includes two contamination stages. The prospects on the emergence of a systemic process in the Romanian banking system are related to a possible generalisation of some credit institutions' behaviour to finance their activity mainly from interbank sources.

The share of *interbank deposits in total liabilities* moved up to 4.2 percent in January 2009 and 6 percent in March 2009, due to loans from repo transactions in domestic currency carried out with the central bank, the volume of injections made by the central bank surging as against 2008 Q4.

[34] At end-2008, medium- and long-term foreign liabilities stood at 59.7 percent, up 3 percent versus the same year-ago period. By contrast, the share of such liabilities ran at 13 percent in Slovakia, 23-25 percent in the Czech Republic and Bulgaria, 55 percent in Poland and 70-75 percent in Croatia, Slovenia and Hungary (calculations based on data provided by Zoltan Walko, The Refinancing Structure of Banks in Selected CESEE Countries, p. 84, 2008).

[35] According to the provisions of Art. 27 para.(2) and para.(4) of NBR Norms No. 1/2001, as subsequently amended and supplemented, banks should have alternative plans approved by their management, presenting as accurately as possible the strategies on liquidity risk management in the context of a crisis, which they should submit to the NBR "accompanied by documents attesting that banks took all the measures to ensure the necessary conditions, as appropriate, so that they could apply urgently the alternative plans, also by concluding alternative financing agreements".

The traditional analysis indicators capture the market turmoil and the level of liquidity only to some extent. Thus, *immediate liquidity*[36] of the banking system dropped from 38.7 percent at end-2007 to 34.5 percent at end-2008 and 33.1 percent at end-March 2009.

Table 3.2.5 – Liquidity indicators of the banking system

Year	*D ≤ 1 month*	*1 month < D ≤ 3 months*	*3 months <D ≤ 6 months*	*6 months < D ≤ 12 months*	*12 months < D*	*Total*
2005	2.63	10.79	27.31	28.97	7.10	2.59
2006	2.01	6.42	9.12	15.10	8.14	2.30
2007	1.76	6.74	6.96	5.79	6.61	2.15
2008	2.46	10.15	17.00	11.26	5.48	2.56

Source: NBR

Liquidity indicator, calculated in compliance with the regulations in force[37], stayed above the minimum level of 1 (Table 3.2.5). Liquidity holdings by bank could however cause some credit institutions to face short-lived, albeit higher, difficulties in coping with liquidity fluctuations. In addition, this indicator is particularly less relevant in crisis periods when the liquidity of different assets tends to deteriorate.

At present, the central bank reviews the regulation framework for liquidity risk management. Thus, credit institutions must:

- have a sound system for identifying, measuring, managing and monitoring liquidity positions, so that it could project cash flows from assets, liabilities and off-balance sheet items on time horizons appropriate in both normal conditions and crisis periods;
- use measuring instruments or indicators for assessing liquidity risk. To this end, a credit institution will have to use indicators assessing the balance sheet structure, as well as indicators projecting future cash flows and liquidity positions by considering the risks associated with off-balance sheet items;
- set up limits for controlling the exposure and vulnerabilities to liquidity risk and review them periodically;
- establish a set of early warning indicators in order to identify vulnerabilities concerning liquidity position or the potential financing needs;
- ensure the effective diversification of short-, medium- and long-term financing sources and manage actively intraday liquidity;
- manage actively the assets that may be used as financial collateral, including in emergency situations, making the difference between pledged and unpledged assets;
- perform crisis simulations on a regular basis with a view to identifying the potential sources for liquidity constraints;
- have alternative financing plans, approved by their executive management, which will have to include management policies for a whole range of crisis situations, lay down clear responsibilities and procedures to overcome the crisis.

[36] Holdings and deposits with banks + unpledged securities / Total liabilities.
[37] As a ratio of effective liquidity to required liquidity, by each maturity band, in compliance with NBR Norms No. 1/2001 on banks' liquidity, as subsequently amended and supplemented.

3.2.6. Market risk

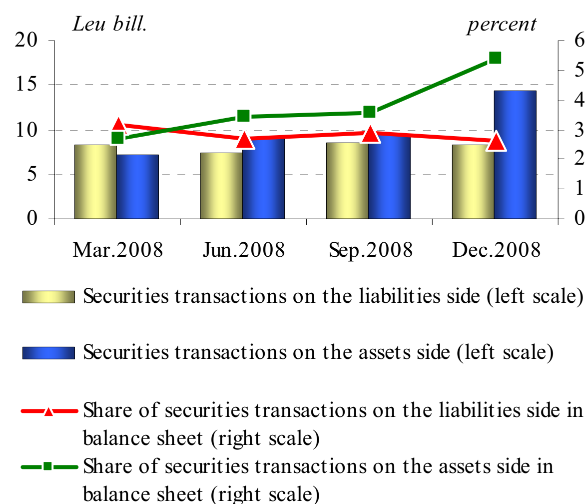
The direct vulnerability of the banking system to exchange rate risk highlighted by the foreign currency position is low, given the firm regulation of banks, Romanian legal entities. The currency exposure of the corporate sector is however higher than that illustrated by domestic loans recognised in the balance sheets of banks, owing to direct external loans, as well as to financial leasing, which leads to the potential rise in banks' indirect exposure to currency risk. For the Romanian banking system, the direct risk posed by the change in share prices is low. Interest rate risk has a limited direct impact on the profitability of the banking system, banks' exposure to such risk being mainly induced by their financing strategy.

The direct exposure of the Romanian credit institutions to exchange rate risk is still low, the share of total foreign currency position in own funds remaining below 2 percent for the fourth year in a row. The shift from mainly short foreign currency positions to mainly long foreign currency positions seen in 2006 continued in 2008, but the gap between the two positions widened. Overall, the Romanian banking system would not however be affected by a possible significant change in the exchange rate via the direct channel, given that the total foreign currency position cannot exceed 20 percent of own funds, a conclusion also supported by recent stress tests conducted on banks.

The exposure of the corporate sector to currency risk is higher than that revealed by the domestic loans taken by companies. This development is particularly relevant for large companies, whose direct external loans rose in 2008. Consequently, this vulnerability entails the increase in banks' indirect exposure to currency risk.

In 2008 Q4, the NBR performed stress tests to assess the resilience of the banking system to interest rate risk, by applying shocks up to 2 percentage points to the external yield curve, using the GAP analysis. These tests showed that the direct vulnerability of the banking system to interest rate risk seems limited.

Chart 3.2.38 – Transactions in securities



Source: NBR

The share of transactions in securities in the total balance sheet operations stood below 4 percent (Chart 3.2.38) for both assets and liabilities in 2008 Q1-Q3, a situation similar to 2006 and 2007.

However, as of 31 December 2008, the share of transactions in securities in total assets increased to 5 percent, exceeding 8 percent at end-March 2009, which is indicative of the banks' increased preference for investments in government securities, liquid instruments with very low risk levels. The share of securities in total liabilities dropped 0.23 percentage points as against 2.9 percent in September, reaching 2.6 percent on 31 March 2009. However, the rise in the share of transactions in financial derivatives did not compensate the decrease in the share of debt securities in total liabilities.

The results of the stress tests conducted in March 2009 based on a scenario prepared in cooperation with the IMF indicate that, despite the relatively low interest rate risk associated with foreign currency-denominated assets and liabilities, with a negative impact on own funds of merely

1.56 percent at end-2009, significant differences emerge at individual level. As regards leu-denominated assets and liabilities, the results show a marginal 0.68 percentage point rise in own funds at aggregate level.

3.2.7. Profitability and efficiency

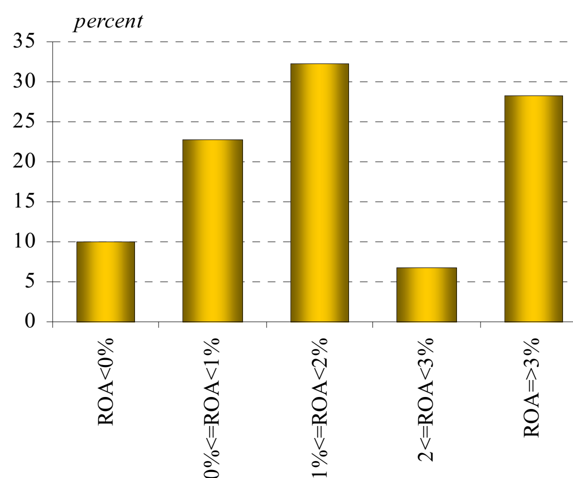
The Romanian banking system reported good financial results in 2008, in a context marked by the end of a favourable economic cycle (also underpinned by financial and banking activities, with all-time highs in the expansion of operations) and the start of a challenging period plagued by global economic and financial crisis, as well as by uncertainties surrounding the future domestic macroeconomic developments.

Favourable financial results, along with high capitalisation, contributed to strengthening the Romanian banking system's resilience to shocks. The protracted period marked by turbulences and uncertainties could affect banks' profitability via high financing and provisioning costs.

In 2008, the Romanian banking system recorded a net aggregate profit of Leu 4,681.9 million (EUR 1,271.3 million), up 73.9 percent from 2007.

Distribution of profit by bank was heterogeneous, the highest values in both absolute and relative terms being recorded by large banks in particular. Thus, top three credit institutions in terms of asset holdings, with a cumulative market share of 42.8 percent, accounted for 56.6 percent of the net aggregate financial result at end-2008. Unlike 2007 however, the market share of some medium- and small-sized banks incurring losses posted a twofold increase; they cumulated 9.9 percent of bank assets as compared with merely 5 percent in 2007 (Chart 3.2.39).

Chart 3.2.39 – Breakdown of credit institutions' market share based on ROA as at 31 December 2008



Source: NBR

The main sources of operating income totalling Leu 21,581.1 million (EUR 5,860.1 million) as at 31 December 2008 were interest, commissions, foreign exchange transactions, as well as sales of participating interests of some credit institutions operating in the insurance field[38].

The same as in 2007, *net interest income* was further the main component of operating income, with an average share of 46.2 percent (Chart 3.2.40).

Interest rates on loans to financial and non-financial clients accounted for an average of 87.1 percent of total interest income. After recording a peak value at end-June 2008 (1.1 percentage

[38] In 2008, Banca Comercială Română, BRD Groupe Société Générale, CEC Bank and Banca Transilvania collected an estimated total amount of Leu 1,665 million following the sale of participating interests in Asiban and by surrendering other insurance operations performed by Banca Comercială Română.

points above the annual average) owing to the still fast lending dynamics, the share of this indicator decreased in Q4 (1.5 percentage points below the average) against the background of lower commercial trading income, in the context of tighter lending conditions for all types of debtors, particularly for households[39]. In 2008 H2, the rise in Treasury operations of credit institutions entailed the increase from 1.6 percent to 4.2 percent in the share of *income from financial derivatives* in total interest income in December 2008.

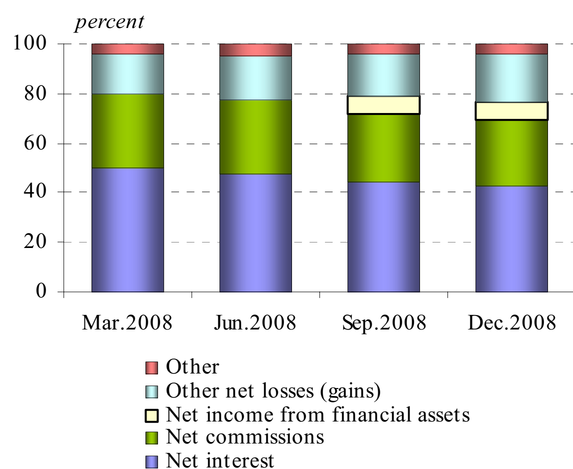
Income from deposits with the central bank stood on average at roughly 6.6 percent in total interest income.

Deposits of households and companies were the main financing source of credit institutions' assets, the amounts owed to customers[40] accounting for an average of 54 percent in total interest expenditure.

The 0.7 percentage point drop versus the annual average of this indicator at end-2008 may be attributed to the offsetting of the rise in deposit rates in 2008 Q4[41], as compared with the slower annual growth rate of household and corporate deposits[42].

Funds taken from credit institutions were another significant financing source for credit institutions' assets, the amounts owed to credit institutions[43] holding, on average, 39 percent of total interest expenditure.

Chart 3.2.40 – The share of main sources in total operating income in 2008



Source: NBR

Net income from commissions[44] accounted on average for 28.1 percent of operating income, being the second largest component, ahead of *net gains from operations, other than those from interest*, with an annual average of 17.4 percent of total (their share representing net exchange rate differences from foreign currency transactions). It is also worth mentioning that *net realised income from financial assets*, holding marginal shares in total operating income in Q1 and Q2, made up 7.3 percent and 7.8 percent at the end of Q3 and Q4 respectively, due to the sale of participating interests of some credit institutions in the insurance field.

[39] As illustrated by the survey conducted by the NBR in 2008 Q4 among the top ten credit institutions by market share in terms of loans to companies and households. The same document indicates that banks expect lending standards to grow tighter in 2009 Q1 as well, yet to a smaller extent than in the prior quarter, but higher in the case of consumer loans.
[40] Amounts owed to customers do not currently include interest expenditure related to certificates of deposit, savings books, recognised under *other interest expenditure*, which held, on average, 5 percent of interest expenditure in 2008.
[41] As against September, at end-2008, average interest rates on household deposits rose by 2.3 percentage points, while those on new business by 4.1 percentage points (3.9 percentage points and 4 percentage points in the case of non-financial corporations).
[42] 16.2 percent and -0.03 percent in December 2008 versus December 2007, as compared with 41.3 percent and 14.5 percent in December 2007 versus December 2006.
[43] This item is also different from *banks' deposits* presented in the previous Report, not including the interest rate on refinancing loans from the central bank, but adding interest rates on loans from credit institutions, reverse repo and liabilities from financial leasing operations.
[44] As regards commissions, *net income from fees and commissions* currently covers interbank operations, operations with clients, leasing operations, subordinated loans, exchange operations, financial services, while in the prior periods this component included solely income from commissions applied to interbank operations and operations with clients.

The expansion of banking activity in 2008 Q1-Q3 was also mirrored by the structure of operating costs. *Staff costs* remained the main component (with an annual average of 44.9 percent), the number of bank employees hitting a ten-year high of 71,945 at end-November 2008, out of which 323 were no longer on banks' payrolls in December.

In 2008, credit institutions opened 1,067 outlets, which entailed average annual shares of 33.7 percent of *costs of materials, works and services provided by third parties* and 7.5 percent of *depreciation costs* in total operating expenses.

Net provision-related expenses grew by 65 percent in real terms in 2008, in the context of credit portfolio deterioration, following the successive rises in lending rates and leu depreciation.

In 2009 Q1, the increase in risk provisions on loans to non-bank clients was the main cause of the negative financial result recorded by the Romanian banking system. Out of total provisions, 70.9 percent in January, 74.6 percent in February and 76.2 percent in March 2009 are held by loans and interests classified under "loss", with a debt service longer than 90 days or for which legal proceedings were initiated.

The significant volume of provisions was set up based on extremely strict criteria laid down by the national laws in the field. The new NBR Regulation issued in March 2009[45] concerning the classification of loans and placements, as well as the establishment, adjustment and use of credit risk provisions provides banks with the possibility to lower, as regards loans with debt service longer than 90 days and/or in the case of which legal proceedings were initiated, the level of provisions by up to 25 percent of the value of collateral for loans and placements classified under "loss", which has a favourable impact on their financial results.

Cost/income ratio calculated at end-2008 (55.7 percent) lies within the upper half of the band recorded by some European credit institutions holding subsidiaries in Romania[46].

At end-2008, ROE[47] and ROA stood at 18.1 percent and 1.7 percent, these levels being comparable with those recorded by some parent banks with subsidiaries in Romania[48].

[45] NBR Regulation No. 3/2009

[46] 47.8 percent for Eurobank EFG (FY 2008 Financial Results, p.2), 50.2 percent for Alpha Bank (December 2008, Alpha Bank Press Release: Full Year 2008 Performance Overview), 54.6 percent for Raiffeisen International (September 2008, 3rd Quarter Report 2008), 60.2 percent for Unicredit Group (September 2008, FactSheet_01, No.3, FY 2008).

[47] ROE, ROA are currently calculated based on average values of assets and equity. For comparison, the recalculated values as at 31 December 2007 are of 10.8 percent and 1.3 percent respectively.

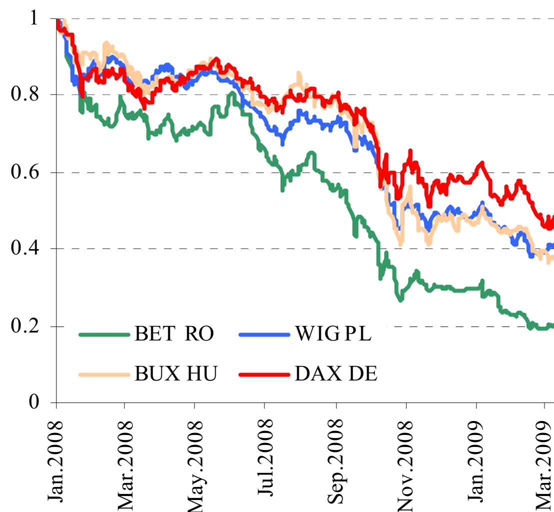
[48] ROE: 19.5 percent for Raiffeisen International (September 2008, 3rd Quarter Report 2008), 18 percent for Piraeus Bank Grecia (Financial Highlights of the Group 2008), 15.7 percent for Alpha Bank (December 2008, Alpha Bank Press Release: Full Year 2008 Performance Overview) and for Eurobank EFG (FY 2008 Financial Results, p.2), 10.8 percent for Unicredit Group (September 2008, FactSheet_01, No.3 FY 2008), 6.4 percent for Groupe Société Générale (December 2008, *Resultats de l'annee et du 4-eme trimestre 2008*); ROA: 1.1 percent for Piraeus Bank Grecia (Financial Highlights of the Group 2008), 0.9 percent for Eurobank EFG (FY 2008 Financial Results, p.2).

3.3. Non-bank financial sector

3.3.1. Capital market

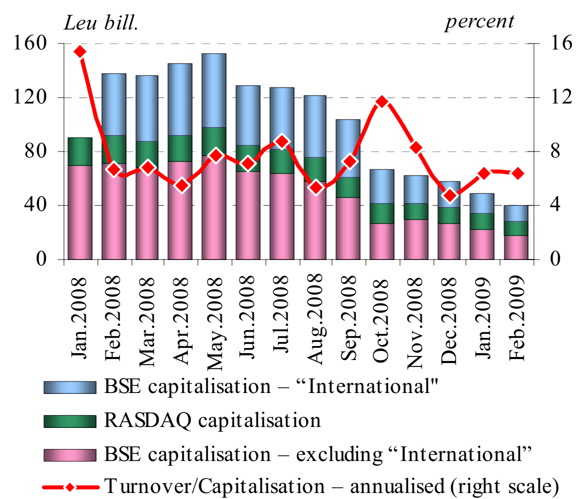
In 2008, global financial markets experienced high volatility, with uncertainties surrounding the world economy tending to grow and tensions persisting into early 2009. Major financial difficulties facing the leading banks worldwide and the worsening of macroeconomic indicators in developed countries led to risk repricing all over the world and, in turn, a sharp downtrend on capital markets. The final quarter of 2008 featured intense volatility, triggered by negative developments in the global financial sector and repeated government interventions in order to bail out some ailing financial institutions. The fallout from the global financial crisis also hit Romania and caused a downward drift in capital market, in line with the evolution of global markets.

Chart 3.3.1 – Stock market index dynamics (reference period: January 2008)



Source: Bloomberg

Chart 3.3.2 – Market capitalisation and annualised liquidity



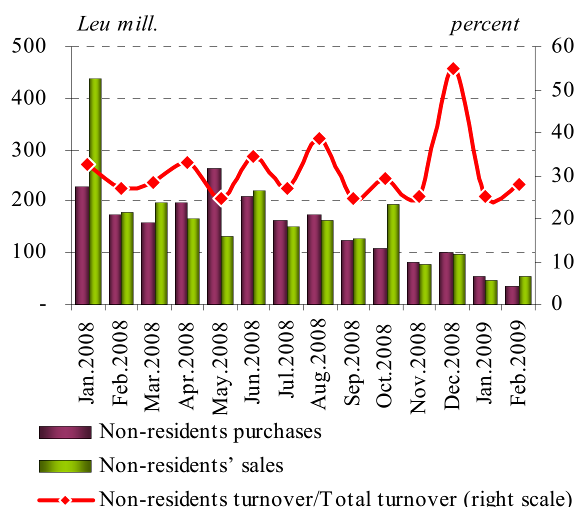
Source: BSE

In 2008, BET index fell about 70 percent (Chart 3.3.1) and market capitalisation[49] declined 47 percent to Leu 57.8 billion at year-end. At the same time, trading on the BSE decreased sharply, as reflected by the average daily trade in 2008 Q4 standing at Leu 22 million versus approximately Leu 72 million, a figure seen in 2007 Q4. Nevertheless, market liquidity[50] remained relatively steady at around 8 percent (Chart 3.3.2). The sharp drop in liquidity in February 2008 was due to the considerable rise in market capitalisation after the listing of Erste Bank on the BSE's International Section.

On the Sibiu Monetary, Financial and Commodities Exchange (BMFMS), trading went down in 2008 against 2007 by around 35 percent. Moreover, traded volume increased slightly by 4 percent to reach 3.6 million contracts at end-2008. The reduction in traded value in 2008 and early 2009 owed much to the drop in expected future prices of underlying assets, which followed closely the downward path in BSE quotations.

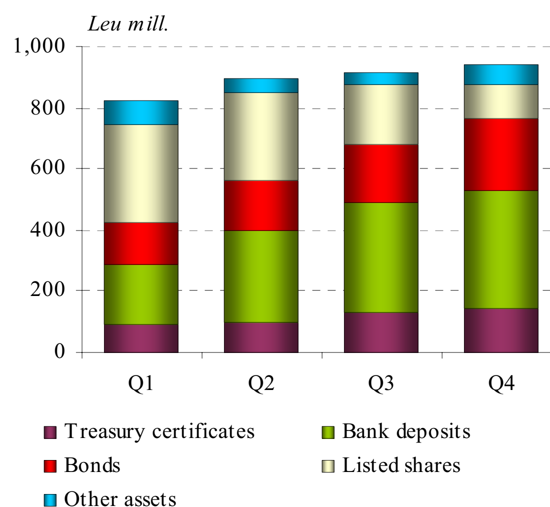
[49] Market capitalisation in 2008 includes the RASDAQ and the capitalisation of Erste Bank (listed in February 2008).
[50] Monthly transactions * 12 / Market capitalisation at the end of the month

Chart 3.3.3 – Non-resident investors' trades on the BSE (excluding trades under "International")



Source: BSE

Chart 3.3.4 – Net assets of open-end investment funds in 2008



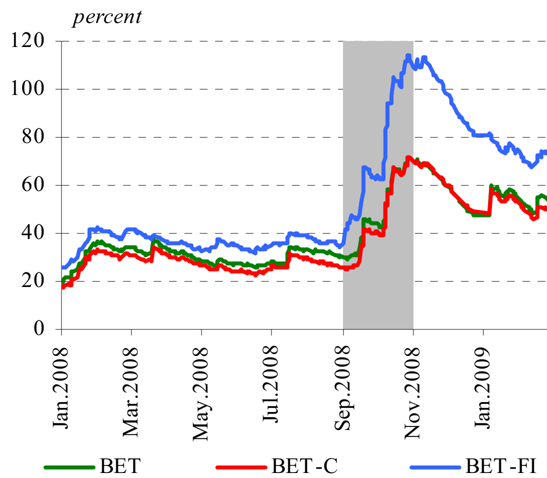
Source: FMA

During 2008, monthly trades performed by non-resident investors on the BSE[51] were generally balanced, with the value of purchases being almost equal to that of sales (Chart 3.3.3). Nevertheless, in January and October non-residents were more heavily engaged in sales, whereas in May they performed mainly purchases. The two time-spans when non-residents' net sales reached significant levels overlapped with two episodes of marked declines on both domestic and global markets. However, a trend towards a capital flight by non-resident investors across the board in 2008 as a whole could not be detected, as illustrated by these investors' relatively steady weight in total BSE activity[52].

At the end of 2008, net assets of open-end investment funds amounted to Leu 941 million (Chart 3.3.4), almost on a par with the 2007 figure. This fact can be ascribed to the lower value of share portfolio as a result of the downturn in share prices, on the one hand, and the new capital inflows worth around Leu 307 million, on the other hand. The composition of aggregate net assets of open-end investment funds shifted significantly relative to 2007, with the share of listed shares in total net assets narrowing to 12 percent in 2008 Q4 compared to about 45 percent in the same year-earlier period. At the same time, the share of low-risk investments (bonds, treasury certificates and bank deposits) in total net assets widened significantly due to investors' growing risk aversion, on the one hand, and the higher yields on such instruments, on the other hand.

