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Abbreviations

ALB	Leasing and Non-banking Financial Services Association
ASLR	Association of the Leasing Companies of Romania
CEECs	Central and Eastern European countries
EBIT	Earnings before interest and taxes
EC	European Commission
ECB	European Central Bank
ECB	European Central Bank
EM	Emerging markets
EPS	Electronic Payment System in Romania
EU	European Union
FDI	Foreign Direct Investment
FDI	Foreign Direct Investment
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
MEF	Ministry of Economy and Finance
NBR	National Bank of Romania
NBFI	Non-bank financial institutions
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

CHAPTER 1. OVERVIEW

The world economy is undergoing a period of heightened tensions, which brought to the fore a number of risks that were taking shape as early as 2006, i.e. slower growth and asset price corrections. Since the latter half of 2007, financial markets have shown new features, originating in the US sub-prime mortgage market turbulence, the thorniest issues being the significant worsening of investors' risk perception and the decrease in liquidity. In 2008 too, global financial stability will face, even on a larger scale, risk aversion and higher oil, food and commodity prices.

Given that Romanian banks do not have exposure to the financial instruments that were at the root of the current international market turmoil, such **turbulence** may affect Romania's financial stability indirectly, via the real sector and bank liquidity channel. There were only limited consequences of the external environment in Romania so far, which materialized in larger foreign financing costs.

Forecasts point to further robust economic growth in Romania, with investment rate staying on an uptrend, in line with the characteristics of the region. However, the decline in domestic demand in Romania's major trade partners may challenge the financial positions of local firms engaged in foreign trade. Financing of the country's rather wide external deficit may become more critical if external liquidity remains tight and economic activity in the main countries hosting Romanian workers – who ensure consistent autonomous liquidity inflows – confirms the slowdown projections. Short-term foreign debt (STFD) saw rapid expansion and, against the background of liquidity squeeze on global markets, could remain fast-growing, to the detriment of medium- and long-term funding.

Companies and households – the financing of which is to a large extent in foreign currency – are exposed to a potential worsening of global liquidity worldwide. In addition, hikes in global oil, food and commodity prices that tend to be manifest in 2008 as well may have an adverse effect on domestic financial stability by impairing the bank debt servicing capacity of economic agents.

Finally, the worsening external environment would reinforce aversion towards risk perceptions relating to Romania, as reflected by rating agencies' assessments. In this context, some macroeconomic developments are also a cause for concern: wide external deficit, fast-paced credit growth, and weak policy co-ordination in regard to the resumption of disinflation.

Looking at developments in the **domestic macroeconomic environment** which may impair financial stability, the *Report* concludes that risks are on the increase, but they remained moderate. Tighter monetary policy will have a bearing on heavily-indebted companies and households. The movements in the exchange rate of the domestic currency from 2007 onwards, which became more difficult to predict, brought about new uncertainties and financial leverage on borrowers, entailing possible consequences on loan repayment capacity. The persisting unfavorable conditions on global financial markets point to the need, more pressing than before, for a likely adjustment of the current account deficit. Such an adjustment, even through a soft landing, is a serious challenge for the Romanian economy, as (i) the external disequilibrium is relatively large and (ii) external financing addresses mainly the non-tradables sector, which can only partly accommodate the new financing and exchange rate conditions.

A rather new challenge to financial and macroeconomic stability is manifest on the labor market whose steady tightening, as a result of a considerable workforce migration and fast-paced economic growth over the past six years, puts sizeable upward pressure on wages. Should these wage claims

be accommodated, the profitability of many companies would be hurt and, in turn, the capacity of ensuring domestic bank debt service and withstanding shocks would weaken.

Exchange rate performance weighs heavily on financial (and macroeconomic) stability. External financing of the banking sector is high, with companies and households resorting to domestic and foreign currency borrowings in almost equal shares (whereas the former sector is funded by foreign entities on a large scale). The exchange rate recorded a great degree of volatility compared to the volatility experienced by other currencies in the region – the explanation for these developments lies also with the structural features of the FX market that make it different from its region peers: a relatively low volume of trading, most operations are concluded for a short term, and dealings in financial derivatives (performed almost entirely by nonresidents) hold a small share in total volume of trading. This relatively high volatility of the exchange rate of the RON, having mainly dire consequences, can be mitigated by developing the FX market and especially by implementing more coherent macroeconomic policies.

The narrowing of the current account deficit as a result of a softer domestic currency depresses importers. Available statistics (as of mid-2007) show a good financial position of importing companies, which allows them to adapt with no major consequences. By contrast, the increase in importers' overdue payments hints at difficulties. Short-term foreign debt is a matter of concern due not only to its dynamics, but also to its structure: in the real sector, most of the companies incurring short-term debt do not bring in foreign currency, but they are exposed to currency risk (e.g. real-estate companies).