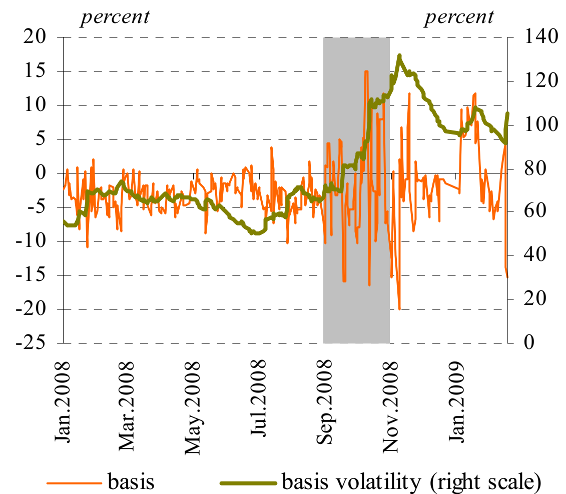
[51] Bucharest Stock Exchange (excluding Rasdaq and the derivatives market in Sibiu).
[52] Statistics on non-resident/resident investors' capital flows may provide useful information on the activity carried out by such investors in the capital market, but absolute figures should be interpreted cautiously due to the difficulty in accurately identifying the origin of funds. Relevant in this respect are the amounts invested by residents via foreign investment funds and included under "non-residents".

Chart 3.3.5 – Volatility of stock-market indices



Source: NSC, NBR calculations

Chart 3.3.6 – Spot – futures (basis) for SIF[53]



Source: NSC, NBR calculations

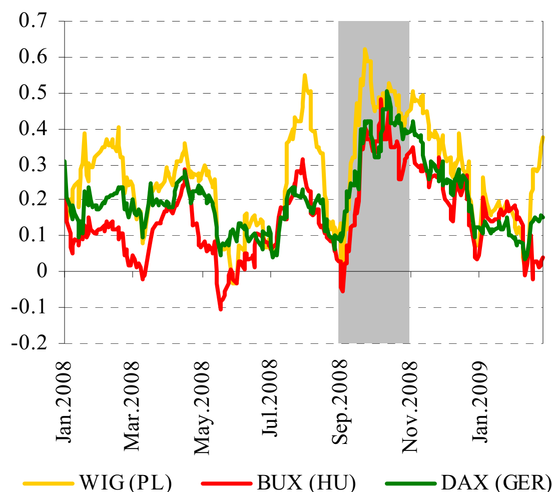
Stock market volatility increased markedly in September-October 2008 following the substantial fluctuations on international financial markets which led to a sharp risk repricing at global level. Volatility dropped significantly from its peak, but remains above the levels seen in the first part of 2008 (Chart 3.3.5). Great uncertainties on international financial markets and in the domestic economy cause investor wariness, whilst the decline in liquidity entails high volatility. Volatility is a measure of capital market tensions and should not be associated with decreases in stock exchange indices.

The financial turmoil was also reflected by the developments in the derivatives market, where the prices expected by investors are traded. The spread between spot and futures prices for the stocks of financial investment companies (SIF) swung widely during September-October 2008, when high uncertainties depressed investors' capacity to assess the future stock exchange performance (Chart 3.3.6).

Correlations with European exchanges were relatively weak, except for the resurging global financial turmoil in September-October 2008, when they picked up markedly as a result of contagion effects (Chart 3.3.7). Mitigation of risks looming over the global financial system translated into a decrease in correlations, suggesting the low level of integration of the local market with its European peers. Correlations are affected by the trading hours specific to every capital market; in this vein, the expansion of the BSE working schedule starting June 2008 caused the error margin to decline.

[53] The basis is the difference between spot and 3-month futures prices, computed as weighted averages of trades on the three underlying stocks, i.e. SIF2, SIF3 and SIF5. The series are representative for the futures market in Sibiu, as they accounted for 95.6 percent of the total futures positions in January 2008 – February 2009.

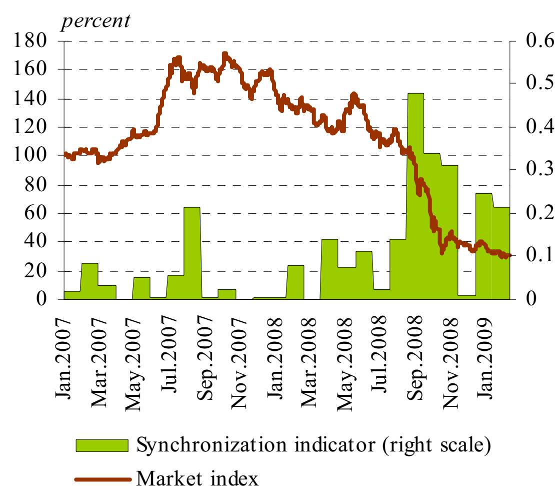
Chart 3.3.7 – Daily correlations between BET index and European capital market indices adjusted for volatility



Note: correlations adjusted in line with Forbes, Rigobon (2003)

Source: Bloomberg, NBR calculations

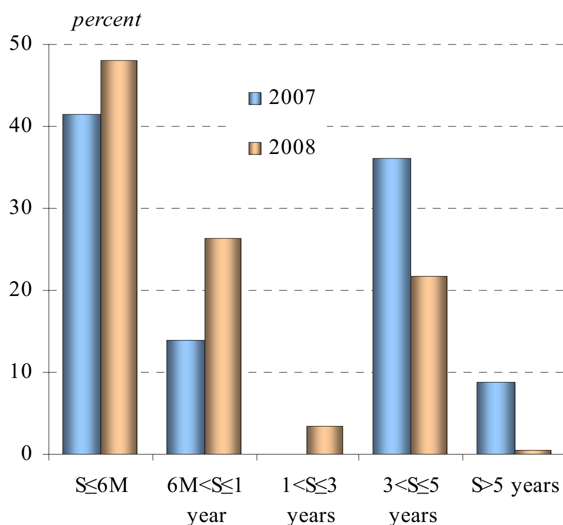
Chart 3.3.8 – Synchronization indicator for the BSE[54]



Source: NSC, NBR calculations

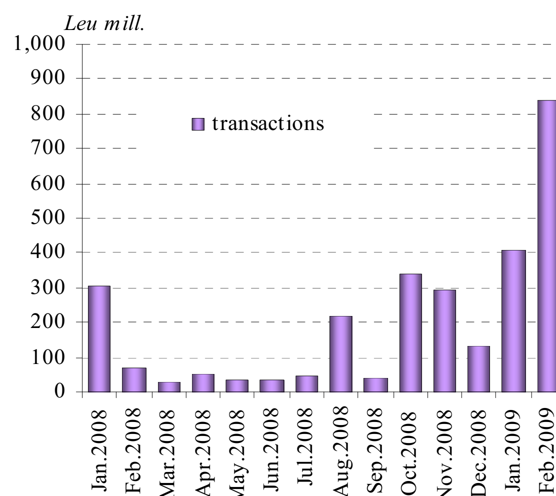
The strong tensions on financial markets in September-October 2008 are also revealed by the synchronization indicator of the BSE (Chart 3.3.8) that reached a peak of approximately 0.5. Over the next period, this indicator remained at relatively high levels, hinting at a significant bearing of market factors on investors' decisions.

Chart 3.3.9 – Term structure of government securities issues (T)



Source: NBR

Chart 3.3.10 – Daily average of transactions in government securities on the interbank secondary market



Source: NBR, BSE

[54] The synchronization indicator for the capital market depicted in Chart 3.3.8 captures, for one-month periods, the extent to which daily developments in the major stocks traded coincide with overall market performance. The indicator may range from 0 to 1; a high level points to stock market inefficiency caused by large buyings/sales, without differentiating in terms of individual performance.

Budget deficit widening and higher sovereign risk, as well as the global liquidity crunch, had a direct impact on the primary market of government securities in 2008 (Chart 3.3.9). The share of short-term securities increased, whereas issues of government securities with maturities over 5 years were extremely scarce (0.46 percent). With the primary market of government securities showing a propensity for short-term maturities, pension funds and life insurance companies are disadvantaged, as they seek a long-term investment horizon in order to increase risk management efficiency. Daily average of dealings in government securities traded on the interbank secondary market was on the rise starting October 2008 owing to the open-market operations carried out by the central bank; it amounted to Leu 837 million[55] in February 2009 (Chart 3.3.10). Along with the interbank market, transactions in government securities may also be performed on the Bucharest Stock Exchange, which is still in an incipient stage, and the trading turnover has been quite low so far.

3.3.2. Insurance market

The insurance market kept developing in 2008 and continued its convergence towards the European market. Insurance companies faced the effects of the global financial turmoil, as well as the write-down of some assets in their investment portfolios and the emergence of negative public perception on financial institutions. The major risks to the insurance market comprise the moderation in dynamics of gross subscribed premiums, the increase in auto insurance claims and redemption of life insurance policies. In Romania there are no monoline insurers engaged in ensuring bond portfolios.

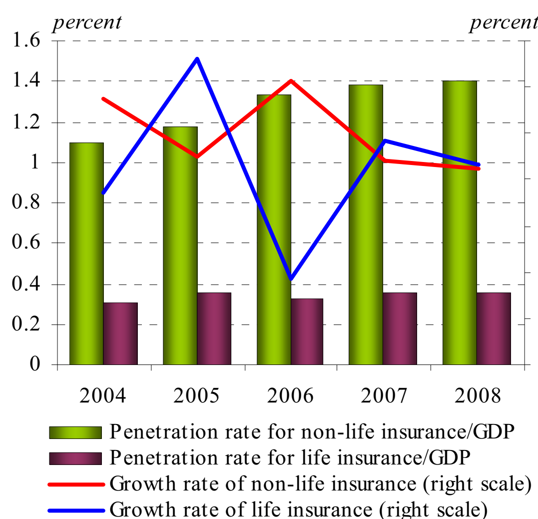
Insurance companies hold liabilities with low liquidity and are less exposed to short-term declines in available resources than credit institutions, thus helping increase financial system stability during episodes of economic and financial imbalances.

In the context of heightening tensions on the global financial markets, several prudential steps were taken in 2008 Q4 with a view to preserving insurance system stability in Romania. Thus, the amendments to secondary legislation[56] sought to improve the quality and the dispersion of assets admitted to cover gross technical reserves of insurance companies and to take a more prudent approach to the assessment of assets when calculating prudential indicators by taking account of the market value for financial investments.

The insurance market experienced similar dynamics in its two sub-sectors throughout 2008, against the background of a relatively steady growth rate of gross subscribed premiums for both non-life insurance and life insurance, but the dynamics of the latter remained slightly faster than that of the former (Chart 3.3.11). As for non-life insurance, the prevailing weight of auto insurance stayed on an upward trend[57]. On the credit insurance market, growing risks led to a massive decline in gross subscribed premiums (Chart 3.3.12). By contrast, life insurance, annuities and additional life insurance, as well as unit-linked insurance[58], are still the major components of life insurance market.

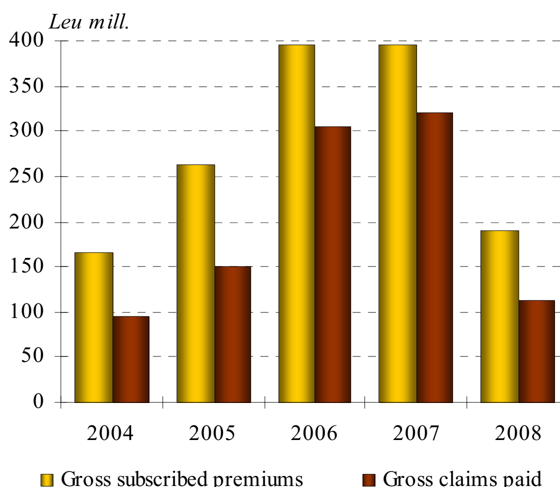
[55] Including repo operations
[56] Orders Nos. 17 and 18/2008 amending the norms on assets admitted to cover gross technical reserves of insurance companies for both non-life insurance activity and life insurance activity (enforced via Orders Nos. 113.130/2006 and 113.131/2006 issued by the ISC).
[57] 76.4 percent in 2008 versus 72 percent in 2007
[58] The fallout from the financial market turmoil resulted in a slower rate of increase of unit-linked life insurance and annuities, as well as a smaller share in total gross subscribed premiums as regards life insurance.

Chart 3.3.11 – Insurance market developments



Source: ISC, NBR

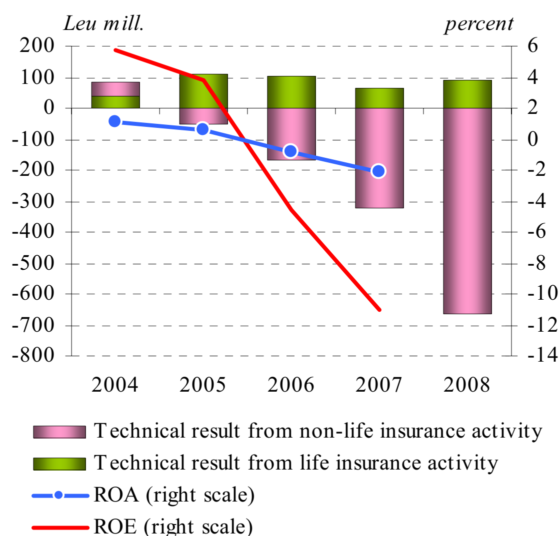
Chart 3.3.12 – Credit insurance developments



Source: ISC

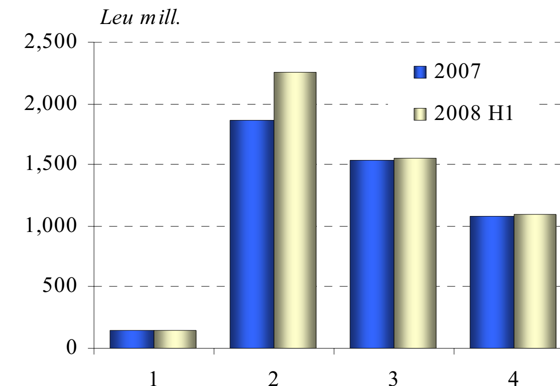
Market concentration remained high throughout 2008, as top-ten insurance companies accounted for approximately 89.3 percent of total gross subscribed premiums in non-life insurance and 93.7 percent of gross subscribed premiums in life insurance. Given that, following the large-scale acquisitions on the insurance market in Romania, some of these companies became part of the same international financial group, the resulting level of concentration is even higher.

Chart 3.3.13 – Profitability of insurance companies



Source: ISC

Chart 3.3.14 – Key investments of insurance companies



Note: 1. Shares and other variable-income securities
2. Bonds and other fixed-income securities
3. Deposits with credit institutions
4. Investments related to life insurance for which investment risk is transferred to clients

Source: ISC

Profitability indicators calculated for the Romanian insurance market continued to worsen as a result of poorer technical results. The increase in auto insurance claims made the negative technical result for non-life insurance to deteriorate further, whereas the volume of indemnities and redemptions for life insurance policies doubled. Faster growth of losses incurred by the insurance sector as a whole in comparison to the developments in capitalisation or total assets pushed ROE and ROA deeper into negative territory (Chart 3.3.13).

The expansion in risks perceived at the level of financial markets and the advance in government securities issues mirrored in the investment strategy pursued by insurance companies through the rise of investments in government bonds. The assets for which investment risk is transferred to clients still hold a large share in total assets, but life insurance companies are exposed to reputation risk in the case of write-down of assets in their portfolios (Chart 3.3.14).

Table 3.3.1 – Possible impact of recent developments in economic and financial sectors on the insurance sector in Romania (aggregate or specific for each component, i.e. non-life insurance and life insurance)

Domestic economic and financial developments	Possible impact
Slowdown in economic activity	↓ growth rate of gross subscribed premiums ↑ adverse selection (non-life insurance) ↑ redemption of policies (life insurance)
Domestic currency depreciation	↑ reinsurance costs (non-life insurance) ↑ operating and acquisition expenditures
Liquidity crunch	↓ market value of assets portfolio ↑ capital raising costs
Higher interest rates on leu-denominated funds	↑ yields on investments in bonds and bank deposits ↓ market value of fixed-income securities
Capital market downturn	↓ market value of stock portfolio (life insurance)
Lending squeeze	↓ growth rate of gross subscribed premiums (non-life insurance)

The domestic economic and financial context has a bearing on insurance companies and its faster dynamics of late could reflect in growing volatility of indicators in the insurance sector. Table 3.3.1 sets out the main effects of recent developments in economic and financial sectors on insurance companies, which could weigh on the risk management policies.

Non-life insurance companies may post a capital shortage in the wake of higher compensations paid, should these entities be unable to enjoy the support from a substantial increase in gross subscribed premiums. Life insurance companies are less exposed to the binding provision of raising capital because the level of compensations paid is low and part of investment risk is transferred to clients.

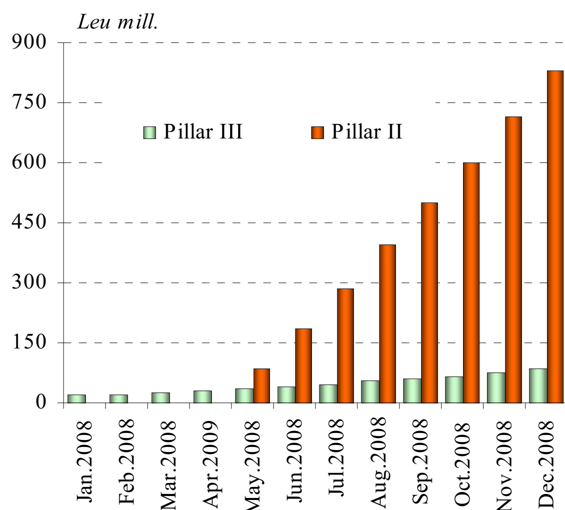
3.3.3. Private pension funds

Private pension funds were launched in 2007 and they are now in the stage of collecting contributions and investing them. The assets managed by such funds are still low in value, but their growth rate is high and will entail a larger weight of this sector in the financial system over the next years. Expansion of private pension funds will boost local financial markets, owing to their activity on the capital market. The long-run investment horizon and the low risk appetite of such funds involve active participation in the fixed-income securities market and allocation of funds towards economic sectors with long-term development potential.

Private pension funds are broken down into mandatory private pension funds (Pillar II) and voluntary private pension funds (Pillar III). Contributions to these funds started to be collected in May 2008 and May 2007 respectively. The funds in Pillar II have drawn most of the private pension funds (Leu 832.4 million worth of assets and 4.03 million participants at end-2008), since

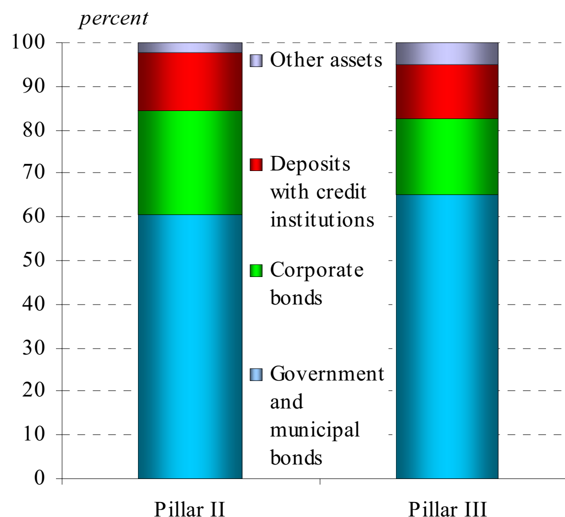
they are compulsory for participants aged no more than 35 and provide, optionally, the same products to participants aged no more than 45 (Chart 3.3.15).

Chart 3.3.15 – Developments in total assets of the private pension system in 2008



Source: PPSSC

Chart 3.3.16 – Investment portfolios at end-2008



Source: PPSSC

The portfolio of private pension funds has to deal mainly with market risk, since higher interest rates could induce lower market value of fixed-income securities. The largely short-term maturity of bonds included in the portfolio is conducive to a sizeable reduction in interest rate risk, but at the same time it depresses the pension funds' capacity of managing specific risks arising from the long term when future obligations fall due. Pension funds' assets are highly liquid and less risky, as they consist mainly of government securities and bank deposits (Chart 3.3.16).

In 2008, pension funds' managers preferred investing in low-risk assets given that the global financial turmoil prompted an increase in investors' risk aversion and, in turn, a downward trend in quotations of high-risk financial instruments. In order to provide an underpinning to private pension funds, the PPSSC decided over the reviewed period to render more flexible the manner of managing portfolios by temporarily removing the ceiling on government securities holdings as well as the thresholds relative to investments in other financial instruments, as set forth in every fund's prospectus.

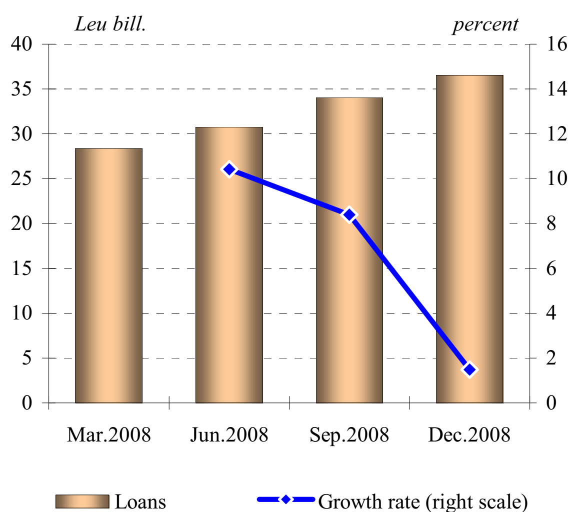
3.3.4. Non-bank financial institutions

Non-bank financial institutions continued to develop and consolidate, but the effects of the global financial turmoil, as well as of the worsening of the domestic macroeconomic environment were manifest in their activity starting with 2008 Q4. The key vulnerabilities of this sector arise from the difficulty to raise new financial resources in the current context, the deterioration of credit portfolio, the strong reliance on the auto market developments, as well as from the slowdown in investments in real economy, with a direct impact on the setback in lending.

In 2008, non-bank financial institutions (NBFI) consolidated, as indicated by the larger number of undertakings fulfilling the criteria regarding the entry into the Special Register[59] and at sectoral level, the higher importance of undertakings supervised by the NBR. In terms of concentration, it is worth mentioning the share of about 94 percent of loans granted by NBFI entered in the Special Register, with top ten undertakings holding roughly 42.7 percent of total NBFI loans.

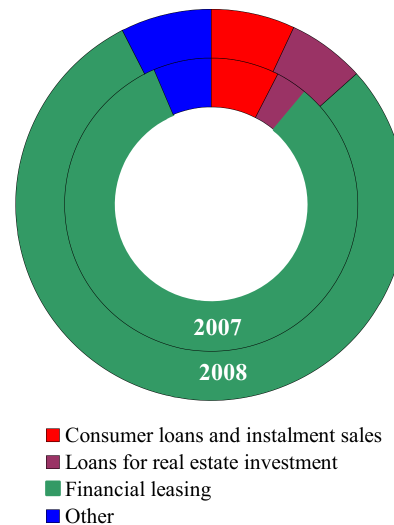
At end-2008, total net assets of NBFI amounted to 8.4 percent of GDP, up one percentage point year on year, whereas the balance on loans granted by NBFI equalled Leu 36.9 billion, accounting for 18.7 percent of non-government credit granted by credit institutions.

Chart 3.3.17 – Quarterly developments in the balance on loans granted by NBFI recorded in the General Register [60]



Source: NBR

Chart 3.3.18 – Structure of loans granted by NBFI



Source: NBR

The NBFI were under the impact of tighter lending standards and worsening macroeconomic conditions, the quarterly growth rate of the balance on loans slowing down considerably (Chart 3.3.17) in the case of both companies and households in 2008 Q4.

The structure of NBFI loans by client shows the prevalent bias towards financing non-financial corporations (with a share of about 75 percent of total loans). Financial leasing remained the main activity performed by NBFI, holding an 80 percent share in total loans (Chart 3.3.18). Nevertheless, its share narrowed, mainly due to the expansion of loans for real estate investment.

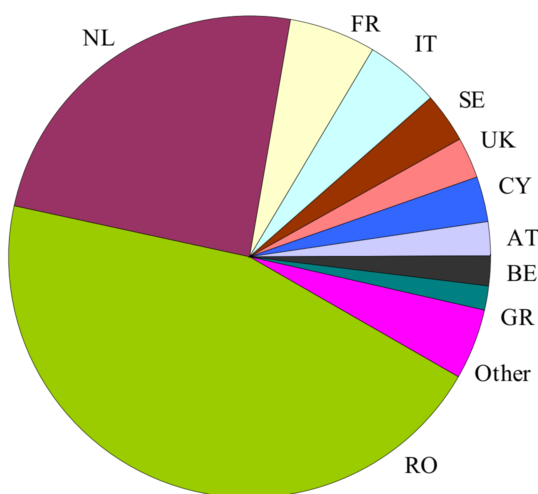
Following the fast annual growth rates of more than 50 percent recorded in 2005-2007, financial leasing market experienced a decline of nearly 2.6 percent in new business[61] in 2008, against the background of the marked slowdown in the dynamics of real-estate and car leasing in the last part of the year. However, the 63 percent market share held by bank subsidiaries was indicative of the further keen interest of credit institutions in this sector.

[59] At end-2008, the Special Register included 53 non-bank financial institutions as compared with 38 institutions recorded as at 31 December 2007.
[60] The growth rate was calculated by eliminating the exchange rate effect.
[61] According to data released by ALB

Given that the balance on foreign currency-denominated loans held 85 percent of total, leu depreciation had a significant indirect effect on portfolio quality via the credit risk. Moreover, it is worth noting the asymmetric distribution of foreign currency-denominated loans by contract and client. Lending in foreign currency is a feature of leasing (for non-financial corporations) and mortgage loans, whereas consumer loans are mainly denominated in domestic currency.