The risks posed by **non-financial companies** increased, but their financial results secure protection against a moderate shock. On aggregate, the debt servicing capacity improved slightly, yet the structural analysis shows opposite developments. The risk premium attached to corporate borrowings declined (EUR-denominated loans included) while the overdue payments ratio and debt at risk went up (the latter is still relatively well covered by provisions). An exchange rate shock or an interest rate shock would trigger a moderate shock onto financial stability, whereas a liquidity shock could have more serious consequences. In 2007, risks associated with **household sector** grew higher, but they remain sustainable: debt service and unsecured loans rose further; the foreign exchange position reversed, with financial liabilities exceeding financial assets; the household sector became a net debtor to the banking sector; consumer credit recorded the highest dynamics (and the largest share in total credit stock) and ever longer maturities; foreign currency loans grew faster than local currency borrowings. Such features and developments in loans to households substantiate the central bank's ongoing concern over dampening the growth rate of such loans and enhancing risk management.

The banking sector, the main component of the financial system in Romania, has followed from 2007 onwards a path similar to that seen in previous years, i.e. strong growth of financial intermediation, underpinned by both demand and supply, staying however below the EU average; fast dynamics of household loans; steady decline in the deposits-to-loans ratio, which fell to below par, and also banks' increased recourse to external financing. Solvency indicators kept contracting due to credit expansion in particular, but the financial sector remains relatively well capitalized. Furthermore, profitability ratios followed a slightly downward course, along with the improvement of operational efficiency.

In line with maintaining a good loan portfolio quality, credit risk rose significantly, especially on the back of foreign currency-denominated loans to households. Higher credit risk also stems from fast-paced lending activity in recent years (which fuelled excess aggregate demand growth, having an adverse impact on the current account and disinflation). Over the near run, credit dynamics is

expected to post a slowdown, as a result of larger funding costs generated by a tighter monetary policy stance and dearer external finance against the background of the ongoing global financial market turmoil. It is essential to counter the increase in credit risk, which is likely to become more pronounced insofar as loans maturities grow and approach maturity date, by taking further regulatory and prudential steps aimed at enhancing the risk management in banks and/or the correlation between the interest rate and the risk profile of various borrower types.

Local bank liquidity, albeit on the wane, remains at comfortable levels and the stronger vulnerability arising from interbank financing, which is rising quickly and persistently in the case of some banks, has a low potential of systemic risk. However, inter-bank market developments call for close monitoring. On the other hand, increased reliance of banks on external financing added to their vulnerability to external liquidity. This vulnerability is deemed low, since most external funding of local banks is provided by parent undertakings. So far, there has not been any case of a Romanian bank resorting to its contingency plan because of the global financial market turbulence. Nevertheless, such plans should be revised and strengthened in order to maximize their effectiveness.

At national level, a Memorandum of Understanding between the Ministry of Economy and Finance, the National Bank of Romania, the National Securities Commission, the Insurance Supervisory Commission and the Private Pension Scheme Supervisory Commission for co-operation in the field of financial stability and financial crisis management was signed on 31 July 2007. As a result, the National Committee for Financial Stability was established. The said document aims to promote co-operation between the central bank, the other authorities responsible for financial supervision and the Ministry of Economy and Finance under normal and crisis situations in the Romanian financial system abiding by the following principles: clear segregation of duties, transparency, efficiency, and exchange of information (in order to fulfill the specific tasks in light of observing professional secrecy consistent with the laws in force).

As for the **non-bank financial sector**, the *Report* looks at the insurance market and the non-bank financial institutions. The insurance market follows an upward trend and is in the final stage of harmonization with European legislation. Moreover, this market was left unscathed by the ongoing financial market turbulence for reasons pertaining to its specific activity as well as its development and integration with external financial markets. The major issues that require close monitoring are the increase in the claims ratio for non-life insurance and the dynamics of the return on investments in movable assets for life insurance. Non-bank financial institutions (engaged in lending) hold a small weight in the overall financial system. The possible vulnerabilities associated with such institutions may pose limited risks, which can be easier identified once they have been brought under the central bank supervision and regulation umbrella.

The Romanian **capital market** continued the convergence towards the European markets from the previous *Report*. At the same time, stock exchange risks grew as a result of the impact from the financial market turbulence and the domestic economic environment on market capitalization and turnover. The analysis of daily levels of correlation adjusted by the volatility between the BET index of the Bucharest Stock Exchange and the indices of advanced and emerging markets shows a relatively loose connection to the advanced markets, while in regard to the emerging markets it points to a similar (close) movement during downturns and non-synchronization during upturns. Such comparisons prove the poor integration of the Romanian capital market with its European peers (weak correlations under normal circumstances), on the one hand, and level-playing field for nonresidents on emerging markets during downturns, on the other hand.