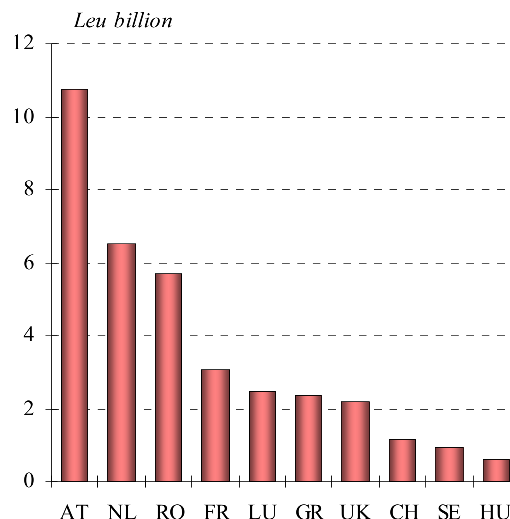
The breakdown of participating interests and funds raised by country of origin shows the prevailing impact of the European financial sector on the non-bank financial institutions[62] in Romania (Charts 3.3.19 and 3.3.20).

Chart 3.3.19 – Distribution of share capital by country of origin



Source: NBR

Chart 3.3.20 – Borrowings of NBFI (breakdown by country of origin)



Source: NBR

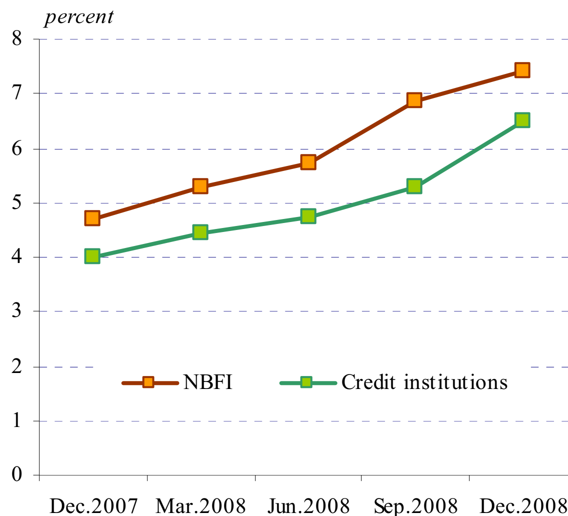
The refinancing risk depends on the NBFI possibility to raise funds from within the banking system or from shareholders, as unlike credit institutions, NBFIs cannot take deposits or other redeemable funds from the public. Loans from resident or non-resident financial institutions are the main source of funds for supporting the lending activity performed by NBFI. As a result, the liquidity on the domestic and global financial markets has a direct impact on the NBFI growth potential.

The foreign shareholding eased the NBFI's direct access to external lending sources aimed at fostering their activity, the share of external debt in total NBFI debt exceeding 80 percent, of which one fifth was on short term. At sectoral level, only 25 percent of total NBFI took resources directly from the international market, most of them being recorded in the Special Register. The breakdown by maturity indicates that roughly 21 percent of total debt outstanding at 31 December 2008 had an original maturity of up to one year. The spread between the maturity of loans and borrowings (higher in the case of certain institutions) requires the roll-over of part of debt maturing this year. The continuation and development of activity depend on the NBFI capacity to take new funds from the financial market, a process that may prove difficult in the current context, particularly for companies that are not part of financial groups and do not benefit from loans from parent undertakings to subordinated units.

[62] However, shares may be higher considering that many NBFIs have as shareholders credit institution in Romania, with majority foreign capital.

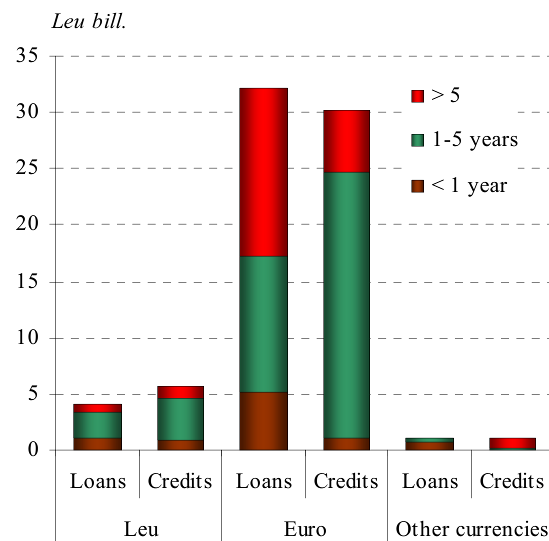
The NBFIs are faced with an increasing **credit risk**. The leu depreciation, higher interest rates, as well as tighter conditions in real economy led to a deterioration of NBFI loan portfolio. In this context, loans migrated towards lower rated classification categories, credit risk ratio following an upward course in 2008 (Chart 3.3.21). It is worth mentioning the fact that the loose lending policies adopted by some NBFI, as well as the relatively recent intervention of the NBR in the flattening-out of lending standards entailed the uneven risk distribution by participant. Moreover, in the case of financial leasing, the rise in the volume of repossessed goods may lower the probability of complete capital recovery, through the resale of the debt object, particularly as regards contracts with low down payments required.

Chart 3.3.21 – Developments in credit risk ratio [63]



Source: NBR

Chart 3.3.22 – Breakdown of loans and borrowings by maturity[64] **and currency**



Source: NBR

The direct exposure to **market risk** is low on this financial market segment, as the NBFI generally act towards striking a balance between lending and refinancing, in terms of both foreign currency distribution (Chart 3.3.22) and interest rate. However, through the transfer of exchange rate and interest rate risks to the clients, the combined effect of leu depreciation and higher interest rates fuelled credit risk. Moreover, higher refinancing costs may put pressure on the decline in profit margins of NBFI in order to preserve competitiveness.

The adoption of the new accounting regulations[65], along with heightened risks caused the deterioration of profitability indicators for NBFI sector. The individual financial results were mixed, but the significant losses reported by some companies[66], as well as the increased number of operators that recorded lower returns, owing particularly to large provisioning costs, affected the overall NBFI profitability. Hence, in the Special Register, net aggregate profit of half of participants stood at Leu 240 million, whereas the cumulated loss totalled Leu 617 million.

[63] Credit risk ratio is the ratio of unadjusted exposure of loans and interest classified under "doubtful" and "loss" to total loans and related interest.
[64] In terms of original maturity
[65] As of 1 January 2008, all NBFI enrolled in the General Register implemented the accounting regulations consistent with the EU directives, as laid down in Order No. 5/2005 issued by the National Bank of Romania.
[66] According to the Special Register, losses are concentrated at four companies taking 51 percent of the aggregate loss.

In terms of the existing capital and financial links, **contagion risk** can emerge in the case of certain financial and banking groups, yet with a low impact on the Romanian banking system as a whole. At end-2008, its exposure to NBFI, via financing lines, was of nearly Leu 5 billion[67], accounting for 2.5 percent of total non-government loans granted by credit institutions, whereas direct participating interests totalled Leu 0.3 billion[68].

Lending was further concentrated on certain segments, despite the tendency to diversify the NBFI portfolio in terms of loans granted, goods financed or type of clients. The still strong reliance on the auto market, as well as on some economic sectors (for instance, construction, transport) is a vulnerability of this sector, while the slower economic growth and the fall in investment affect directly the possibility to develop the NBFI's activity by diminishing the financing volume.

[67] In 2008 Q4, the balance on loans from credit institutions dropped 10 percentage points versus the prior quarter.
[68] According to data released based on NBR Norms No. 12/2007 on the statistical reporting of balance sheet assets and liabilities of NBFI.

CHAPTER 4. DOMESTIC MACROECONOMIC RISKS

The alert pace of economic growth seen in the previous years was followed by a strong contraction in 2009 Q1 (in annual terms). The risk resides in the fact that, amid the ongoing crisis, the economic downturn might entail disinvestment and a significantly higher unemployment rate, thus jeopardising the real convergence process and the financial position of both companies and households. Current account deficit adjustment has already started and it is anticipated to be considerable. There is a risk that the process might unfold particularly through more subdued investments and could also affect companies' financial position, especially that of foreign trade companies.

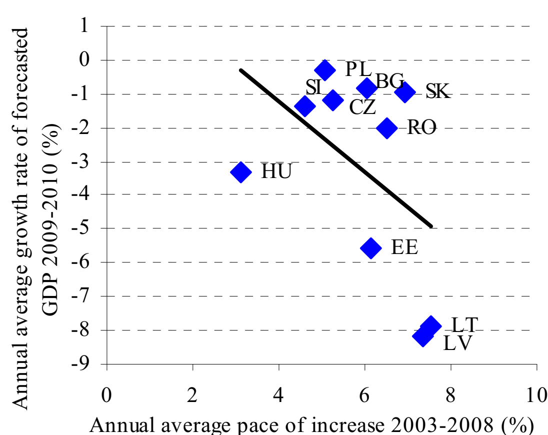
The year 2008 saw improved access to financing both for companies and for households. However, a trend reversal became visible towards the end of the year, which generates debt repayment challenges, particularly over the short term.

4.1. Real sector

4.1.1. Real convergence

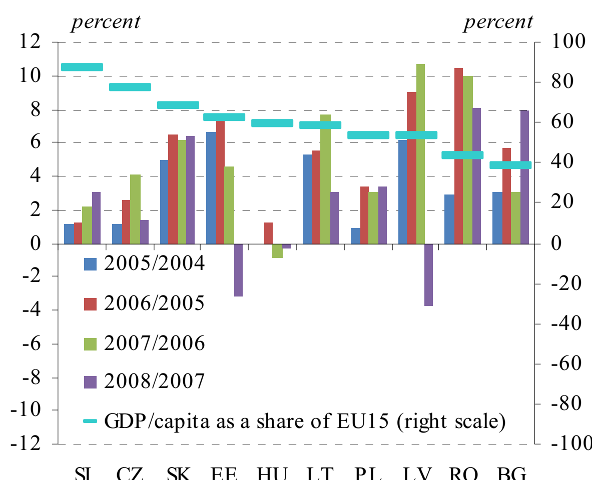
After robust growth in 2008 as well, economic activity in Romania contracted markedly in 2009 Q1 versus the same year-ago period, in line with developments seen in all CEE countries. Countries having posted a fast catching-up rate with the euro area in recent years run the risk of recording substantial declines – above the average for the region and for the euro area – that are likely to erode an important share of the real convergence gains. Such a risk needs to be taken into consideration because, according to the latest forecasts, economies having seen vigorous expansion in the past might undergo a more sizeable adjustment over the next years (Chart 4.1.1).

Chart 4.1.1 – Economic growth forecast based on recent years' annual average growth rate



Source: EUROSTAT, European Commission, NBR calculations

Chart 4.1.2 – Annual catching-up rate of GDP/capita (PPS) compared with EU-15



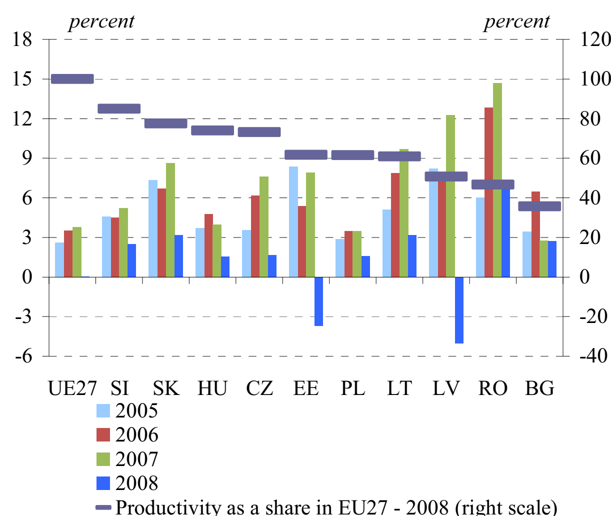
Source: EUROSTAT, NBR calculations

The catching-up rate of CEE countries with EU-15 was characterised by mixed developments in 2008. Thus, the rate slowed in Romania and the Czech Republic, it entered negative territory in some countries (Latvia, Estonia and Hungary), while in others (such as Bulgaria, Poland, etc.) it

gained momentum (Chart 4.1.2). The economic crisis has a negative impact on real convergence insofar as emerging economies contract more strongly than the euro area. Romania's economy contracted by 6.2 percent in the first quarter of 2009 compared to the same period of the previous year, which outpaced the decline of the euro area (4.6 percent). The slowdown raises more problems than in other countries, due to the low level of GDP per capita in Romania. The risk resides in the fact that, amid the ongoing crisis, the economic downturn might entail disinvestment and a significantly higher unemployment rate, thus jeopardising the real convergence process over the medium and long term. Against this backdrop, it is essential for Romania to attract European funds and proceed with major public investment.

Companies having benefited from foreign direct investment (FDI)[69] are somewhat better positioned to withstand potential shocks generated by the ongoing crisis, but not significantly different from the rest of the economy (the return on equity and the efficiency of wage costs are higher than the economy-wide average, yet the default rate has weaker performances[70]). Hence, an increase in such investments in the economy does not, by itself, entail faster real convergence during a crisis.

Chart 4.1.3 – Developments in labour productivity* in CEE countries



*GDP (PPP)/labour force
Source: EUROSTAT

Labour productivity witnessed more sluggish dynamics in 2008 in most CEE countries and even entered negative territory in some of the Baltic States (Chart 4.1.3). Productivity gains of previous years might allow companies to better withstand potential shocks triggered by the crisis. The fact that CEE productivity is in most cases significantly lower than the EU-27 average entails higher risks of a slowdown in the real convergence process.

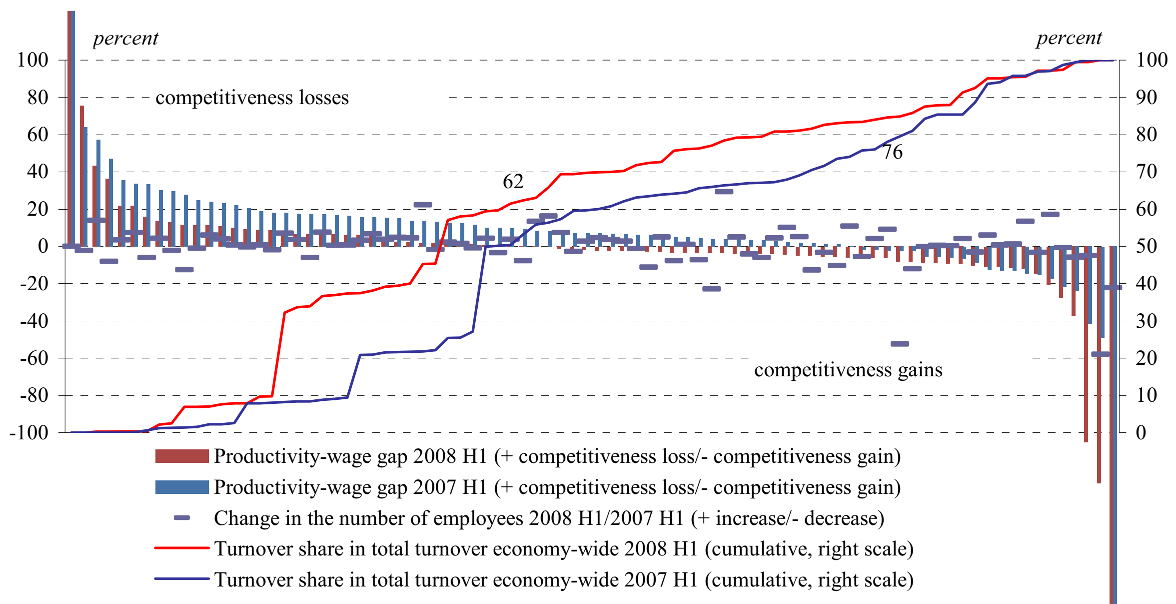
The bleaker picture painted by productivity heightens the risk of rising unemployment, which will also hurt the disposable income of households (and hence their debt repayment capacity to the financial system). The unemployment rate is anticipated to pick up considerably in the EU (to an average of almost 11 percent in 2010) and even faster in euro area countries. In 2008, unemployment in Romania registered a 17-year low and was one of the lowest levels throughout CEE countries. However, as of end-2008, the number of redundancies has followed an upward trend and forecasts hint at a 2.2 percentage point increase in the unemployment rate to 8 percent[71].

[69] Companies receiving FDI are important to the Romanian economy as they account for 25 percent of total assets, 40 percent of indebtedness to international financial institutions and 20 percent of loans granted by local banks, while also generating one third of total turnover.

[70] The default rate stood at 2.9 percent in March 2009, compared to 2.7 percent economy-wide. As of June 2008, wage cost efficiency (wage costs/turnover) was 6.9 percent, while the ROE (calculated based on net profit) stood at 18 percent versus 12.5 percent economy-wide. The sample considered here is that of companies having received FDIs in 2006 (to allow sufficient time for the investment to yield effects).

[71] European Commission, spring forecasts, May 2009.

Chart 4.1.4 – Developments in the competitiveness gap for Romanian companies*

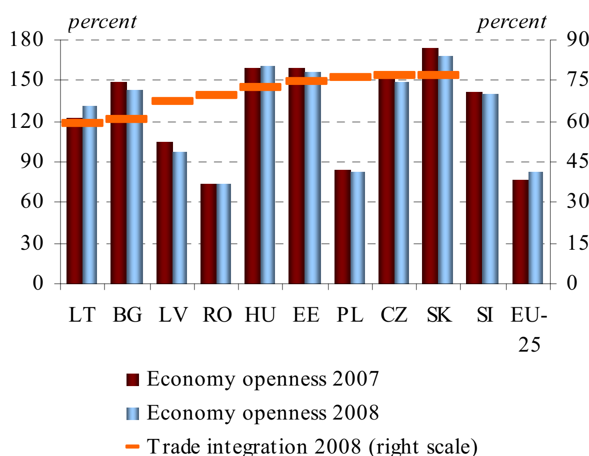


*the competitiveness gap is defined as the difference between wage and turnover dynamics (the horizontal axis shows the Classification of Economic Activities – NACE codes)

Source: MPF, NBR calculations.

As a matter of fact, the challenges referred to in the previous Report with regard to the impact of wage pressures on the competitiveness of Romanian companies persisted into 2008. Thus, domestic companies recorded an unfavourable competitiveness gap in 2008 H1 as well, although some improvement is visible in year-on-year comparison in terms of both the number of affected industries and their weight in the volume of activity. The share of companies reporting competitiveness losses in turnover generated in Romania dropped to 62 percent in 2008 H1 as against 76 percent in the same period a year ago (Chart 4.1.4).

Chart 4.1.5 – Economy openness* and trade integration with the EU**



* share of imports and exports in GDP

** share of trade with the EU in total foreign trade

Source: EUROSTAT

Companies having failed to improve their competitiveness during the economic upturn (i.e. 2008 H1/2007 H1 and 2007 H1/2006 H1 respectively) generate more than 50 percent of the turnover.

Economy openness and trade integration with the EU are two other major factors on the path to attain real convergence and to fully exploit the economy's growth potential. Romania lags behind most other countries, as indicated by Chart 4.1.5. Amid the ongoing crisis, this proved to be an advantage in the short run, because the negative effects in the EU would not feed through into the domestic economy with the same magnitude.

4.1.2. The importance of the real estate sector and real estate assets to financial stability

A. The importance of construction and real estate sectors to the economy and banks

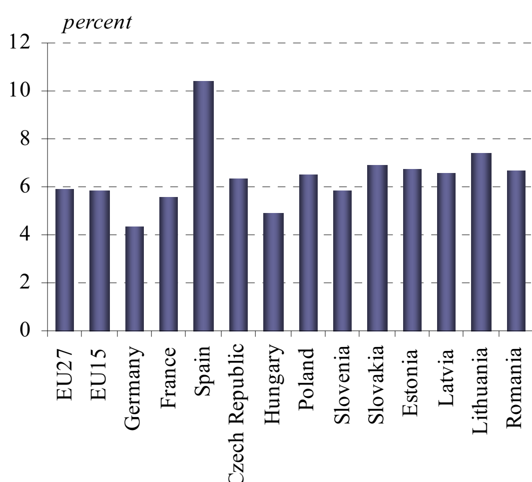
Companies operating in the construction and real estate sectors play an increasing role for the economy and the banking sector, and therefore any disturbance on the real estate asset market is likely to have an increasing impact on financial stability.

The construction sector has seen a steady rise in its contribution to the value added in the economy, reaching about 12 percent in 2008 versus 6 percent in 2004, which places Romania above the EU average for 2000-2007 (Chart 4.1.6). Both the number of employees and asset holdings in construction stand at elevated levels, i.e. 13 percent and 8 percent respectively in total economy (June 2008). The construction cost of new dwellings has embarked on an uptrend, significantly above the European average, which means these companies have some room for manoeuvre to stay on the market provided they improve cost efficiency. As indicated by Chart 4.1.7, there was no major change in the number of building permits until March 2009. Against this backdrop, the crisis impact on the construction sector is likely to be more easily overcome.

The real estate sector accounts for a mere 1 percent of the overall turnover, yet it holds 12 percent (as of June 2008) of total assets economy-wide, as against 3 percent in December 2004.

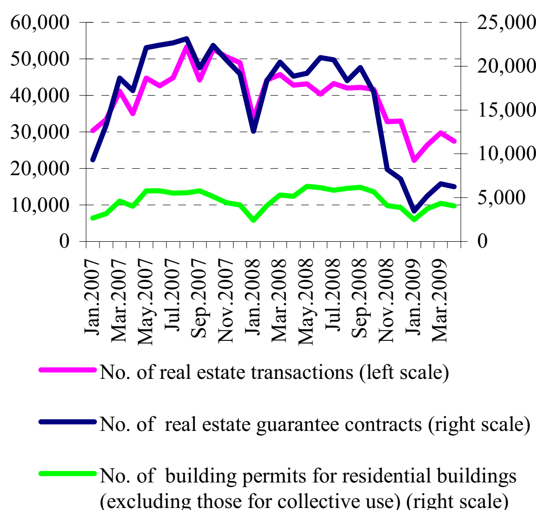
Banks' exposure to these two sectors is relatively high; it is on the rise compared to their importance in the economy (21 percent of the outstanding loans in March 2009); and it has a heterogeneous nature as far as credit institutions are concerned. As shown in Chart 4.1.8, the default rate generated by real estate and construction companies (3.2 percent in March 2009) is higher than the economy-wide rate (2.7 percent, March 2009). In the banks' opinion[72], the real estate sector, followed by construction, witnessed the most visible deterioration in credit risk over the past year.

Chart 4.1.6 – Contribution of the construction sector to GDP formation, 2000-2007 average



Source: EUROSTAT

Chart 4.1.7 – Number of real estate transactions and building permits



Source: NIS, National Union of Notaries Public in Romania

[72] According to the quarterly bank lending questionnaire.

The external debt of companies operating in the two sectors calls for a close monitoring: (i) they cumulatively account for more than 40 percent of non-financial corporations' medium- and long-term debt and (ii) they hold 38 percent of the outflows and 46 percent of the inflows scheduled for 2009 in relation to the short-term residual external debt. The implications are as follows: (i) the uncertainty of inflows amid increasing hardships facing these sectors and (ii) the likelihood that, in case of problems, the external debt service might prevail over repayments to domestic banks.

B. The importance of real estate assets to financial stability

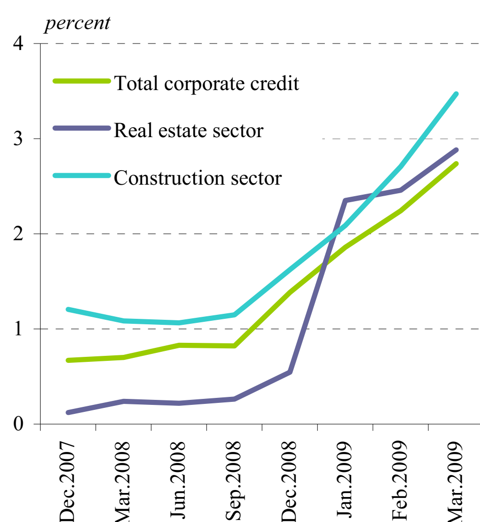
Although risks stemming from real estate lending have been on the rise, there are elements offsetting the negative influence. Major risk factors are: (i) the large share in company funding of loans having real estate assets as collateral (adverse developments in the value of this collateral could deteriorate the quality of banks' portfolio); (ii) a sharp uptrend in the default rate (albeit from a low initial level), and (iii) banks' large exposure to real estate and construction companies. Risk mitigating factors include: (i) the subdued weight (compared to other EU countries) of mortgage credit to households in banks' portfolio; (ii) the fairly prudent level of the loan-to-value ratio, and (iii) the relatively small drop in households' intention to purchase a real estate asset over the upcoming 12 months.

(B1) Bank loans to companies are primarily collateralised by real estate assets (about 75 percent of total loans, as of March 2009). The default rate on these loans has registered a significant rise in recent months, particularly in the case of the forex-denominated component. There does not seem to be any difference in terms of default behaviour between mortgage-backed loans and unsecured ones, the default rate is approximately the same, namely 2.6-2.8 percent as of March 2009. However, the balance of overdue credit reached 9.4 percent in March 2009 against 3.2 percent in December 2007, so that the default rate looks poised for an increase.

(B2) Bank loans to households are being increasingly collateralised by real estate assets (47 percent in March 2009 versus 42 percent in December 2007). Both the default rate and the volume of overdue loans have risen considerably over the past year, although they remain still at manageable levels (the default rate stood at 0.32 percent in March 2009). The impact exerted by declining prices of residential buildings (via mortgage-backed collateral) on banks could be alleviated. Banks report an average of the LTV ratio relative to the mortgage credit portfolio in stock of 66 percent as of March 2009. Under the circumstances, the value of real estate assets should be about 35 percent below the purchase price (and not of the market peak value) in order for the value of collateral to fall below that of credit itself. Such a potential adjustment of the real estate market would exceed the average house price bust seen globally during previous crises, i.e. 29 percent[73].

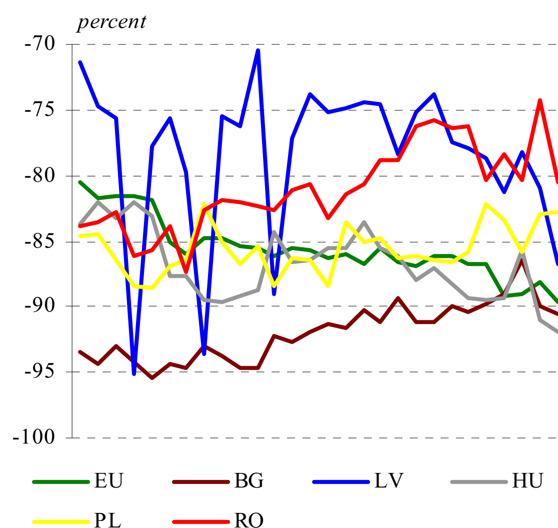
[73] Claessens, S., Kose, A., Terrones, M., 2008, *What Happens During Recessions, Crunches and Busts,* IMF Working Paper 08/274, December.

Chart 4.1.8 – Default rate (excluding off balance sheet overdue payments)



Source: NBR calculations

Chart 4.1.9 – Intention to purchase or build a dwelling within the next 12 months (balances)



Source: European Commission

Loans collateralised by real estate assets consist of mortgage loans[74] (42 percent of total) and mortgage-backed consumer loans[75] (58 percent as of March 2009).

(B2a) Mortgage loans hold a low share in total household credit, i.e. 21.7 percent as of January 2009). Compared to other EU countries, Romania's situation is strongly atypical[76], which could currently prove beneficial to financial stability if conditions on the real estate market deteriorated further. As a matter of fact, the consequences of this risk materialising might be less severe than in other Member States, because the intentions to purchase a dwelling within the next 12 months – albeit on a downtrend – have stood above the EU average since the beginning of 2009 (Chart 4.1.9).

(B2b) Mortgage-backed consumer loans have seen their share rise to 36.7 percent of consumer credit as of March 2009, with the related risk heightening as well. The default rate has multiplied almost ten times since December 2007, but its level remains modest (0.42 percent as of March 2009).

[74] Mortgage loans alone are used for international comparisons. The number of mortgage-backed loans in Romania is subdued (around 0.3 million of 7.6 million loans to households) with an average value of about EUR 38,000.

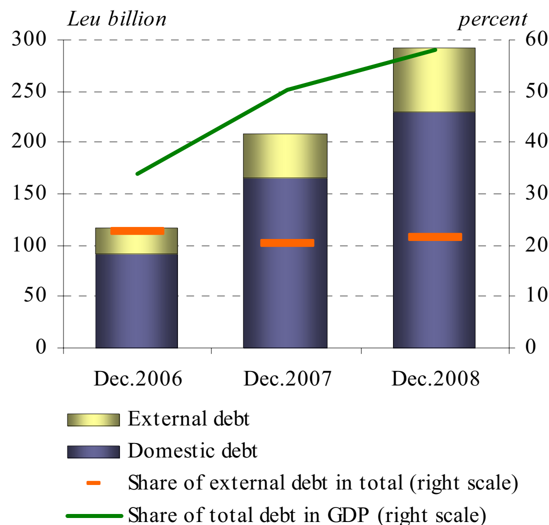
[75] These loans do not have a precise destination, as they are either consumption-oriented or real estate investment-oriented.

[76] Mortgage loans account for 71 percent of total household credit in the euro area as of December 2008.

4.2. Financial policies

4.2.1. Lending policy and companies' and households' access to financing

Chart 4.2.1 – Indebtedness of non-financial companies and households



Source: NBR calculations

Loans taken by companies and households from domestic and international financial institutions (banks and NBFIs) amount to almost Leu 300 billion (December 2008), the equivalent of 58 percent of GDP[77] (compared to 43 percent in December 2006, Chart 4.2.1).

Access to bank financing improved in 2008 for both (A) companies and (B) households. The end of 2008 could see a trend reversal amid a marked tightening of credit terms and conditions.

(A) The number of companies having taken loans from domestic or international financial institutions has reached 16 percent in total active companies in Romania, as of March 2009 versus around 8 percent in 2005). The still small number of companies borrowing funds and their important role to the economy[78] prove that less-readily available financing might entail major negative consequences.

Companies in the trade and real estate sectors could bear the brunt of more difficult access to financing because of their keener resort to banks' resources compared to the generated value added. Less-readily available external financing would have very strong adverse effects on the companies in real estate and manufacturing sectors (Chart 4.2.2).

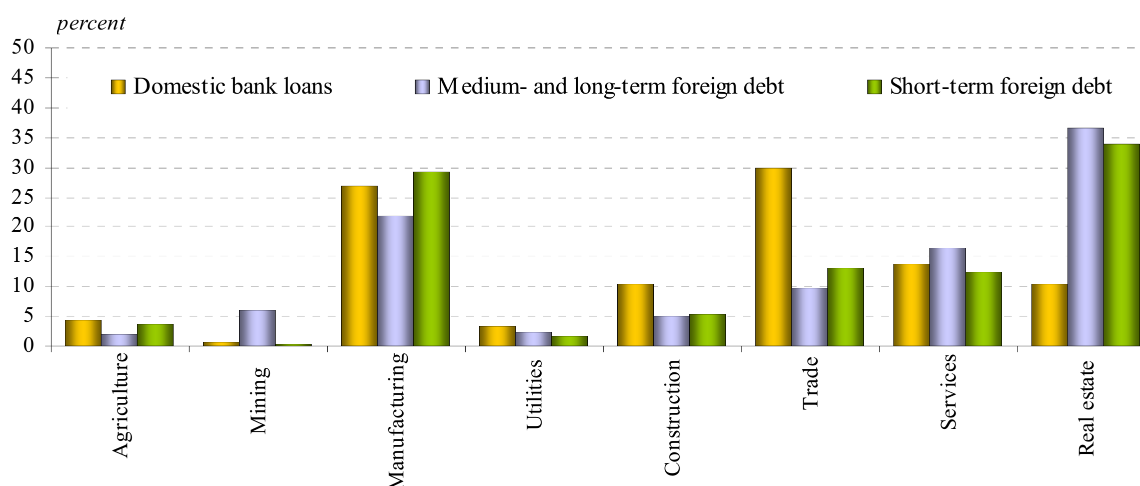
SMEs accounted for more than two thirds of the loans granted by domestic banks, while contributing only about 50 percent to GVA formation. These companies also have good access to external financing, since SMEs make up 45 percent of the medium- and long-term external debt and 53 percent of short-term credit as of December 2008.

Companies manufacturing high value added goods (medium high tech and high tech products) report a lower need for domestic financing compared to the value created in the economy. Borrowing needs are covered by resorting to external financing, particularly over the short term. Exposure to this form of funding is rather high: (i) these companies account for 14 percent of total short-term foreign debt (STFD) as of December 2008 and (ii) the STFD weighs over 20 percent in total external and domestic financing of these companies (while the economy-wide average stands at 8 percent, December 2008). Given the less-readily available external resources, there is the risk that the impact on companies manufacturing high value added goods might be considerable. These companies have so far shown a proper debt servicing capacity (the overdue payment ratio for domestic bank loans stood at 2.6 percent, slightly below the economy-wide average of 2.7 percent, December 2008), which partially mitigates the risk of not renewing credit lines.

[77] By taking into account the preliminary estimate on the banking sector's sold loans during 2006-2008, the financial indebtedness of companies and households could exceed 60 percent of GDP (as of December 2008).

[78] These companies contribute almost 65 percent to gross value added in the economy (June 2008).

Chart 4.2.2 – Companies' access to financing by economic sector (percent in total funding source: bank, short-term foreign debt, medium- and long-term external debt), March 2009



Source: MPF, NBR calculations

(B) The number of individuals having taken bank loans has neared 4.2 million, i.e. 40 percent of the labour force as of March 2009. This sector's access to credit is at a proper level judging by the fact that households' bank funding is somewhat recent, dating back only to 2003. Each debtor has taken on average two loans, particularly consumer credit. As of December 2008, the average credit value stood at around Leu 13,000 and there were approximately 7.5 million bank loans in progress.

The structure of creditors to the real economy and to households is relatively diverse:

1. *The domestic banking sector* is the main financing source, accounting for 66 percent of total funds. In the current environment of more limited access to external resources, the contribution of the domestic banking sector is likely to increase. The financing of the real economy is carried out primarily via treasury loans, although loans for equipment and inventory purchase have seen their share rise (Chart 4.2.3).

2. *Foreign creditors* make up over one fifth of total financing. They have been a stable funding source so far, with their share hovering around 21 percent in recent years, as indicated by Chart 4.2.1. Almost all the amounts were practically directed to companies, as households account for a mere 0.08 percent in total external financing.

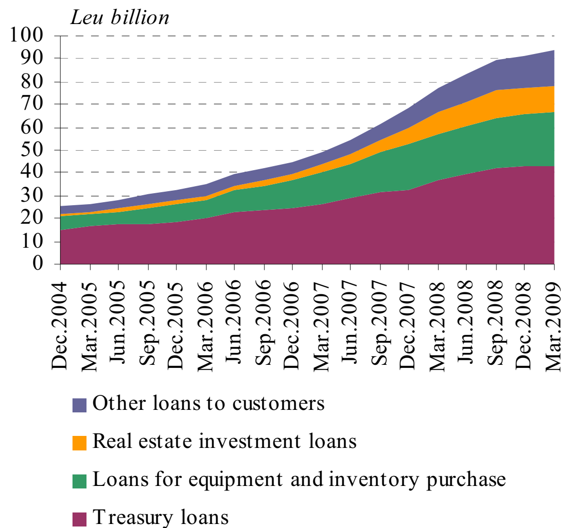
3. *Domestic NBFIs* provide 12 percent of total funding, with the largest share of resources (i.e. 77 percent) being channelled to companies.

The main lending features point to upside risks:

(i) Currency risk is very important. Indebtedness in foreign currency accounts for 70 percent of total as of December 2008 and is higher in case of companies (Chart 4.2.4). This share would be even higher if the sold loans were to be taken into account. Against this background, a non-disruptive evolution of the exchange rate is essential to maintaining financial stability.

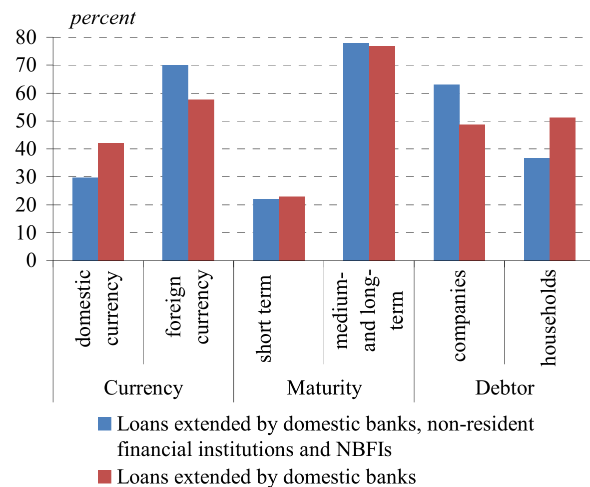
(ii) Companies make up almost two thirds of total indebtedness, which is better spread out across the three categories of financing sources, namely domestic banks, foreign creditors and NBFIs. On the other hand, households are relatively more captive in relation to the banking sector, which provides 92 percent of total funding.

Chart 4.2.3 – Loans to companies by destination



Source: NBR

Chart 4.2.4 – Structure of total lending (domestic and foreign) to the private sector, December 2008

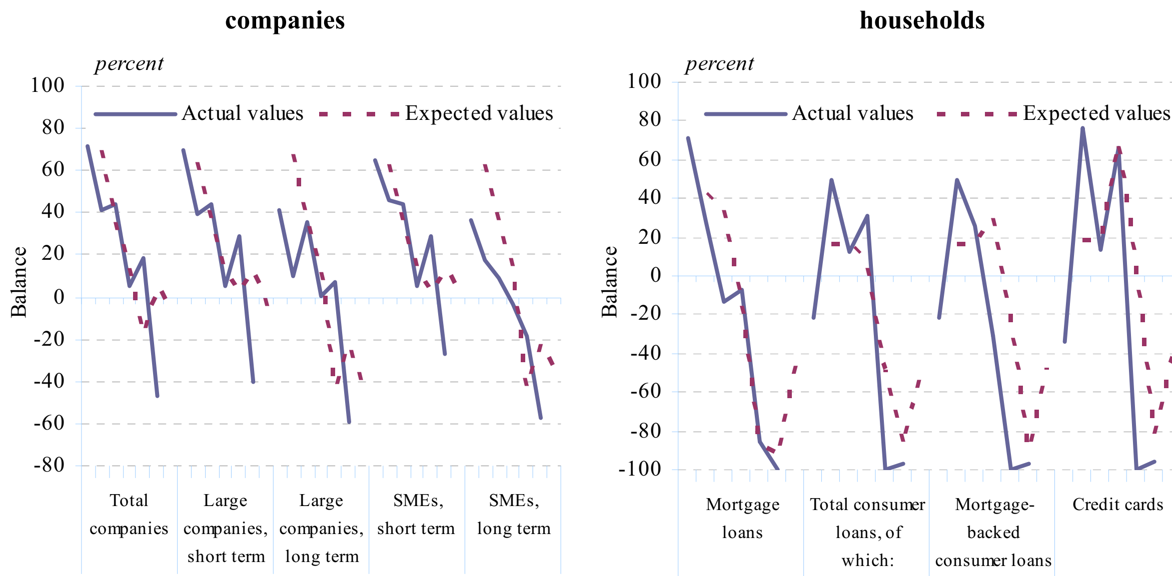


Source: NBR calculations

(iii) Some 78 percent of total indebtedness span the medium- and long-term, as indicated in Chart 4.2.4. Real economy will undergo major structural changes over this lengthy horizon of the credit lifespan (also as a result of euro area accession). The existence of a highly-performing management structure is of the essence, otherwise there is a higher risk for a larger number of companies to exit the market, meaning that creditors would incur losses as well.

(iv) Domestic loan demand and supply recorded marked, same-direction fluctuations and were strongly pro-cyclical. The demand for and supply of loans had been abundant until September 2008, when a quick and sizeable adjustment occurred. The supply dwindled on account of: (i) higher debtor risk, (ii) the loans-to-deposits ratio standing considerably above par in many cases, (iii) the risk of solvency deteriorating as the current debtors will face difficulties in servicing their debts, and (iv) more expensive financing resources for banks. Higher financing costs and the uncertainties surrounding the economic environment were the main factors stymieing corporate demand for loans, regardless of the companies' size (Chart 4.2.5). As regards household demand for loans, banks' expectations on all credit types are even more pessimistic (Chart 4.2.5). Households are increasingly wary of taking loans on the back of higher interest costs, the lower indebtedness ceiling and anticipations of a further drop in housing prices.

Chart 4.2.5 – Quarterly change in loan demand during 2007 Q4 – 2009 Q1 in case of:

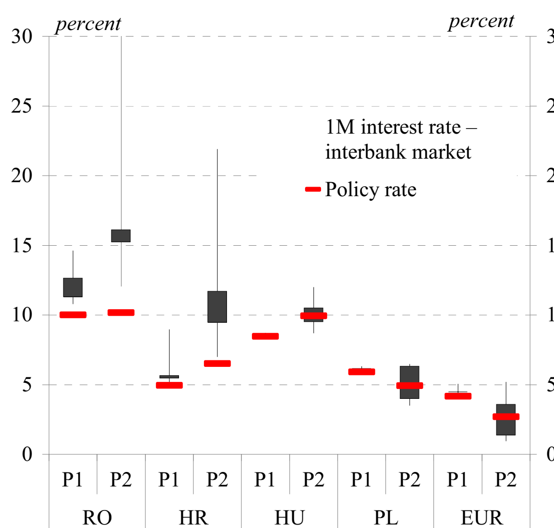


Note: positive readings in the balance show a higher demand for loans.

Source: Bank lending survey, May 2009

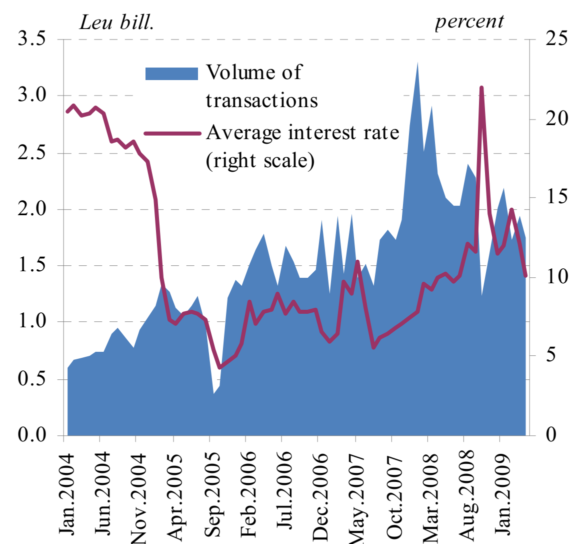
(v) Money market developments in the latter half of the year mirrored a gradual reduction in liquidity. The average daily volume of interbank deposits shrank from about Leu 14.5 billion to approximately Leu 4 billion, while interest rates remained high, above the policy rate, as shown in Chart 4.2.6. The effects fed through to bank loans as well. Thus, lending rates on new business witnessed a considerable hike September through November 2008.

Chart 4.2.6 – Distribution of 1M interbank rates and the policy rate (P1: May 2008 – Sep. 2008, P2: Oct. 2008 - Apr. 2009)



Source: Bloomberg, NBR

Chart 4.2.7 – Volume of money market transactions and average interest rate



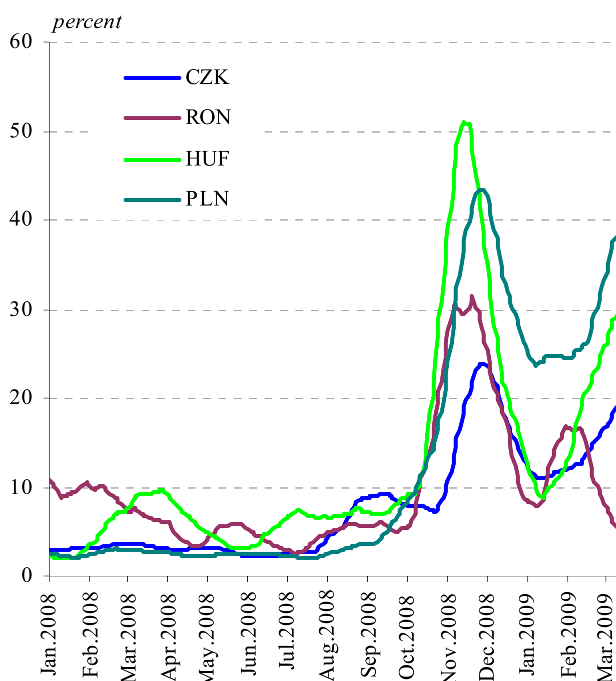
Source: NBR

Fears regarding a possible retrenchment in funding provided by parent-banks to their subsidiaries generated a confidence crunch among credit institutions (Chart 4.2.7), as reflected by their resort to standing facilities. The NBR stepped in to preserve the functional status of the money market by making recourse to a wide range of instruments, such as repo and swap transactions, or cutting by 2 percentage points the required reserves on leu-denominated liabilities.

There is still room for enhancing the efficiency of central bank interventions. The solutions that may be contemplated include: widening the scope of operations whereby liquidity is injected into the market, extending the related maturities and diversifying the range of eligible collateral for monetary policy operations.

4.2.2. Exchange rate policy and its implications on financial stability

Chart 4.2.8 – Conditional volatility of the major CEE currencies in relation to the euro (percent, 20-day moving average)



Source: NBR calculations, Bloomberg

Exchange rate developments were stable in the first part of 2008, with average monthly gains of 0.3 percent and an average volatility of below 6 percent January through September. During October 2008 – April 2009, the leu weakened 12 percent against the euro (and 21 percent versus the US dollar), while its volatility exceeded 30 percent (Chart 4.2.8). These stark contrasts between the two parts of 2008 could not be anticipated, thereby considerably affecting both the economic environment's capacity to respond and the business plans.

The factors underlying these exchange rate developments were: (i) global – high uncertainties surrounding the global financial system and possible spill-over effects onto emerging countries, (ii) regional, as well as (iii) specific – two major rating agencies downgraded Romania's sovereign rating to below "investment grade".

Central bank interventions during this period were aimed at dampening any unwanted fluctuations. Thus, the volatility of the leu, albeit on a sharp uptrend, stayed below that of its peers in the region and currently hovers around very low readings (Chart 4.2.8).

Forex market liquidity shrank markedly after October 2008, on account of non-residents' capital flight. In November, the volume of foreign currency transactions declined by about 60 percent month on month, marking the onset of a downward trend in forex market activity (at least until March 2009).

4.3. External balance

4.3.1. Current account deficit and its financing

The risk identified in the previous Report regarding the likelihood of a major adjustment of the current account deficit has started to materialise since end-2008. Deficit adjustment is expected to be fast and substantial, from 12.3 percent in 2008 to 7.4 percent in 2009. A similar development is anticipated across all EU emerging economies, albeit to various degrees (Table 4.3.1).

Table 4.3.1 – Current account deficits in EU emerging countries

share in GDP

	BG	CZ	EE	LV	LI	HU	PL	RO
2002-2006 average	-9.0	-4.4	-12.2	-12.5	-7.4	-7.8	-2.4	-6.3
2007	-22.5	-1.5	-18.3	-22.5	-15.1	-6.2	-5.1	-13.5
2008	-24.8	-3.1	-9.1	-13.6	-12.2	-8.4	-5.3	-12.3
2009	-18.8	-3.2	-1.1	-1.5	-1.9	-5.0	-4.7	-7.4
2010	-17.2	-3.3	-3.1	-1.9	0.7	-4.8	-3.7	-6.1

Source: European Commission, spring forecasts, May 2009

The current account deficit adjustment raises two major challenges, namely: (A) worsening companies' financial condition, particularly those involved in foreign trade and (B) the risk that the adjustment might occur especially through lower investment.

(A) Foreign trade companies already feel the effect of slower import-export operations, also through the worsening of their debt servicing capacity.

(A1) Companies manufacturing intermediate goods and engaged in foreign trade have seen a fast-paced deterioration in economic activity. More sluggish external demand led to an abrupt fall in exports, as these companies' market contributed over 90 percent to export correction during November 2008 through February 2009.

These companies' financial soundness has also deteriorated. The quality of domestic bank loans witnessed the fastest and most significant deterioration, with the default rate more than tripling in a few months, from 2 percent in June 2008 to 7.5 percent in March 2009. However, this has a relatively restrained impact on the domestic banking sector, because these companies account for only 6 percent of the total loan stock. On the other hand, foreign creditors could be more adversely affected by these developments, since 85 percent of these companies' financial resources come from abroad.

(A2) Trade *companies with import-only operations* (accounting for 30 percent of imports and over 50 percent of the number of importers) saw their profitability ratio decline as early as 2008 H1 (to 10.3 percent in June 2008 from 15.6 percent a year-ago). The turnover started witnessing considerable adjustments, with companies engaged in motorcar sales[79] reporting an almost 40 percent year-on-year drop in 2009 Q1.

Import-only companies raised funds primarily via domestic credit in foreign currency, which makes up over 50 percent of total financing provided by domestic and foreign creditors. The exposure of the Romanian banking sector runs at 9 percent of total credit to the economy (and almost 12 percent of forex loans, as of March 2009). The external financing of these companies is

[79] Monthly indices compared to the same period of previous year

also relatively subdued, standing at 7 percent of Romania's total private external debt, of which 73 percent over the medium and long term.

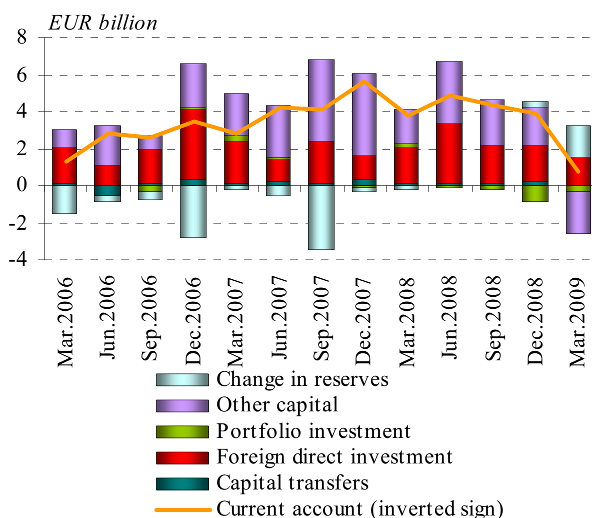
The contraction in import-only companies' turnover did not feed through to their debt servicing capacity. Thus, the default rate – which was moderate at 0.6 percent in March 2009 – increased at a slower pace than the average value. It is likely to rise at a faster pace over the upcoming period, amid the adjustment in companies' and households' consumption behaviour.

Less-readily available financing, particularly via trade loans, remains a challenge to importers. Short-term external trade loans shrank more than 73 percent (or EUR 2.7 billion) September 2008 through March 2009[80]. Credit-type short-term external financing was much more stable, witnessing a stalemate in 2008 Q4 followed by a slight increase in 2009 Q1.

(A3) Exporters witnessed the fastest advance in the default rate among all foreign trade companies (from around 1 percent to 4 percent during December 2007 – December 2008). Both the domestic banking sector and foreign creditors have a relatively high exposure to these companies (8 percent of total loans extended and 18 percent of the total foreign debt respectively).

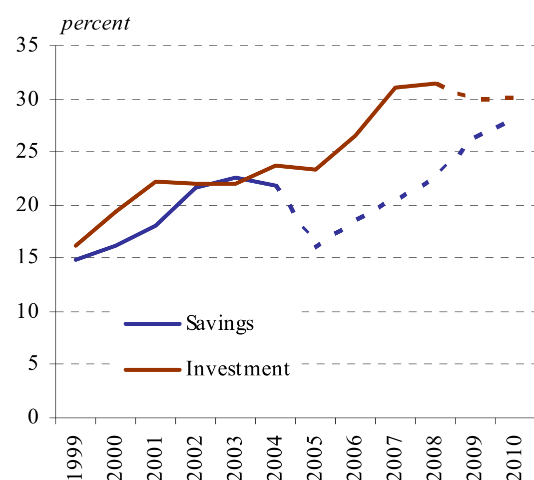
(B) All economic sectors (companies, households and government) have accumulated financing deficits in recent years, which have been mitigated via external saving. The ongoing crisis diminished investors' appetite for capitalising on their placements in Romania. Portfolio investment and other equity were the first to flee starting end-2008 (Chart 4.3.1). FDI has remained robust so far (March 2009).

Chart 4.3.1 – Capital account and current account deficit (unadjusted quarterly data)



Source: NBR

Chart 4.3.2 – Saving and investment ratios (as a share in GDP)



Note: The dotted line refers to estimated values, while the values for 2009 and 2010 are forecasted.

Source: EUROSTAT

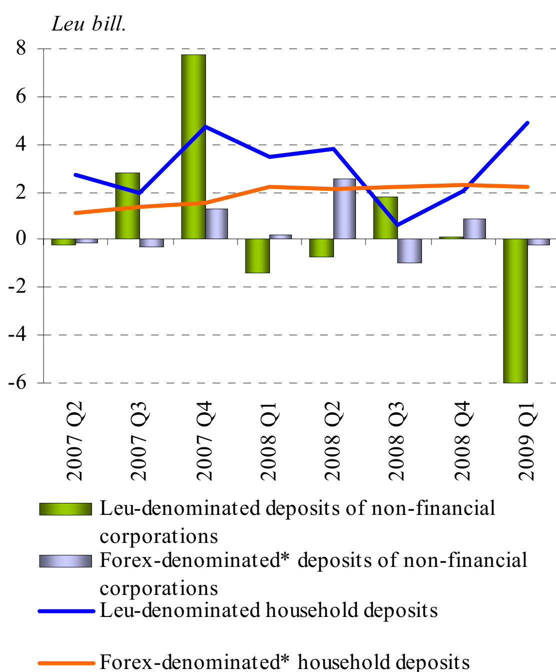
The current account deficit adjustment is expected to reflect the ceiling of the investment ratio and the fostering of domestic savings (Chart 4.3.2). In fact, the growth rate of investment in the

[80] According to SDDS data on trade loans to other sectors.

economy decelerated markedly to 2.3 percent in 2008 Q4 versus the same year-ago period. A slowdown was manifest both for investment in equipment (3.6 percent in 2008 Q4 against 2007 Q4) and for investment in construction (7.3 percent in 2008 Q4 year over year). The outlook remains unchanged[81].

Imports of capital goods[82] contributed over 40 percent to the correction of imports during November 2008 – February 2009. The main culprit for this development was the significant decline in imports of transport means. If the trend persists over the upcoming period, this would alleviate the risk of import correction on account of capital goods, which are essential to productivity growth.

Chart 4.3.3 – Change in deposits of households and non-financial corporations*



* change in forex deposits has been adjusted for the exchange rate effect

Source: NBR calculations

The bleaker outlook on households' future incomes (income effect) and the depreciation of assets (both financial and non-financial – wealth effect) will encourage saving as a precautionary measure. Deposit supply has risen considerably recently, by providing satisfactory yields. Thus, household savings have witnessed a sizeable increase, particularly via deposits in domestic currency (Chart 4.3.3).

As far as corporate saving is concerned, prospects of lower profit amid slacker domestic and external demand can yield mixed effects. Corporations with a good financial standing might postpone any investment decisions in favour of savings. Corporations with ongoing investment projects will try either to complete or to freeze them, depending on their financing capacity. Corporate savings with banks have been more volatile and expectations point to even higher volatility if difficulties in raising liquid funds increase.

[81] According to the NBR's *Business Survey*, April 2009. Secondly, the regular survey conducted by the European Commission among EU companies indicates a decline in the capacity utilisation rate, which prevents launching new investments. Thirdly, the managers of domestic banks expect a considerably slacker demand for long-term loans, which are most likely used in investment financing (according to the *NBR Bank Lending Survey*).

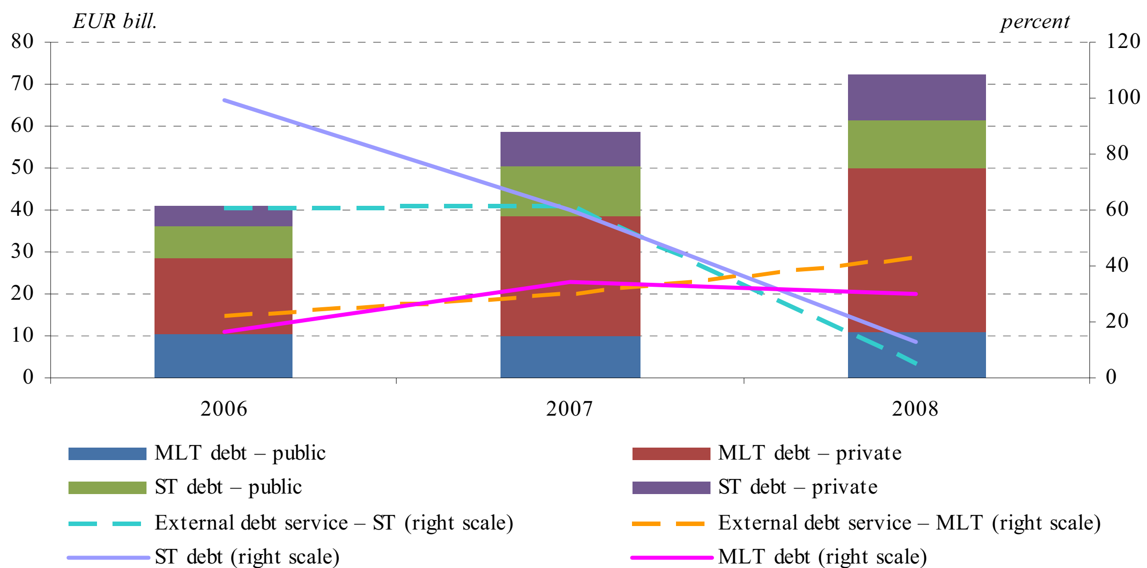
[82] Transport means included.

4.3.2. Short-term foreign debt

Outstanding foreign debt rose in 2008 to EUR 73 billion or 53.4 percent of GDP. The growth rate slowed markedly on account of the sharp deceleration in the dynamics of short-term foreign debt (STFD), which accounts for 30.4 percent of total foreign debt. The private sector is the main recipient of these resources (over 80 percent), as revealed by Chart 4.3.4.

The availability of external financing has plummeted since October 2008, after the Lehman Brothers bankruptcy. If creditors fail to renew or quickly decrease their credit lines, domestic debtors might face difficulties in their debt servicing capacity and in continuing their activity. All debtor categories are at risk (A. banks, B. NBFIs and C. companies), albeit to various degrees. STFD is highly concentrated, a feature that would allow the authorities' intervention on a case-by-case basis.

Chart 4.3.4 – Foreign debt structure and the annual dynamics of debt and external debt service



Source: NBR

(A) *The banking sector* made heavy recourse to external financing. More than 30 percent of its liabilities are accounted for by funds raised from abroad. Some 40 percent of these funds have a maturity of up to one year. STFD concentration is high in the banking sector, with 10 institutions cumulating 90 percent of the total external funds. The major parent banks made a commitment to maintain in principle their exposure to Romania, so that the risk that parent company financing dries up is reduced. The risk related to other external financing is lower than in other countries in the region (the Czech Republic and Bulgaria – over 70 percent, Romania – 37 percent, Hungary – 29 percent, Poland – 51 percent[83]).

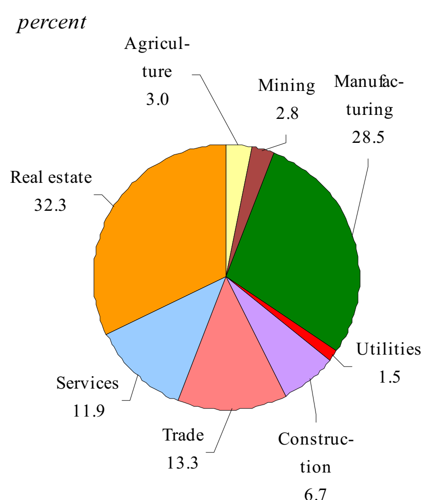
(B) *Non-bank financial institutions* face a higher external liquidity risk than banks. These institutions' foreign debt accounts for over 80 percent of their overall debt, with 34 percent being due in 2009. STFD concentration is equally high: top-ten NBFIs make up 80 percent of total funds taken. Acting as an alleviating factor, the share of intracompany loans in total STFD doubled in the last three months of 2008 to 30 percent, exceeding EUR 0.8 billion.

[83] Calculated as the share of STFD from other loans than intracompany loans in total STFD with original maturity. Data as of September 2008, BIS.

(C) *Non-financial companies* saw their STFD increase in 2008 to over EUR 11 billion, with both financial credit and parent company loans witnessing similar dynamics. STFD is highly concentrated in the real sector: (i) it is generated by less than 2 percent of companies operating in Romania; (ii) 2,000 companies (of the 600,000 active companies) account for over 90 percent of the said debt; (iii) at sector level, companies belonging to three economic subgroups (real estate, construction and trade) make up more than half of the STFD (Chart 4.3.5).

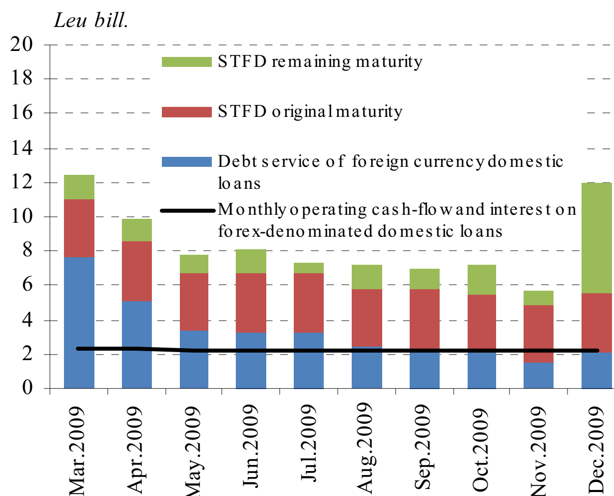
Companies in the non-tradable sectors, which further account for over 65 percent of STFD, are much more vulnerable to an external liquidity shock on account of: (i) the revenues are mostly earned on the domestic market; (ii) the balance sheet effect is much more visible in this sector (the asset growth rate stood at 71 percent in 2008 compared to a mere 29 percent in other sectors); (iii) the investors' sentiment shifted following the corrections on similar markets in other countries in the region. Of the entire group of non-tradable companies, those operating in construction and real estate sectors have the largest exposure (32 percent in total STFD) and are systemically-important for the economy and financial system (see Section 4.1.2 for further details).

Chart 4.3.5 – STFD structure by economic sector as of December 2008



Source: MPF, NBR calculations

Chart 4.3.6 – Foreign currency debt service of non-financial companies and operating cash flows



Source: MPF, NBR calculations

Companies' capability to repay their external debt might be seriously hampered this year in case of a decline in STFD renewal rate (Chart 4.3.6). Liquidity flows coming from the operating cash-flow are insufficient to repay debts. The foreign currency debt service of domestic bank loans is higher in the first part of 2009, but the pressure on the forex market could rise in the latter part of the year, depending on STFD distribution by maturity.

4.4. The agreements with the IMF and the European Union – support for strengthening macroeconomic equilibrium and the financial system

General objectives

The financing arrangements negotiated with the IMF and the European Union this spring, as well as those concluded with the World Bank and other international financial institutions, are meant to financially support the Government's economic programme aimed at macroeconomic and financial consolidation. The primary objective of the support packages negotiated with the IMF and with the European Union is to ensure an orderly adjustment of the external deficit, with positive direct effects on the exchange rate and, hence, on the financial position of companies, households and of the banking sector. These agreements have a markedly precautionary nature, as they provide – alongside the necessary financial resources for correcting certain macroeconomic imbalances – increased credibility to the Government's economic programme.

Starting from a positive general assessment of the banking sector, including capital adequacy, the arrangements with the IMF and the European Union are aimed – as far as the financial sector is concerned – at strengthening the solvency of Romanian banks so as to provide room for manoeuvre to face potential renewed pressure generated by the global financial crisis. In this sense, for prudential reasons, banks' solvency ratio is to be maintained at a minimum of 10 percent for the duration of the programme (2009-10) compared to the regulated level of 8 percent. At the initiative of the IMF and the European Commission, the parent banks of the nine largest foreign banks incorporated in Romania met twice, in March and May 2009, on which occasions they reaffirmed their commitment to maintaining their overall exposure to the country and to ensure a minimum solvency ratio of 10 percent.

Using the results of stress scenarios

The *ex ante* assessment of the potential capital needs corresponding to the 10 percent threshold is to be carried out via stress-test scenarios conducted by the NBR on Romanian banks. The baseline stress scenario considers as risk factors macroeconomic indicators at the levels considered by the Government when devising the economic programme (GDP growth rate, inflation rate, exchange rate, and leu interest rates and foreign currency-denominated loans). The impact of shocks on the banks leads to new, lower levels of the solvency ratio and hints at potential capitalisation needs in order to reach a minimum solvency ratio of 10 percent.

It was agreed that the results of the stress-test scenarios run on each bank be communicated and discussed during bilateral meetings organised by the NBR. Banks are asked to ensure the required capitalisation by end-September 2009 and end-March 2010, so as to maintain a minimum solvency ratio of 10 percent throughout 2009 and 2010 respectively.

Under the baseline scenario, the financial performance of credit institutions' counterparties is generally considered to be one category lower. The worsening debt servicing capacity of companies entails the migration of part of the loans to higher risk categories. Hence, overall provisioning expenses increase, by 60 percent in 2009 and 20 percent in 2010, while own funds at end-2008 declined around 21 percent.

According to the results of the baseline scenario, when subject to the assumed risk factors, twelve banks post solvency ratios of below 10 percent and are to supplement their own funds. The total recapitalisation needs of these banks – as implied by the considered scenario – stand at around

EUR 1 billion. Several banks have already raised the level of their own funds, while all credit institutions concerned have communicated the volume of funds to be supplemented, the source and type of capitalisation.

Box 3: Bank stress testing model

The stress testing model employed by the NBR to estimate recapitalisation costs for individual banks was introduced on the occasion of the FSAP in 2003 and was subject to subsequent improvements. The methodology encompasses two components, namely the macroeconomic stress testing module and the interbank contagion module, and covers a 2-year horizon (2009-10).

The *macroeconomic stress testing module* calculates the simultaneous impact of macroeconomic shocks on individual banks' solvency position, using as risk factors GDP growth rate, inflation rate, exchange rate, and the average annual interest rates on leu- and foreign currency-denominated loans. Shocks affect the banking sector via direct and indirect channels. The direct channels are the net open foreign exchange positions and the mismatch between assets and liabilities bearing floating interest rates. The indirect channel is determined by the quality of the loan portfolio. Credit risk arises from a range of macroeconomic shocks affecting the financial position of the corporate sector. The indirect effect is measured in terms of expected losses on the loan portfolio over a one-year horizon, based on the increase in provisions computed for every credit exposure.

The effect of the worsening quality of the loan portfolio is quantified by raising the volume of provisions as a consequence of shocks. The calculation base of this effect is given by the highest value between actual provisions made by banks and those recommended by the level of overdue and doubtful loans. The increase in provisions is calculated based on the ratio between the value of provisions estimated under stress conditions and that of provisions estimated based on actual data.

Before and after shock ratings are derived from applying a set of own scoring models to a number of financial indicators. The assessment of performance under stress conditions is based on 15 bridge equations allowing the recalculation of the main balance sheet indicators and of the income statement depending on the considered macroeconomic shocks.

The *total impact of the macroeconomic scenario* on banks' own funds is the sum of the direct exchange rate effect, the direct interest rate effect and the indirect credit risk effect.

The net impact of the macroeconomic scenario on own funds derives from the difference between the average earning power and the total impact, as defined above. The net loss is reflected by the level of the bank's own funds: own funds after shock (macroeconomic module) are calculated as the sum of own funds before shock and the net impact of the macroeconomic scenario thereon.

The *interbank contagion model* assesses the direct spill-over effect in case credit institutions face imminent insolvency, as a result of macroeconomic shocks. The model draws on information resulting from the macroeconomic stress testing and uses the matrix of interbank bilateral exposures in order to assess the impact of losses that potential defaults might inflict on creditor banks following the direct contagion effect.

To sum up, the model quantifies the magnitude of the shock impact on own funds and the potential capital requirements in order to re-establish the desired solvency level.

Additional measures

The arrangements with the IMF and the EU also include other temporary (valid for the duration of the programme – 2009-10) and permanent measures. Thus, banks which commit themselves to maintaining overall exposure to Romania throughout the period of the programme and to increasing own funds to ensure a solvency ratio of over 10 will not be required during the same timeframe to comply with reserve requirements of the NBR for subordinated debt subscribed by shareholders or by international financial institutions.

Although the banking system is currently stable and sound, the banking regulation framework will be amended so that the supervisory authority might be able to respond in a timely and effective manner in the event of bank distress. The financial soundness framework and particularly the confidence in the banking system will be strengthened by raising the level of deposit coverage insurance in line with European practice and accelerating payouts to within 20 business days. The new coverage level was raised to EUR 50,000 per depositor and per bank in the second half of 2008.

Other measures included in the aforementioned arrangements refer to raising the minimum level of the capital adequacy ratio from 8 percent to 10 percent at an appropriate time and bringing Romanian financial accounting standards in line with international practice, as reflected in the International Financial Reporting Standards (IFRS), over a medium-term horizon (i.e. 1½ - 2 years).

CHAPTER 5. COMPANIES AND HOUSEHOLDS

5.1. Risks arising from non-financial companies

At the time companies entered the economic crisis, their financial soundness was relatively good, enabling them to withstand moderate shocks, but only in the short run. Credit risk went up, amid a sudden adjustment of demand for and supply of financing. A liquidity shock would have a significant impact on companies, while a shock on turnover can generate moderate to severe implications. As a matter of fact, payment incidents are on a steep upward trend, which calls for enhanced cautiousness.

5.1.1. Economic and financial performance

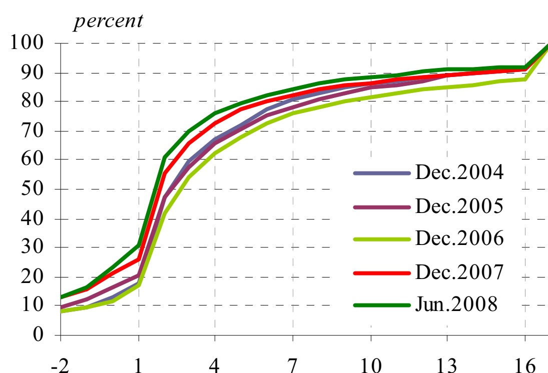
Corporate sector's financial soundness remained relatively good in 2008. High profitability and manageable leverage indicate that the real economy can withstand moderate shocks. Challenges arise from the reduction in turnover and the wide use of short-term financing.

(A) Return on equity (ROE) remained high at around 20 percent.

(B) Total indebtedness (debt to equity ratio) rose slightly, but remained within manageable boundaries (2 at aggregate level in June 2008 against 1.7 in December 2007). The large share of short-term bank loans in total bank loans is a reason for concern. Average credit line usage is almost 100 percent, reflecting that they are used as a long term financing resource rather than as a liquidity buffer. Under these circumstances, credit rationing might have a strong negative impact on the companies' liquidity management.

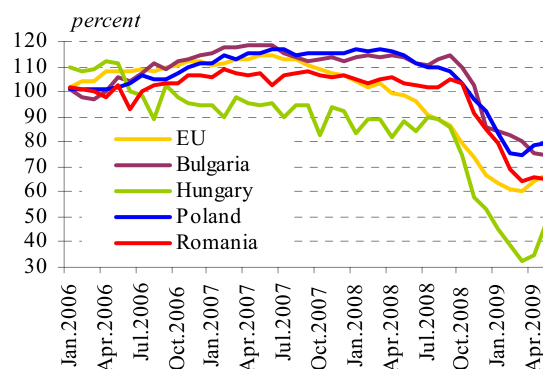
(C) Interest coverage ratio (ICR) deteriorated slightly compared to that in the previous Report (Chart 5.1.1). Companies with a low interest coverage ratio (EBIT divided by interest expense) have come to account for a significant percentage of bank loans (more than 30 percent, compared to about 15 percent in December 2006).

Chart 5.1.1 – Cumulative distribution of domestic bank loans by interest coverage ratio



Source: MPF, NBR calculations

Chart 5.1.2 – Evolution of confidence among EU companies (balances)



Source: European Commission

At sector level, services, construction and the real-estate sectors register a considerable deterioration. The companies in the real-estate sector have reported a below-par ICR ever since December 2007.

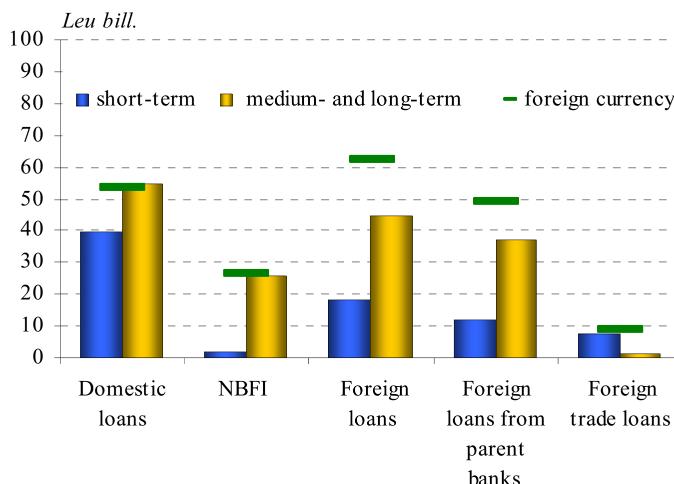
(D) External exposure is large and still increasing. This is, to a large extent, due to foreign direct investment, thus the risk of capital flight is somehow contained. At sector level, the largest exposure is registered by the real-estate sector. Companies with external exposure in this sector report a 250 percent foreign currency denominated debt to equity ratio (while the average economy-wide is of 8 percent). Most likely, this is due to foreign investment channelled through companies especially established for this purpose, wholly owned by non-residents and having low capitalisation.

(E) The number of companies established in 2008 was still larger than the ones struck off the register of companies. The number of applications for protection from creditors rose 56 percent in 2008 compared to 2007[84]. The companies (almost 18,500) falling under the scope of Law No. 85/2006 on insolvency (during January 2008 – March 2009) are not systemically important, as they only account for approximately 1 percent of turnover, employees and bank loans in the economy.

(F) Confidence among managers has worsened since the autumn of 2008. This development is broad-based across the EU (Chart 5.1.2). The risks refer to a fall in investment and a rise in unemployment, with spill-over effects on households as well.

5.1.2. Bank debt servicing risk

Chart 5.1.3 – Structure of companies' financial debt, December 2008



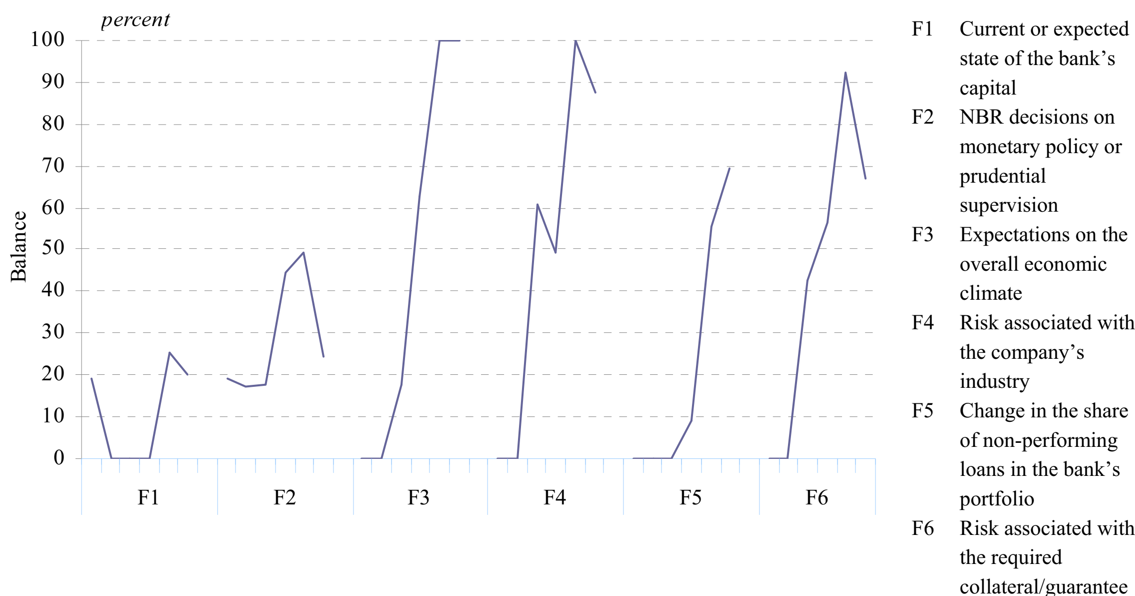
Source: MPF, NBR calculations

Domestic banks are the main financing source for companies, but foreign banks and parent companies play an increasing role, particularly for long-term loans (Chart 5.1.3).

In 2008, loans granted by domestic banks expanded by 22 percent in real terms; nevertheless, during the first 3 months of 2009, the real growth rate approached zero, as a result of the decline in demand for and supply of loans, due to the tightening of lending standards and terms in 2008. This development is likely to persist into 2009 as well.

[84] According to the National Trade Register Office.

Chart 5.1.4 – Factors behind the change in lending standards, quarterly developments 2007 Q4–2009 Q1

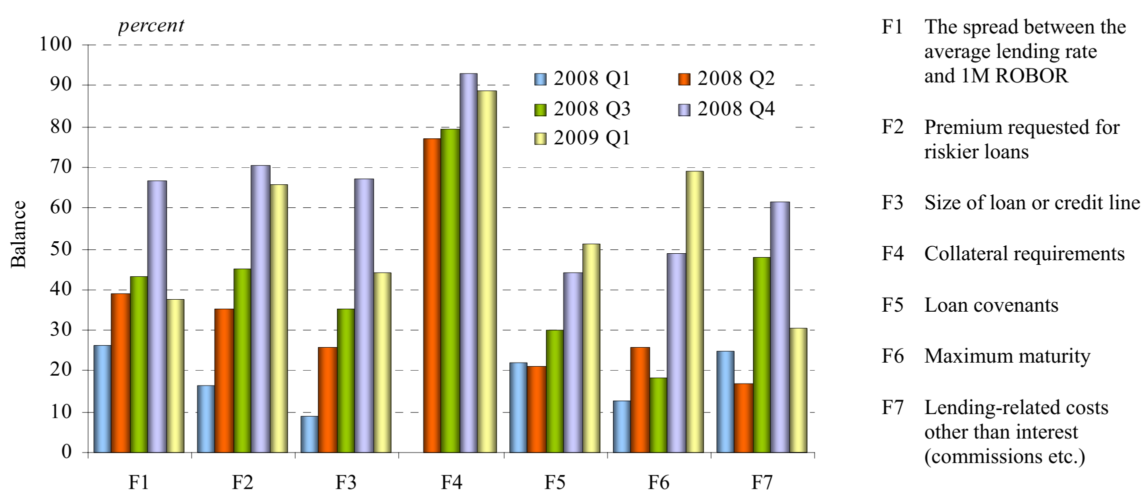


Note: positive readings in the balances show a tightening of lending standards

Source: Bank Lending Survey, May 2009

Lending standards were tightened, for SMEs in particular. Long-term loans are perceived by banks as carrying a higher risk, which might have a negative impact on investment financing. According to banks, the factors underlying credit tightening were (i) the unfavourable expectations on the overall economic climate, (ii) the rising risk associated with the company's industry, (iii) the larger share of non-performing loans in banks' portfolio and (iv) the risk of a decrease in the value of the collateral/guarantee value (Chart 5.1.4). These factors will most likely continue to have the same dampening effects in 2009.

Chart 5.1.5 – The change in the terms of loan agreements



Note: positive readings in the balances show a tightening of lending terms

Source: Bank Lending Survey, May 2009

Lending terms were also tightened in late 2008, particularly those referring to (i) the request for additional collateral, (ii) the shortening of the maximum maturity and (iii) the increase in the premium required for riskier loans (Chart 5.1.5).

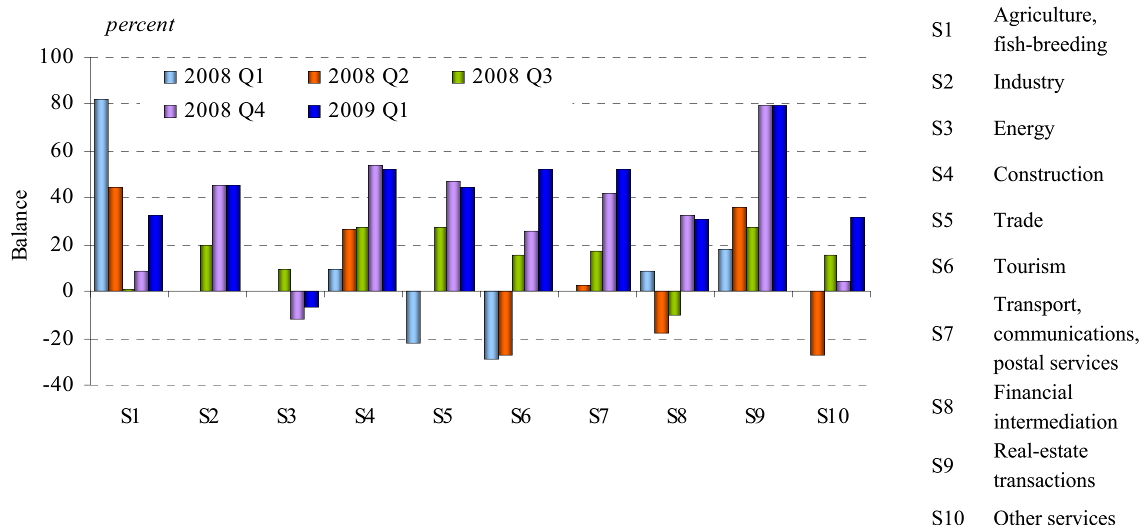
Under these circumstances, the main challenges regarding the corporate sector's domestic bank financing are:

(A) The rollover of credit lines to companies might diminish. During most of 2008, the liquidity provided to companies was plentiful; however, at year-end, the bank's supply plummeted. As a result, the maturity of loans was no longer extended, thus average short term maturity decreased. Moreover, banks demanded an increase in collateral when extending maturity credits approaching due date. The banks' purpose was to have readily available liquidity and protect themselves against a subsequent sharper deterioration of the economic situation, with an adverse impact on debtors' capacity to repay their debts.

The risk that banks might not rollover a significant part of loans appears to be low. By end-2009, loans in amount of more than Leu 40 billion are due to reach maturity, i.e. 44 percent of total loans granted to non-financial companies. Not rolling over these loans would significantly diminish the role of banks in the economy. In fact, companies would not have sufficient liquidity to repay in full these credit lines. The corporate sector's operating cash flow (average monthly value of roughly Leu 2.5 billion) would cover only about 40 percent of the principal repayments due in 2009. This capacity is asymmetrically distributed during 2009, being lower in the first part of the year and exceeding 50 percent starting August 2009.

(B) Banks' perception of companies' credit risk deteriorated, entailing higher financing costs. Companies carrying out activities in the real-estate sector, construction, transport, communication, postal services and tourism are regarded as having the highest risk (Chart 5.1.6).

Chart 5.1.6 – Development of credit risk by activity

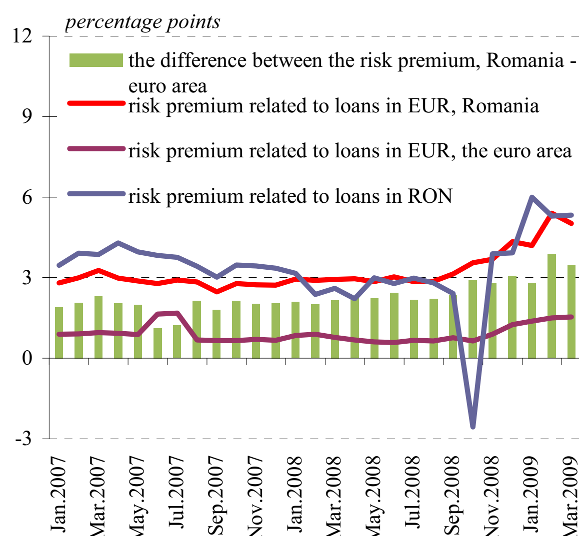


Note: positive readings in the balances show a higher credit risk

Source: Bank Lending Survey, May 2009

In terms of size, SMEs are deemed to be the most risky companies. Medium-sized enterprises, which in 2008 were classified in terms of credit risk between corporations and micro enterprises, no longer differ from the latter category.

Chart 5.1.7 – Development of the risk premium in Romania on loans in domestic currency



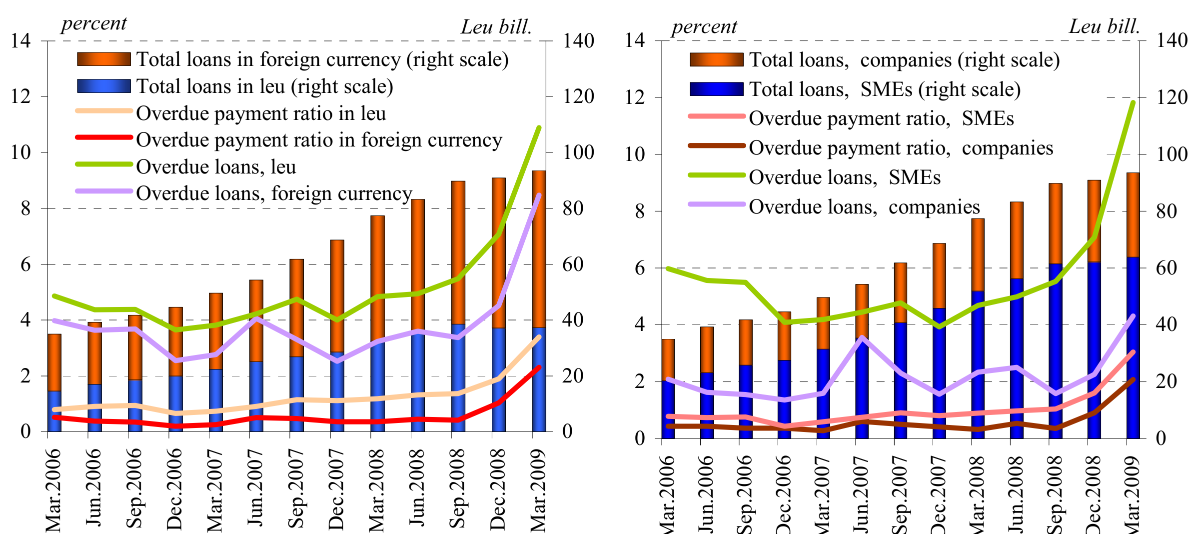
Source: ECB, NBR calculations

The risk premium[85] is on the rise (Chart 5.1.7), reflecting both banks' liquidity constraints and the expectations of an increase in the non-performing loans ratio. Since November 2008, the difference between the risk premium related to loans granted in the euro area and that related to loans granted in Romania has started to increase, after a relatively steady development throughout 2008.

The interest rates for new leu-denominated credits rose significantly to a level almost double that in the previous Report. This development mirrors somewhat the interbank market rates (reflecting the liquidity premium), to which the credit risk premium[86] is added. In 2008, the risk premium on loans in leu had a similar development to that of foreign currency-denominated loans. Since January 2009, the dynamics of the former has been faster (to reach 6 percent, Chart 5.1.7).

(C) Non-performing loans register an alarming dynamics. Up to September 2008, the overdue payment ratio reported a moderate increase, remaining however at benign levels. Subsequently, the growth rate of the overdue payment ratio accelerated across all economic sectors (and particularly in the real-estate sector and manufacturing), both for SMEs and corporations. The overdue payment ratio of foreign currency denominated loans saw the fastest dynamics (from 0.4 percent in September 2008 to 2.3 percent in March 2009). The overdue payment ratio related to loans in leu reported a similar development (from 1.4 percent to 3.4 percent, September 2008 – March 2009, Chart 5.1.8).

Chart 5.1.8 – Development of lending and overdue payment ratio



Source: NBR calculations

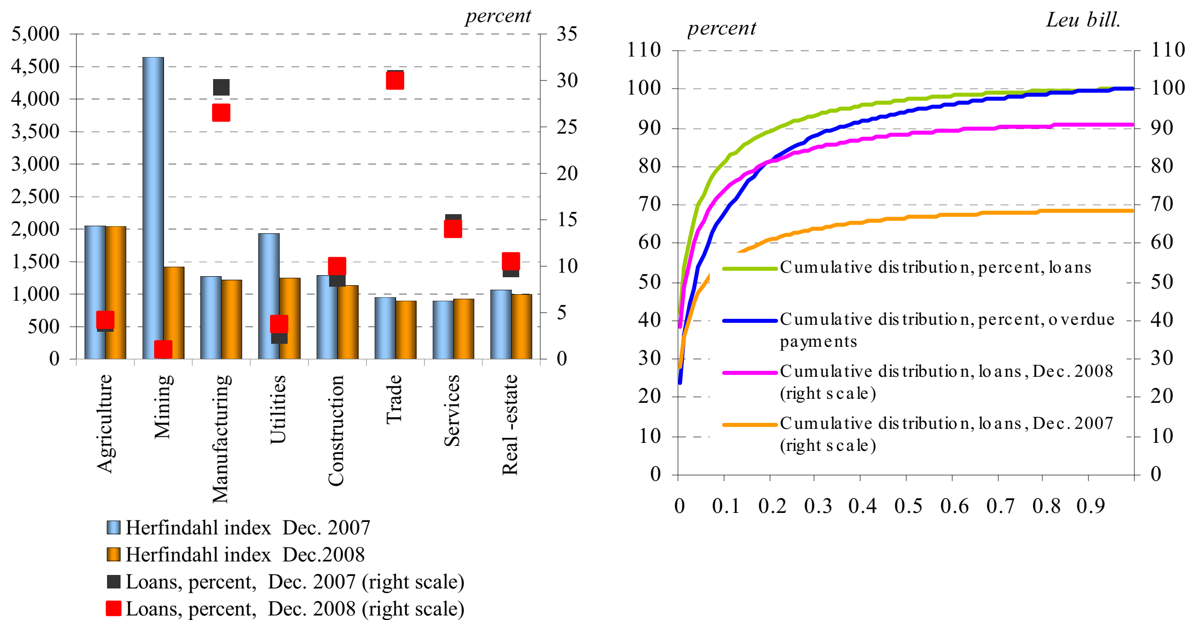
[85] Calculated as the spread between the interest rate on loans granted and the 3-month interbank interest rate. The steep fall in the risk premium on loans in leu since October 2008 is due to the significant rise in 3M ROBOR.

[86] In October 2008, the risk premium was negative, as a result of the short-lived interbank market freeze, entailing a sharp increase in ROBOR.

In terms of loans with at least one overdue payment, companies in the services and real-estate sectors are most affected (in the latter sector, the share of such loans in total loans almost doubled in one month). In terms of size, SMEs are the most vulnerable (Chart 5.1.8).

(D) Concentration of bank loans and overdue payments went up. The real-estate and construction sectors attract an increasing share of loans, to the detriment of manufacturing. In fact, the share of loans granted to the 10 largest companies, albeit significant for all economic sectors, is higher across the above mentioned sectors. The recent developments on the real-estate market and the importance of companies in the tradables sector (such as those in manufacturing) in the current account deficit adjustment point to a worsening since the previous Report.

Chart 5.1.9 – Concentration of loans and overdue payments

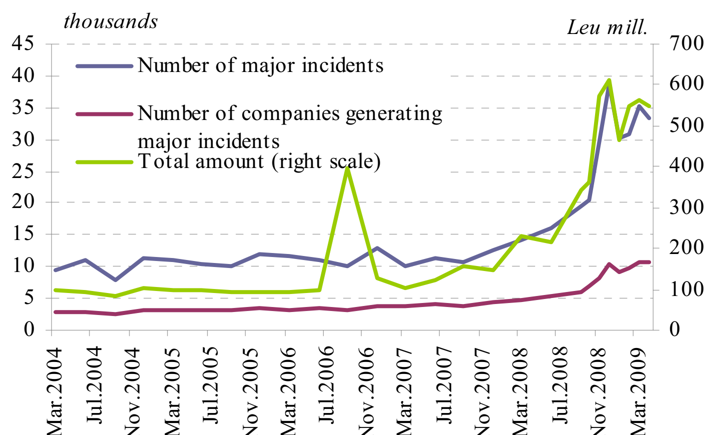


Source: NBR calculations

Concentration is also high in terms of the number of companies receiving financing (1 percent of companies with loans account for more than 40 percent of banks' exposure). The cumulative distribution of loans in December 2008 resembles very much that in December 2007, reflecting an unchanged level of concentration. Overdue payments are less concentrated than loans, indicating that they are mainly generated by companies with smaller-sized loans. Nevertheless, overdue payment concentration is on the rise, which points to higher vulnerability of large companies (Chart 5.1.9).

The risk arising from lending to companies is more dispersed among Romanian banks, reflecting a positive development. Institutional concentration of bank loans edged down (the Herfindahl index economy-wide fell from 1,026 to 976, December 2007 – March 2009).

Chart 5.1.10 – Dynamics of major payment incidents



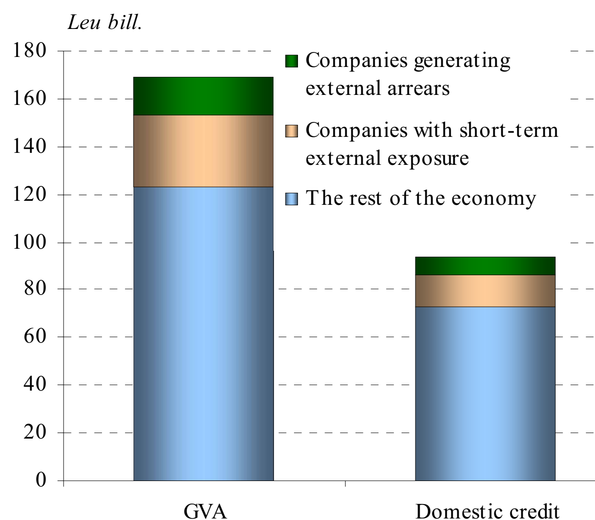
Source: NBR

(E) The dynamics of payment incidents calls for enhanced cautiousness. Payment discipline has seen a strong deterioration since the second half of 2008; thus, the number of major payment incidents picked up by 165 percent, and their value more than trebled (December 2007 – April 2009, Chart 5.1.10). Companies posing such problems to their business partners also encounter difficulties in bank debt service (more than 60 percent of overdue payments are accounted for by these debtors). These companies, taken as a group, have become increasingly important for the financial stability given their importance in the non-financial corporations' sector: they hold more than 8 percent of value added, a similar share of employees, and account for more than 10 percent of bank loans.

5.1.3. Companies' capacity to withstand shocks[87]

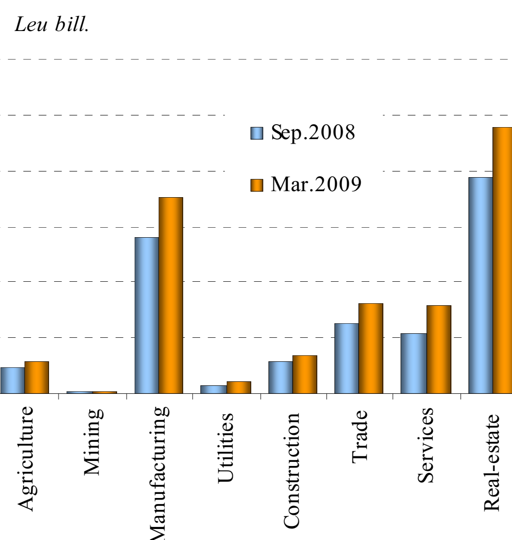
(A) An external liquidity shock would have a severe impact on real economy. Such an impact may materialise if foreign creditors of domestic companies and banks no longer rollover a significant part of credit lines. Companies may be affected via (i) *the direct channel*, corresponding to their own short-term external exposure and (ii) *the indirect channel*, through short-term exposure to domestic banks which face external liquidity problems and no longer rollover their short-term exposure to companies.

Chart 5.1.11 – The impact of the external liquidity shock on non-financial companies



Source: MPF, NBR calculations

Chart 5.1.12 – External arrears by sector



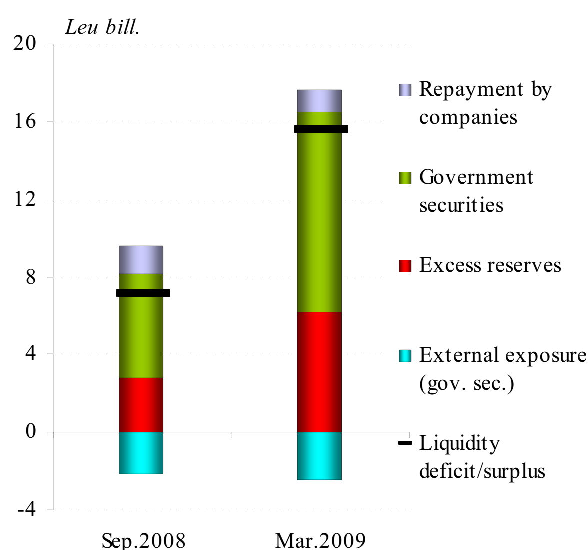
Source: MPF, NBR calculations

[87] The shocks presented in this section help analyse the impact on financial stability via the indirect channel alone, i.e. via real economy.

(A1) **The direct channel** may pose bigger problems, as non-financial companies are strongly exposed to non-residents in the short run. Companies with such exposure account for up to 20 percent of domestic bank loans, generating more than 25 percent of gross value added (in 2008 HI). The concentration of external exposure is elevated (for more details see Chapter 4.3.2). In the event of the liquidity shock[88], the amounts failing to be repaid might exceed 50 percent. Companies which encounter difficulties in repaying external loans are important to the economy, generating almost 10 percent of GVA (Chart 5.1.11). Real-estate and manufacturing sectors are most affected. The consequences of the unfavourable scenario were more severe in March 2009 than in September 2008 (Chart 5.1.12).

(A2) **The indirect channel** has a lower impact on companies[89], given that the banking sector is in a better position to withstand a liquidity shock (which dampens the shock transmitted to the real economy). The rise in excess reserves and holdings of unpledged government securities, coupled with the reduction in the banking sector's liquidity concentration are the main factors that might mitigate the consequences of an external liquidity shock. These factors improved between September 2008 and March 2009. If banks with excess liquidity granted loans to banks running deficits, the impact via the indirect channel would disappear (Chart 5.1.13).

Chart 5.1.13 – Implications at aggregate level of a liquidity shock via the indirect channel



Source: NBR calculations

(B) A turnover shock may have moderate or severe effects, depending on its speed. Companies could withstand more severe shocks, if those shocks materialize over a longer period, thus allowing them the time to adjust their financial position and the cost structure.

In terms of cost structure, companies are vulnerable due to fixed expenses that cannot be easily adjusted in the short run. At aggregate level, companies may withstand a sudden deterioration in sales of up to about 20 percent before registering negative profitability. Companies in the trade sector could cope with a turnover contraction of almost 30 percent, due to the larger share of variable costs. By contrast, companies in the industry sector could accommodate the least to the reduction in sales.

[88] The Report presents only the consequences of the scenario providing a rollover of credit lines granted to companies in a proportion of 60 percent only.

[89] The Report presents only the consequences of the scenario providing a rollover of credit lines granted to companies in a proportion of 90 percent only.

5.2. Household sector risks

The risks mentioned in the previous Report have materialised, though more intense than anticipated. Thus, household indebtedness further posted an upward trend, overdue payments ratio went up, while households' net wealth deteriorated. Household sector risks to financial stability are on the rise, with warning level ranging between medium and high.

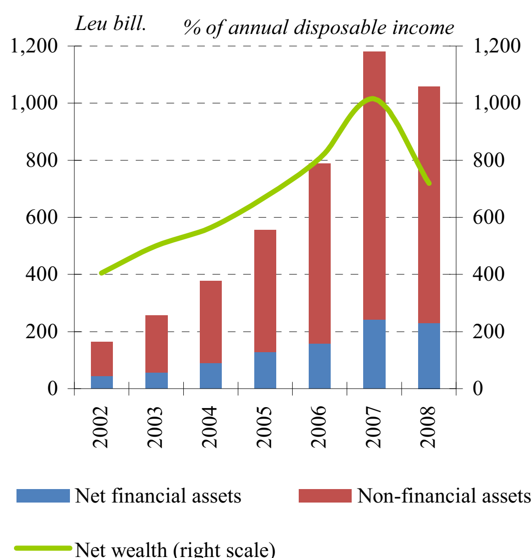
5.2.1. Household balance sheet position and saving

After significant increases in recent years, **net wealth**[90], in terms of both its components, financial wealth and non-financial wealth, dropped in 2008 (Chart 5.2.1). The main reason behind this development was the unfavourable evolution in prices of assets in households' portfolio.

(A) By *dynamics*, financial assets rose, though at a slower pace than financial liabilities (6 percent versus 43 percent). Households' capacity to cope with a possible income or debt service shock diminished, as a result of the decrease in net financial assets stock.

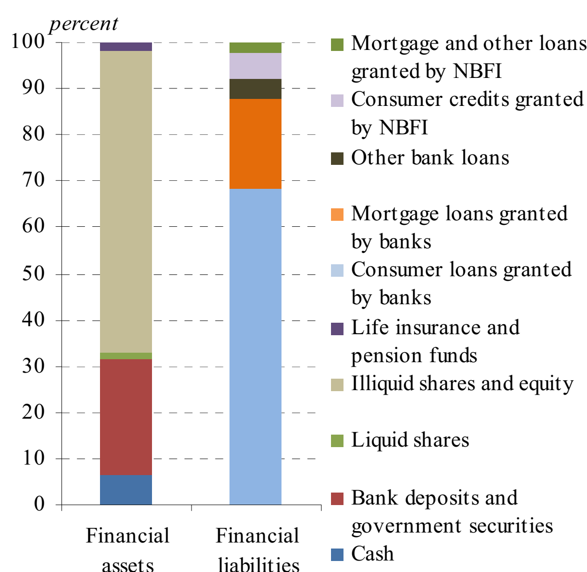
(B) By *structure*, risks mentioned in the previous Report have materialised. Households' wealth deteriorated also due to the fact that assets purchased through loans (mostly consumer goods) depreciate both physically and morally much faster than debts are paid. Moreover, the prices of such assets posted (unexpected) significant decreases and contributed, via this channel as well, to wealth deterioration. Savings based on lower market risk instruments, such as bank deposits, could rise should households' behaviour be aimed at preserving financial wealth level.

Chart 5.2.1 – Net household wealth



Source: NBR, NIS, ISC, PPSSC, NBR calculations

Chart 5.2.2 – Structure of households' financial assets and liabilities in 2008

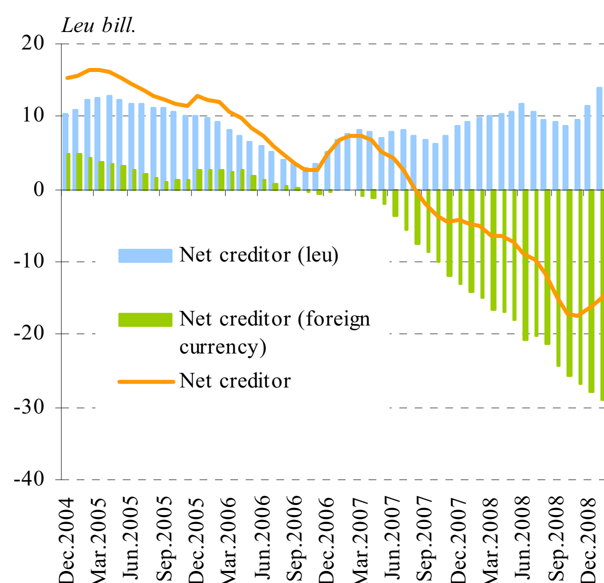


Source: NBR, NIS, ISC, PPSSC, NBR calculations

[90] Net wealth comprises net financial assets (computed as difference between financial assets and financial liabilities) and non-financial assets (including only real estate, the most important assets. For details on households' real estate assets, see Section 4.1.2).

In 2008, liquidity composition of financial assets witnessed some improvement, allowing for a better payment capacity. Illiquid shares and equity[91] continued to be the main component of households' financial assets (Chart 5.2.2), with a broadly unchanged weight of around 65 percent in recent years. Nevertheless, households focused more on holding liquid assets with lower market risk (cash, deposits and government securities, which held a 95 percent share in liquid assets[92]) to the detriment of liquid shares. The latter's weight in households' portfolio dropped significantly to 4.5 percent of liquid assets in 2008 from 18 percent in the previous year, due to both the price effect (market value shrank considerably towards end-2008) and quantity effects (the number of shares held by households decreased).

Chart 5.2.3 – Households' net creditor position to the banking sector



Source: NBR calculations

(C) *The position of the household sector vis-à-vis the banking sector* worsened. Risks related to foreign currency position and net debtor position have risen (Chart 5.2.3). As regards the geographical spread, risks are distributed as follows: only 5 counties[93] were net creditors vis-à-vis the banking sector (February 2009), while the position of net creditor of households in Bucharest halved versus the beginning of 2008. Debtor counties have also the highest unemployment rate (details in Section 5.2.3).

In this context, expansion in active saving[94] becomes increasingly important. Currently, the high degree of uncertainty prevents the outlining of a trend, as there are factors which tilt the balance in both directions (saving and dissaving respectively):

1. Income saw an uptrend. In the last 5 years, income rose more than 20 percent in nominal terms, resulting in an approximately threefold cumulative increase in the aforementioned period. Real annual growth rate of income, even inflation adjusted, is over 13 percent. Saving could be affected as well, if household income were diminished by the current crisis (for example, unemployment rate is forecasted to grow from 5.8 percent in 2008 to 8.0 percent in 2009[95]).

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[91] Illiquid shares and equity include: (i) unquoted shares and securities, as well as subscribed shares in other companies than joint stock companies, (ii) quoted but not traded shares (including those distributed via the mass privatisation programme).

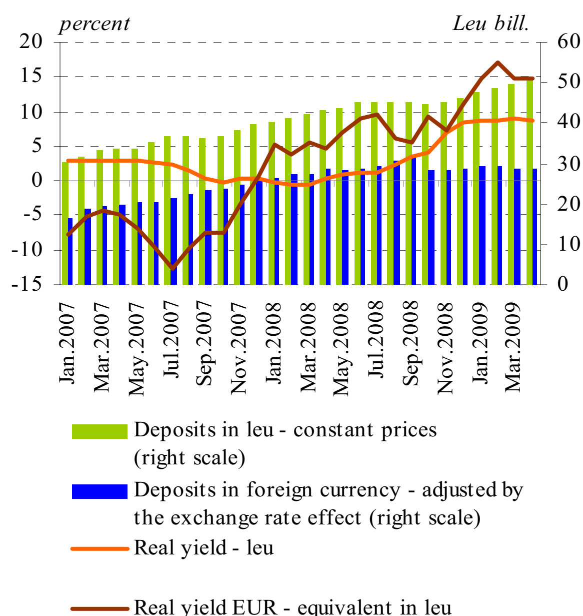
[92] Liquid assets comprise: (i) cash, bank deposits and government securities, (ii) liquid shares (quoted and traded shares, as well as shares/units of closed-end/open-end investment funds).

[93] Bucharest, Bacău, Dâmbovița, Harghita and Mureş.

[94] Increase in net wealth due to the quantity effect (purchases of financial assets) is considered as active saving, whereas the price effect (favourable revaluation of already purchased assets) generates passive saving. During 2002-2007, the increase in households' net wealth owed chiefly to passive saving.

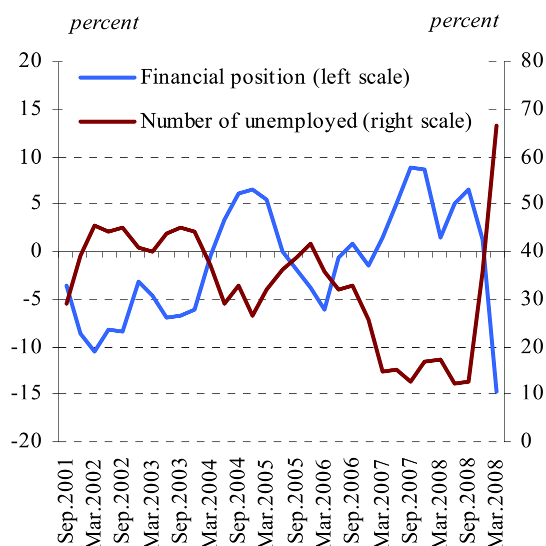
[95] European Commission, spring forecast, May 2009.

Chart 5.2.4 – Households' bank savings



Source: NBR calculations

Chart 5.2.5 – Household expectations regarding their financial position and unemployment in the next 12 months



Source: European Commission, NBR calculations (3-month moving average of balances)

2. In 2008, yields on household deposits became supportive for saving. Until last year in spring, there were two drivers that have not fostered household saving: (i) inflation rate that was not always below bank deposit rates or (ii) the appreciation of the leu. Nevertheless, the volume of deposits both in domestic and foreign currencies went up (Chart 5.2.4). The financial crisis rendered domestic resources far more important. Thus, banks started to offer attractive deposit rates in order to boost household saving. The depreciation of the leu made placements in foreign currency profitable. Saving in domestic currency resumed the upward trend disrupted by the panic that occurred in October 2008 (details in Section 5.2.2). Real yields on deposits in domestic and foreign currency will most likely drop, but we believe this will not have a major impact on saving.

3. Risk aversion is on the rise (Chart 5.2.5). Household expectations with regard to their financial standing in the next 12 months showed considerable volatility and re-entered negative territory in February 2009. The current deterioration is the highest and goes beyond the historical low recorded in March 2002. For 2009, expectations on saving remain in negative territory, though slightly improving. In this context, saving as a measure of precaution could expand to some extent, low risk assets, such as bank deposits, being preferred.

4. Tightening of lending terms and standards implies a more difficult access to bank financing. The down payment required to potential borrowers increases and indebtedness level accepted by banks declines. These factors could spur an increase in saving, given that the borrowers' contribution is on the rise.

5. A deepening of the financial crisis may lead to a significant bank deposit flight. Even if the deposit guarantee coverage were to be raised to the equivalent of EUR 100,000, almost 25 percent of the value of household deposits with banks would exceed the guaranteed ceiling. Compared with other depositors, the holders of such savings are, generally, in a better position to monitor risk on a regular basis, thus leading to a flight of these savings in the event of higher mistrust in the financial system.

5.2.2. Romanian depositors' behaviour in the context of diminished confidence in the banking system (October 2008)

In October 2008, against the background of the deepening global crisis and the emergence of dysfunctions on the domestic interbank market (also due to rumours that a leading bank might face major difficulties), depositors showed a lack of confidence. Bank deposit withdrawals were considerable: Leu 4.7 billion in one month (October 2008). As a percentage, the amount accounted for a 3.5 percent contraction in the volume of deposits. For the first time in the last 4 years, household deposits posted net outflows. This is indicative of the fact that the negative impact on the volume of deposits was induced primarily by households' behaviour.

The main characteristics of depositors' behaviour were the following:

a) *Size of the bank* (large/middle/small) and the *operating form* (branch/subsidiary) have not mattered too much, as deposit withdrawals were recorded in all the cases (Chart 5.2.6). In a somewhat counterintuitive way, large banks recorded the largest deposit outflows, which in some cases were significant not only in absolute terms, but also as percentage of the own portfolio. After the confidence in the system was restored in December 2008, it was large banks that benefited again from deposits. Nevertheless, *ownership type* seemed to matter in depositors' risk perception. The bank with exclusively Romanian state-owned capital was deemed as a safe entity and a large part of the withdrawals from other banks were channelled hereto.

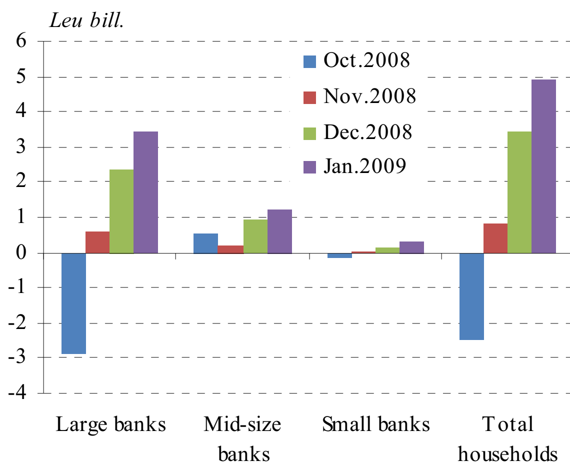
b) Households, especially those with high value deposits (more than EUR 100,000 equivalent), had the strongest reaction (Box 4).

c) Withdrawn funds were directed mainly to: (i) cash holdings, which increased by Leu 0.8 billion, including in safe boxes, the demand for which grew significantly in October (Box 4), (ii) the purchase of government securities (Leu 0.5 billion), (iii) opening deposits abroad (Leu 1.3 billion), and (iv) foreign currency purchases.

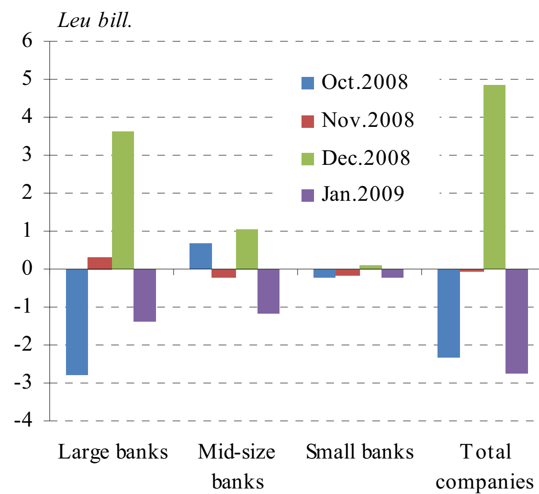
d) The lack of confidence lasted about 3 months, and it was only in December 2008 that the volume of deposits exceeded the level recorded before the panic struck. Although the aggregate volume of deposits reverted to the September 2008 level, residents continued to place deposits abroad, including in December.

Chart 5.2.6 – Monthly flow of deposits of

households | **non-financial companies**



Source: NBR calculations



Source: NBR calculations

Conclusions and lessons to be learned:

1) The Romanian state-owned bank was perceived by households holding small- and medium-sized deposits as safer than foreign banks' branches and subsidiaries. Thus, in the context of the ongoing crisis, this bank has to avoid problems that could affect its credibility.

2) The efficiency of a possible increase in the deposit guarantee ceiling from EUR 50,000 to EUR 100,000 could be low in comparison with the related costs. During the period when confidence in the domestic banking sector had dropped, mainly deposits of over EUR 100,000 were withdrawn. Given the behaviour mentioned above, the development of the secondary market for government securities could result in a better cost/profit ratio than the increase in the deposit guarantee ceiling.

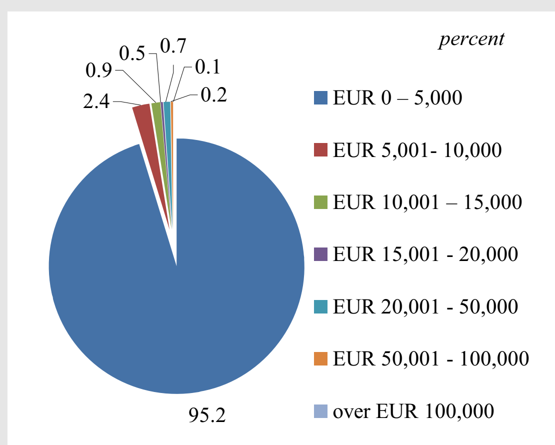
3) The policy of the Deposit Guarantee Fund in the Banking System (DGFBS) regarding liquidity requirements should also include scenarios on the implications of a bank crisis on large banks. At present, an empirical rule sets out that deposits held by guarantee funds should cover the payments of 3-5 small- or medium-size banks. The panic stirred in October 2008 showed that large banks, which hold the largest share of deposits, were the most affected. Such scenarios pose the problem of identifying liquidity requirements and their management by the DGFBS.

Box 4. Features of household deposits

Households are the main depositors and their contribution is on the rise (from approximately 46 percent at end-2005 to 57 percent of total deposits in January 2009).

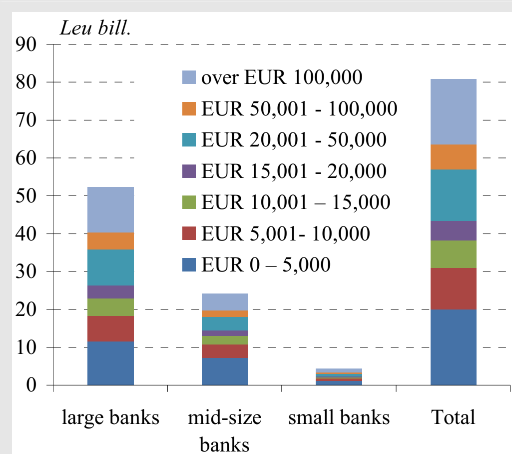
Granularity of household deposits is very high. As of November 2008, households held around 17 million deposits, most of them of low value (Chart 1). The average household deposit was of about Leu 4,700, up 60 percent from end-2006.

Chart 1 – Household deposits by size, 15 November 2008



Source: NBR questionnaire

Chart 2 – Household deposits by size and bank type, 15 November 2008



Source: NBR questionnaire

The structure of the number of deposits by size stayed broadly unchanged over the last 2 years, while by volume deposits in the categories EUR 10,000-100,000 posted an increase (Table 1).

The structure of deposit volume by size is indicative of the prevalence of deposits of up to EUR 5,000 especially for middle- and small banks (Chart 2). In the case of large banks, deposits of over EUR 100,000 account for nearly 23 percent of the volume of deposits, which nevertheless make up only 0.1 percent of the number of their deposits.

In the period of diminished confidence in the banking system, the withdrawal of household deposits was accompanied by an increase in the number of safe boxes (up 7 percent in October 2008 against the previous month). Safe boxes were concentrated in large banks (around 75 percent) and most probably attracted natural persons holding deposits upwards of EUR 100,000. This category of clients recorded the steepest decline in the number of deposits (especially with large banks).

Table 1 – Number and volume of household deposits with banks

percent

		31.12.2006	31.12.2007	30.06.2008	31.10.2008	15.11.2008
Number of deposits with amounts of:	EUR 0-5,000	96.9	95.8	95.4	95.1	95.2
	EUR 5,001-10,000	1.7	2.2	2.4	2.5	2.4
	EUR 10,001-15,000	0.6	0.8	0.9	0.9	0.9
	EUR 15,001-20,000	0.3	0.4	0.4	0.5	0.5
	EUR 20,001-50,0000	0.4	0.6	0.7	0.7	0.7
	EUR 50,001-100,000	0.1	0.2	0.2	0.2	0.2
	over EUR 100,000	0.1	0.1	0.1	0.1	0.1
Volume of deposits with amounts of:	EUR 0-5,000	31.9	25.0	23.7	23.4	24.8
	EUR 5,001-10,000	14.0	12.8	12.8	13.7	13.5
	EUR 10,001-15,000	8.2	8.0	8.3	8.9	8.9
	EUR 15,001-20,000	5.0	5.3	5.6	6.5	6.5
	EUR 20,001-50,0000	12.7	13.8	14.5	16.6	16.7
	EUR 50,001-100,000	6.7	8.3	8.4	8.4	8.3
	over EUR 100,000	21.5	26.7	26.7	22.4	21.3

Source: NBR questionnaire

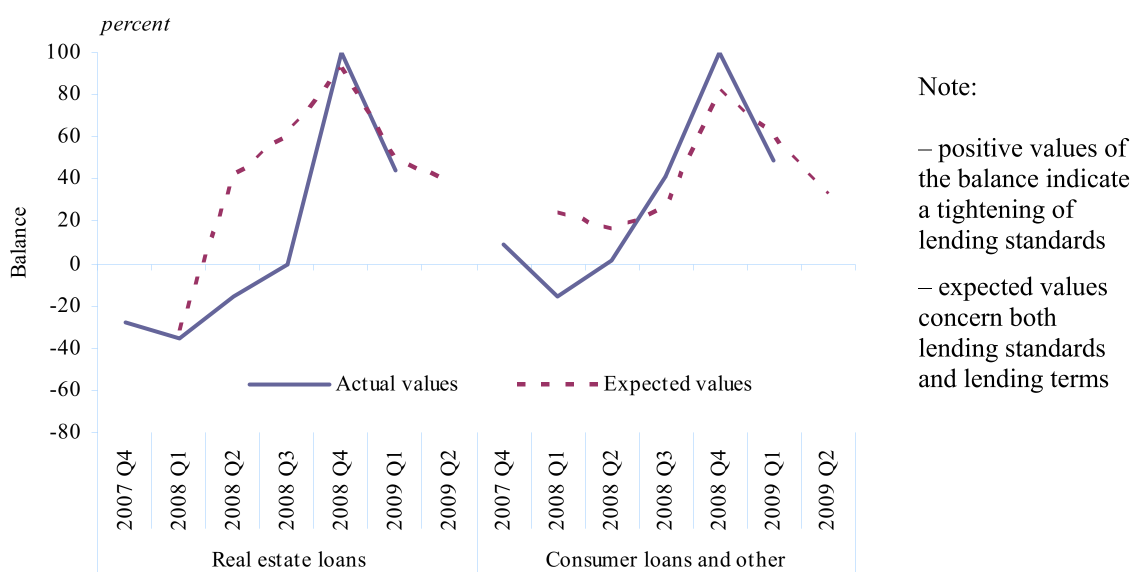
5.2.3. Household indebtedness

(A) Risks generated by household indebtedness dynamics and structure

(A1) Household indebtedness dynamics moderated somewhat in 2008 versus the previous years, but remained robust (a real 30.5 percent increase in 2008). The share of loans to households in GDP reached about 20 percent.

The end of 2008 marked a structural change in the development of credit, i.e. a contraction in *financing supply,* amid a tightening of lending terms and standards (seen since 2008 H2). *Demand for credit* of households shrank as well, against the background of deteriorating optimism as regards their financial position and bleaker outlook for unemployment (Chart 5.2.5). The concerted action of decrease in credit demand and supply led to a 3 percent contraction in real terms in lending to households in 2009 Q1.

Chart 5.2.7 – Changes in household lending terms and standards

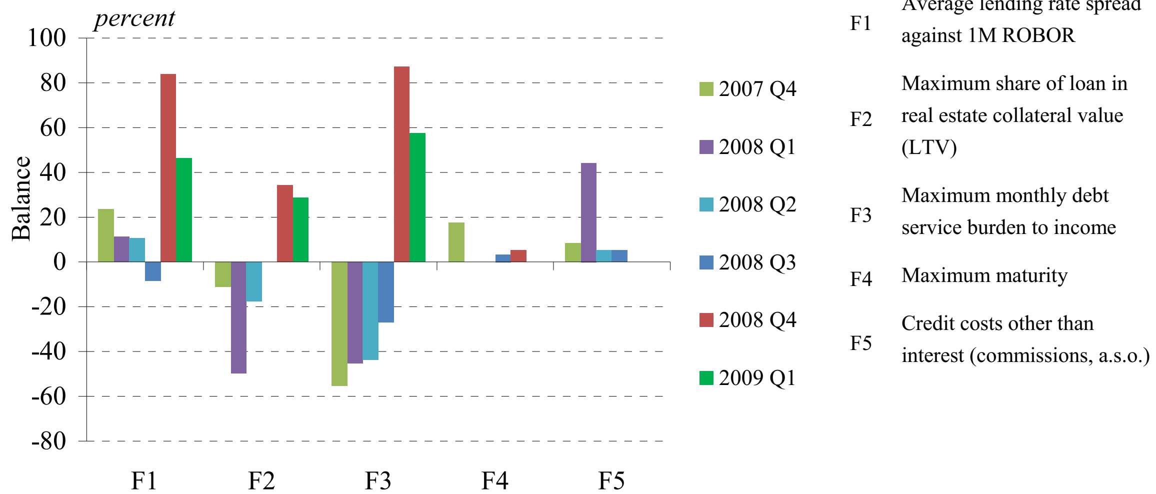


Source: Bank lending survey, May 2009

Credit standards tightened considerably for both real estate loans and consumer credits (Chart 5.2.7). The main factors behind these developments as pointed out by banks were: (i) the increasing overdue payment ratio and (ii) the unfavourable forecasts on unemployment and households' income.

Credit terms were tightened as well. The main factors contributing to a more difficult access of households to financing were: (i) the decrease in the maximum monthly debt service burden to income, (ii) the spread increase for average interest rate (against 1M ROBOR) and (iii) the contraction in maximum share of the loan in the value of real estate collateral (Chart 5.2.8 for mortgage loan terms).

Chart 5.2.8 – Mortgage lending terms

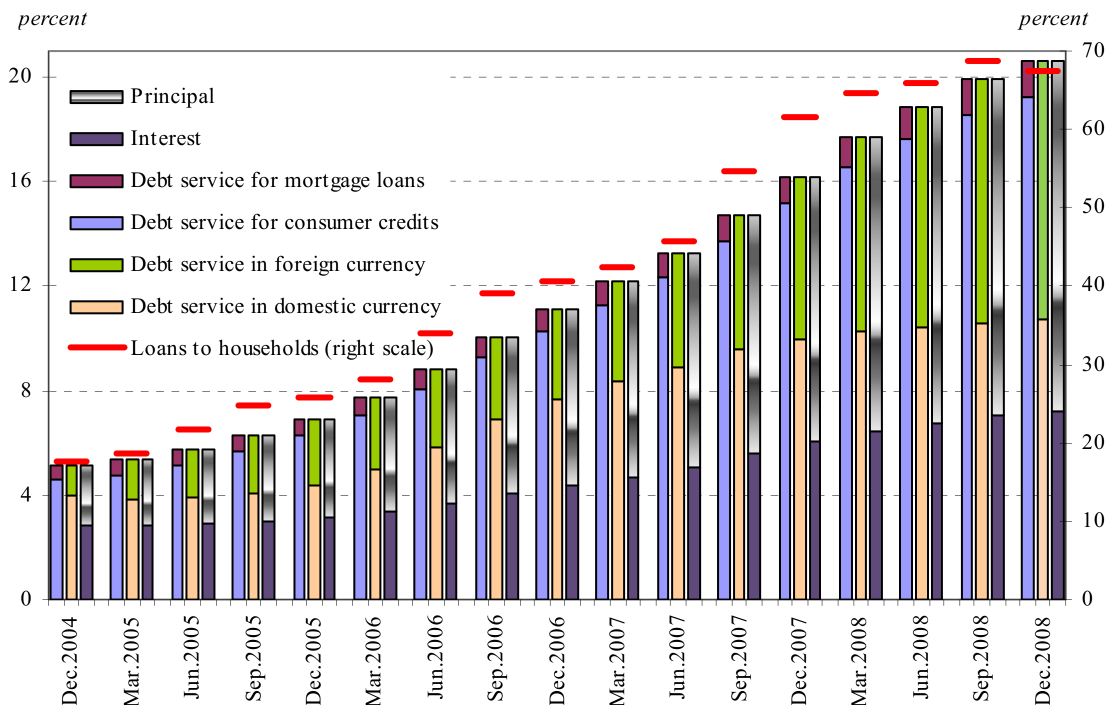


Note: Positive values of the balance indicate a tightening of lending terms
Source: Bank lending survey, May 2009

(A2) Indebtedness structure

Households' indebtedness further posted an uptrend in 2008 (Chart 5.2.9), thus increasing the possible impact of exchange rate, interest rate or disposable income shocks on debt service capacity.

Chart 5.2.9 – Developments in households' debt service and household loans as a share of the annual disposable income



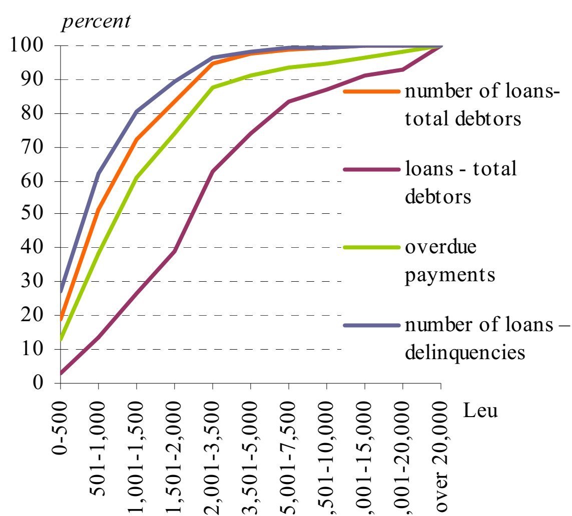
Source: NBR calculations; as against households' total disposable income

a) By income

Roughly 85 percent of total loans were granted to individuals with a monthly income below Leu 2,000[96]. These are also the loans generating most of the overdue payments (Chart 5.2.10). As households with lower incomes could be more affected by the crisis fallout, the impact on overdue payments could be stronger. By volume, distribution of lending across subcategories of income between Leu 500 and Leu 5,000 is relatively balanced. Low- and middle-income households seem to hold the largest share of low value loans.

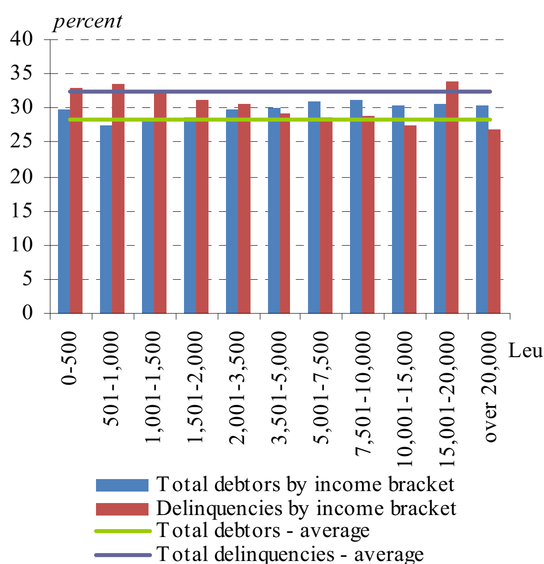
Banks did not focus too much on differentiating the indebtedness ratio of debtors by their income[97] (Chart 5.2.11). Average indebtedness ratio was about 28 percent[98] (end-2008). The profile of debtors with overdue payments decreases in a relatively linear manner according to the income brackets. Thus, the approach to set a higher limit for indebtedness ratio for individuals with larger incomes proves rather unwise.

Chart 5.2.10 – Cumulative distribution of indebtedness indicators for debtors by monthly income bracket, December 2008



Source: NBR questionnaire

Chart 5.2.11 – Household indebtedness ratio by income[99], December 2008



Source: NBR questionnaire

[96] According to the questionnaire filled in by 10 banks for December 2008. The provided data cover 63 percent of loans to households and 41 percent of households' overdue payments respectively. The income category is that of the debtor, while in the case when the income of co-debtors was considered, the income bracket corresponds to the cumulative income of debtor and co-debtors.

[97] Indebtedness ratio by income bracket (the 10 responding banks aggregated) could be undervalued given that the same debtors may have borrowed from several banks, and each bank reported indebtedness ratio with the respective bank.

[98] The figure differs from that in Chart 5.2.7, as in this case households' indebtedness ratio was computed by using the disposable income of all Romanians (including individuals without any debt).

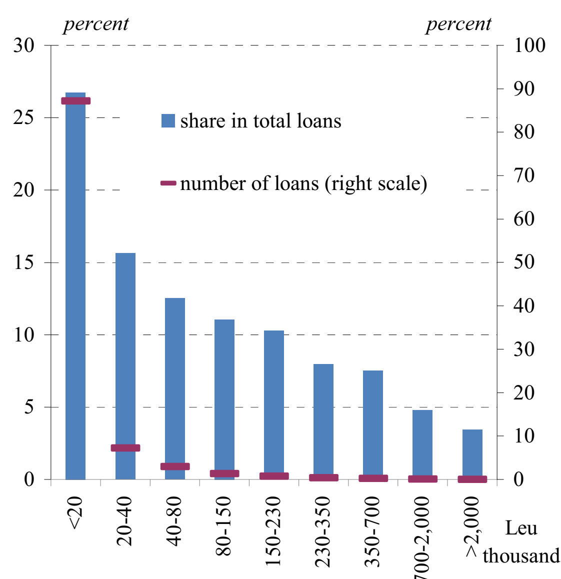
[99] Household indebtedness ratio is extracted from a survey sent to banks. It represents the share of monthly debt service (principal, interest, other fees) in the debtors' monthly income.

b) By size

Most of the loans (around 85 percent) are small-value loans (below Leu 20 thousand), accounting for only 27 percent of total loans (December 2008, Chart 5.2.12), down from 35 percent at end-2007.

Loans granted by banks have increasingly higher principal. These developments are due to larger incomes of households and longer maturities (the share of long-term loans reaching 82 percent in December 2008).

Chart 5.2.12 – Distribution of number and value of loans granted to households, December 2008



Source: NBR; credit institutions

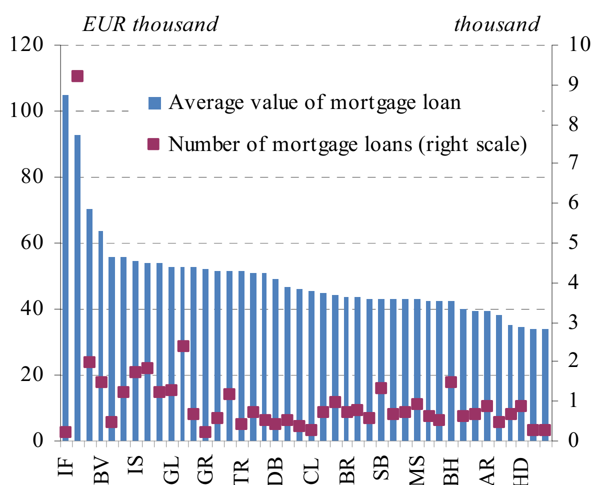
The consequences of these developments are the following: (i) higher sensitivity of monthly debt service volume to interest rate or exchange rate changes and, (ii) in the years to come, households' interest payments will surpass principal repayments. Debt servicing by households will became increasingly burdensome, should the picture painted by unemployment and income deteriorate in the future, and households would find that their debt to banks diminished only marginally (as in fact payments made so far covered mainly the interest). In this context, the default rate may post a higher increase, due to the aforementioned psychological effect.

c) By destination

Consumer credits hold the largest share in total loans to households (74 percent in December 2008), further generating over 90 percent of debt service.

Mortgage loans witnessed the fastest dynamics in 2008. Nevertheless, during the last months of the year, both demand for and supply of such loans moderated, and expectations point to the continuation of this trend, at least in 2009 H1. The number of mortgage loans granted in 2008 dropped versus the previous year (around 43,000), amid the uncertainties surrounding developments in real estate market. 2008 further showed an asymmetrical geographic allocation in new business, the Bucharest-Ilfov area witnessing the largest number of loans, with a value twice larger than the other counties (Chart 5.2.13).

Chart 5.2.13 – Geographic distribution of average value and number of mortgage loans granted in 2008



Source: NBR (loans of over Leu 20 thousand)

d) By collateral type

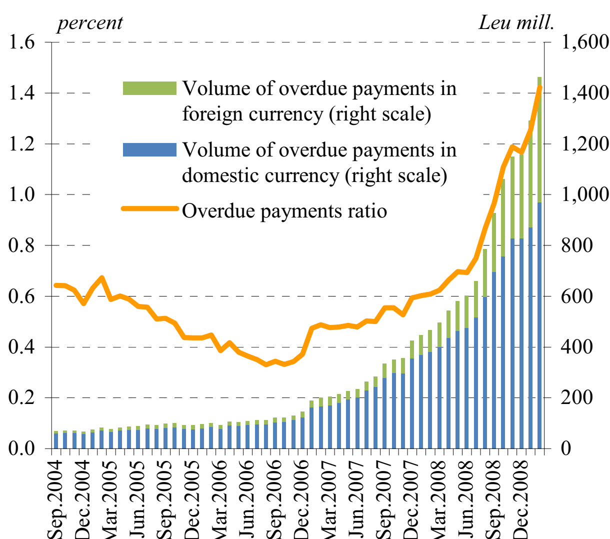
Mortgage-backed loans became prevalent in 2008. Risks associated with this type of collateral increased concurrently with the unfavourable developments in real estate market. Banks reported an average loan-to-value ratio of almost 70 percent for mortgage loans (December 2008), indicating that a more than 30 percent drop in real estate value would make the loans no longer entirely covered by collateral.

e) By interest type

Loans at promotional interest rate became important in 2008. The share of loans with an initial rate fixation period of up to 5 years exceeded 50 percent of total new business. These loans are generally granted for longer periods. Banks resorted to such promotions also in order to achieve a higher indebtedness ratio for their customers. The effects of launching these products will become manifest in the years ahead, when the promotion period ends and debt service could rise significantly. Moreover, interest rate and exchange rate risks remain high, as most outstanding loans were granted in foreign currencies, at floating rates. Thus, a rise in overdue payment rate could be recorded, should the disposable income fail to accommodate the higher debt servicing after the end of the promotion period. In 2008, the NBR adopted prudential measures aimed at containing the aforementioned negative effects[100].

(B) Credit risk

Chart 5.2.14 - Overdue payments on household loans



Source: NBR, balance sheet data

(B1) Dynamics and structure of overdue payments

Overdue payments ratio doubled last year to reach 1.42 percent[101] (February 2009). The fast deterioration started in 2008 H1 (Chart 5.2.14). Although this level is not yet alarming, the steep upward trend is a cause for concern.

Overdue payments volume tripled in the period under review, while growth rate of loans to households decelerated markedly. Overdue payments for loans granted in foreign currency account for one third of total (from 18.3 percent in February 2008), as the depreciation of leu had an adverse impact on the debt service capacity.

[100] Regulation No. 11 of 19 August 2008 amending and supplementing NBR Regulation No. 3/2007 on limiting credit risk associated with loans to households.

[101] In December 2008, overdue payments ratio came in at 1.17 percent.

The number of persons with overdue payments on loans worth over Leu 20,000 surged 87 percent.

Overdue payments are equally significant, as they accounted for 12.2 percent of total credit (March 2009), which is indicative of the fact that the uptrend in overdue payments ratio could continue via this channel.

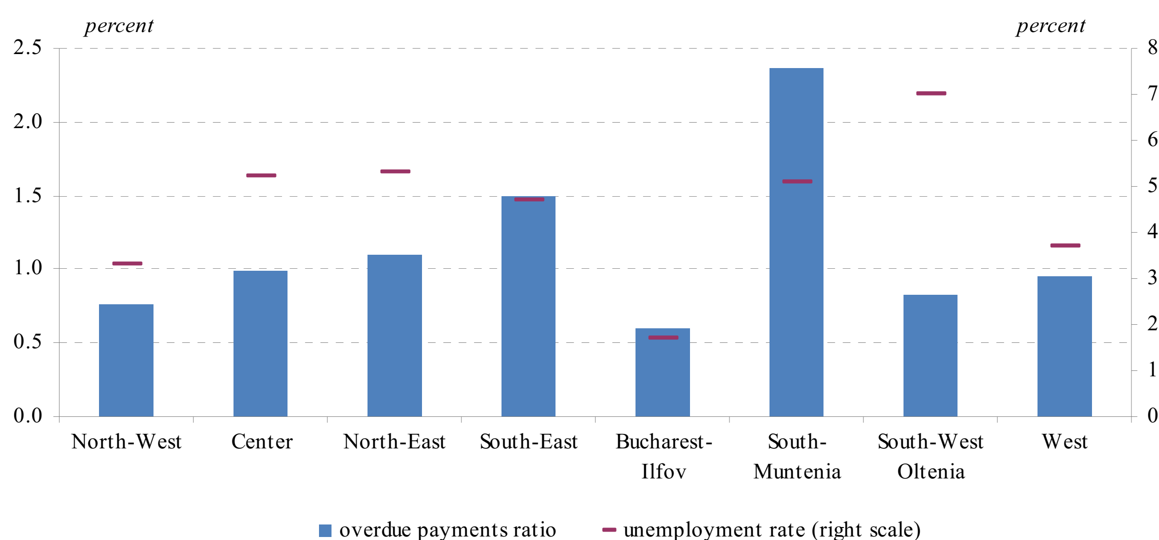
Overdue payments are largely accounted for by debtors with incomes of up to Leu 1,500 (61 percent of overdue amounts and 80 percent of the number of overdue loans), which heightens risks (Chart 5.2.10). Moreover, overdue payments ratio for debtors with incomes below Leu 500 is about 5 times higher than the average.

Stronger exchange rate, interest rate or income shocks could have a significant impact on the loan repayment capacity. Under the assumption of strong shocks[102], overdue payments would almost double and average indebtedness ratio would rise by as many as 17 percentage points. Provisions set up by banks for household loans portfolio, covering part of the hypothetical increase in overdue payments, and the fact that overdue payments ratio is still low could alleviate shocks.

(B2) Credit types and credit risk

Credit cards recorded the highest overdue payments ratio (approximately 4.5 percent, March 2009). Nevertheless, their share in consumer loans is small. By contrast, mortgage loans witnessed very low overdue payments ratio (0.3 percent, March 2009) but followed an uptrend as well.

Chart 5.2.15 – Geographic distribution of overdue payments ratio, December 2008



Source: NBR, Credit Bureau, NIS

Payment default behaviour was more conspicuous for small-value loans (below Leu 20,000), overdue payments ratio reaching 4.3 percent (March 2009). Such loans are generally consumer loans and are unsecured. The reasons behind overdue payments are different, although they may act concurrently: (1) the actual incapacity to repay debt (as a result of interest rate shocks, exchange

[102] Applied to exposures reported via the questionnaire sent to a sample of 10 banks (December 2008).

rate shocks and/or lower income) and (2) the debtors' poorer financial culture concerning mechanisms for retrieving claims, along with other psychological factors (the lack of immediately enforceable collateral giving the debtor the illusion that he cannot be held liable by the creditor).

Overdue payments ratio for large-value loans (over Leu 20,000) was lower (around 0.68 percent, March 2009), banks being covered to a proportion of 68 percent by different categories of collateral.

(B3) Overdue payments concentration

Household overdue payments are spread across the whole banking sector. By bank, concentration of overdue payments is low, with the Herfindahl index standing at 930 (March 2009). Distribution of overdue payments ratio by bank size[103] points to a looser risk management at small-size banks, as a result of their approach to aggressively increase their market share. Compared with the overdue payments ratio recorded by large banks, the level recorded by small-size banks was almost double (2.6 percent against 1.3 percent, March 2009).

The correlation between overdue payments ratio and unemployment rate was strongly positive[104] for most of the regions, as shown by the geographical distribution of indicators (Chart 5.2.15). The South-Muntenia region, posting the highest overdue payments ratio, was also the riskiest. The Bucharest-Ilfov area seemed to mitigate risks, due to a low unemployment rate, but nonetheless it held the largest share of households' overdue payments (23 percent, December 2008).

[103] The size of banks is given by the market share of their assets: large banks over 5 percent; mid-size banks between 1 percent and 5 percent; small banks below 1 percent.

[104] The correlation coefficient between overdue payments ratio and unemployment rate was 0.62 (the South-West Oltenia region excluded).

CHAPTER 6. FINANCIAL MARKET INFRASTRUCTURE

6.1. Liberalisation of the correspondent banking arrangements

The removal of restrictions on the use by credit institutions authorised by the NBR of correspondent banking arrangements in domestic currency acts, from the perspective of payment and settlement systems oversight, as a stability factor across the payment industry. At the same time, correspondent banking arrangements compete directly with ReGIS and SENT and offer an alternative to these systems by occasionally providing back-up, where the respective systems are not operating or fail to operate in accordance with the projected parameters. In view of the existence and necessity of meeting the access requirements to ReGIS and SENT, the liberalisation of correspondent banking arrangements in leu enables those non-bank financial institutions undergoing a transition process for becoming credit institutions to benefit by and provide interbank payments services in leu, during the transition stage, thus ensuring their business continuity; subsequent to the completion of the transition phase, those credit institutions may participate, upon their initiative, in ReGIS and SENT, provided they meet on a continuous basis the access criteria and the conditions for participating in these systems.

The payment settlement mechanism via the correspondent banking arrangements in leu will provide support also to credit those institutions incorporated in the European Economic Area (including when they operate via a branch established in the European Economic Area doing business on the territory of Romania) that do not wish to become participants in ReGIS, allowing these institutions both to make payments to and to receive funds from the national banking system.

6.2. ReGIS payment system stability

The ReGIS payment system is sound and stable, capable of absorbing medium-sized liquidity shocks. The contraction of financial resources caused by international turbulences left this system unscathed.

One of the NBR's main tasks[105] is *to promote and oversee the smooth operation of the payment systems with a view to ensuring financial stability*. The NBR's major concerns refer to (i) the development and streamlining of payment systems (aimed at reaching a trade-off between their specific features, i.e. security, reliability and operational efficiency); (ii) identifying the potential risks and inefficiencies caused by the architecture and/or the operating manner of payment systems and (iii) the adoption of the adequate measures to mitigate such risks and eliminate inefficiencies.

The need to analyse the systemically important components of the national payment system was conducive to the assessment of simulation techniques that allow the construction of some models for "re-creating" the real operating environment, which can be used for building and testing different scenarios with a view to evaluating the shock absorbing capacity.

The first analysis in the payment field focused on *Operational risks in ReGIS – a systemically important payment system*[106] and was performed by means of an instrument that enabled the

[105] Law No. 312/2004 – the Statute of the National Bank of Romania (Art. 21, 22 and 23).
[106] See the NBR website, the Financial Stability section.

simulation of special situations, under stress conditions, based on real data, namely the simulator for payment and settlement systems BoF PSS2[107], built by the Bank of Finland.

In Romania, ReGIS is considered to be critically important for financial stability, given that it ensures the settlement of (i) the central bank's monetary policy operations, (ii) payments related to interbank market operations, (iii) net positions calculated by all clearing systems, as well as of (iv) funds transfers related to transactions in securities carried out among all securities settlement systems. ReGIS[108] is an *RTGS* system designed to ensure the processing and real-time gross settlement[109] of large-value (more than Leu 50,000) or time-critical payment instructions (regardless of value) initiated by participants[110], as well as of instructions related to other ancillary systems[111].

The analysis was based on 1 September-31 December 2008 data and was aimed at (i) assessing the liquidity risk in ReGIS in case of severe operational incidents; (ii) monitoring the participants' behaviour in the payment system, i.e. credit institutions, the NBR, the State Treasury; (iii) assessing the concentration and the possible negative effects of the contagion under stress conditions; and (iv) identifying the changes in participants' credit risk perception during liquidity crunch episodes.

The focus was on estimating the liquidity in the payment system after the operational incidents and on the system capacity to self-adjust and absorb the liquidity shock. The operational incidents, which usually occur in the case of only one participant, initially consist in limited access to the system, but the strong interconnection among the participants in the payment system may spark contagion effects, causing disruptions in financial flows across the entire system. Although stress test scenarios based on extreme operational incidents are rather unlikely to materialise, owing to the existence of back-up instruments and of an alternative procedure available with the central bank, their unpredictable trait calls for the continuous monitoring of systemically important payment systems. Furthermore, this type of analysis exacerbates some system vulnerabilities that cannot be identified under normal circumstances, when risks are hardly perceivable.

The analysis of the capacity of ReGIS to operate in case of operational incidents and the quantification of the additional volume of liquidity that would allow the smooth functioning of the system under stress conditions were based on scenarios on operational incidents that incorporated various assumptions on the response of participants that are not directly affected by the operational incident, the timing and duration of the operational event, the number of participants facing payment default and the manners of adjusting the liquidity level in the payment system.

The main concluding remarks of the analysis shed light on the stability of the assessed payment system:

[107] The BoF PSS2 simulator is at present the most sought-after instrument on the international market, in the field of payment system analysis, from the perspective of risks – particularly liquidity and contagion risks – and of the resilience of systemically important payment systems to certain shocks. Central banks and research institutes in more than 60 countries resort to this simulator for analyses.

[108] Operational since April 2005.

[109] Processing and settlement are performed instruction by instruction, with immediate finality, to the extent of funds available in the settlement account.

[110] Among the participants in ReGIS are credit institutions, the State Treasury, the NBR.

[111] Among the ancillary systems are SENT, SaFIR, RoClear, PCH, MasterCard, Visa.

1) The payment system has the capacity to absorb medium-sized liquidity shocks that may be generated by operational incidents, and the system resilience can be improved through the central bank's liquidity injections.

2) The occurrence of an operational incident in the case of an important participant can induce systemic effects. By contagion, liquidity risk may spill over to the other participants, owing to the liquidity resources' recycling process within the payment system.

3) Some participants in the system postpone their large-value payments towards the daily business closing hours in order to cut financing costs. This behaviour enhances the dependence on the financial resources arising from other participants' collections in the latter part of the day, which can further impact the potential operational incident.

4) The suspension of a significant participant's access to the system without informing the other participants can seriously affect the overall stability of the payment system unless there is sufficient liquidity. In relative terms, the impact is directly related to the participant's market share in the payment system. Where the liquidity not introduced into the system amounts to less than 11.5 percent of total payments (the third participant in the system), the payment system is capable of absorbing the shock while the liquidity outside the system amounting up to 14.2 percent of total payments (the first participant in the system) generates extended shocks. In case of such a scenario, the higher the concentration of the payment system, the more vulnerable the system is.

5) The expansion of initial resources in the payment system participants' accounts diminishes markedly the value of payment orders in the waiting queue; however, some participants primarily use funds from on the interbank market. A possible explanation for this strategy would be the increased efficiency in using resources, which poses however liquidity risks.

6) The liquidity contraction during 13-31 October 2008 was not accompanied by an increase in the credit risk perceived by the participants in the payment system. The volatility of balances held by the main participants picked up, but an insignificant number of credit institutions witnessed higher frequency volatility of the payment orders introduced into the system or a subsequent frequency reduction.