CHAPTER 2. INTERNATIONAL ECONOMIC AND FINANCIAL ENVIRONMENT

The international macroeconomic and financial environment has faced strains, but remains broadly resilient. The risks emphasized in the previous Report (the slowdown in the economic growth of some trade partners and the correction of asset price owing to the change in risk perception) materialized. Financial stability is expected to face the same challenges in 2008 as well: (A) the persistence of even higher risk aversion and (B) further increase in oil, food, and commodity prices.

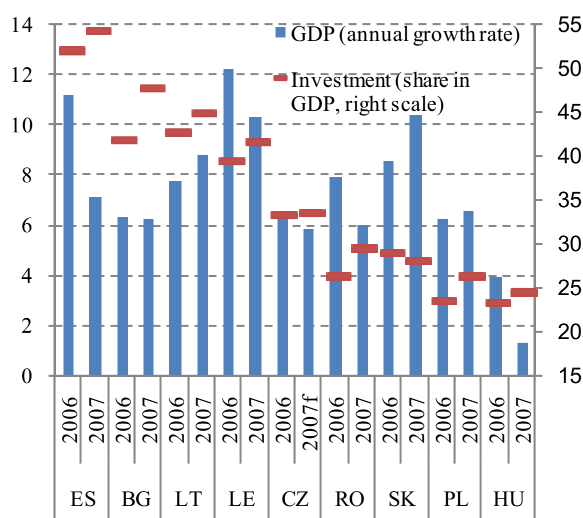
The features of financial markets changed significantly in the latter half of 2007. Investors' perception of risks worsened and liquidity surplus came to an end. These changes originate in the problems facing the US subprime mortgage markets and affected the entire world (Box).

(A) Financial stability in Romania might be affected by the turbulence via the indirect channel, namely through the impact on real economy and on banks' liquidity (if external financing diminishes). There is no impact via the direct channel, since Romanian banks do not have placements in such high-risk financial instruments.

The following challenges might arise via the indirect channel:

1. Romania's economic growth and foreign trade might be affected. The financial market turbulence is unlikely to lead to a recession. Romania's economic expansion remains resilient, in line with regional developments. Investment ratio went up, remaining close to the average for Central and Eastern European countries (Chart 2.1).

Chart 2.1 – GDP and investment ratio dynamics



Source: Eurostat

The international macroeconomic environment remains adequate, the faced strains notwithstanding. The world economic growth is estimated at 4.9 percent in 2007 by the IMF, while the projections for 2008 show a slowdown in the growth rate to 3.7 percent (the lowest level in 20 years), against the background of mounting uncertainties and worsening sentiment of market players. A similar development is also expected in the case of the EU, where the economic growth in 2008 is forecasted to reach 2 percent (EC, interim forecast, February 2008).

Romania would not be directly affected by a possible downturn in the USA, given the modest and decreasing trade activity. Romania accounts for almost one third of the foreign trade with Germany and Italy. The estimates on the economic growth in these countries were subject to a downward revision (to 1.6 percent for Germany and to 0.7 percent for Italy - EC, an interim forecast, February 2008). The decline in the domestic demand in the aforementioned economies may have significant effects on the profitability of Romanian foreign trade companies. Second, the high indebtedness of European companies could pose another major problem in the

event of a cost or interest rate shock (ECB, *Financial Stability Review*, December 2007). The pick-up in financing costs in trade partners' countries might lead to a drop in companies' profitability and liquidity in these countries, with consequences on their investment decisions.

Box: International financial market turbulence

The rise in US interest rates during 2003-06 made it increasingly difficult for some debtors to service their debts with banks. These problems had the hardest impact on the subprime mortgage-backed American securities markets. Owing to the low transparency on innovative financial instruments' markets (including those on which turbulence occurred) investors could no longer identify and assess reasonably the risks to their investments. Thus, the negative perceptions of risks spread over to other categories of financial instruments as well, the overall risk level was subject to revaluation and the level of liquidity deteriorated.

However, the change in the features of international financial systems starting with the latter half of 2007 did not come as a surprise. Numerous supranational institutions (IMF, BIS, ECB) drew the attention on the fact that the risk was underestimated and that a contrary development was becoming increasingly possible. The reasons behind the problems within the financial systems of advanced countries were: (i) the significant liquidity surplus in the context of low interest rates which promoted higher risk taking for larger yields, (ii) the development of financial innovations, without adequately understanding the risks assumed and without implementing adequate risk management methods, and (iii) the transparency of placements in innovative products, as well as the related regulatory framework were insufficient.

Central banks responded in a timely manner. The immediate measures consisted in: the emergency provision of liquidities, the resort to new financing facilities beyond those provided via current monetary policy operations and, in some cases, the cut (aggressive, in the case of FED) of monetary policy rates.

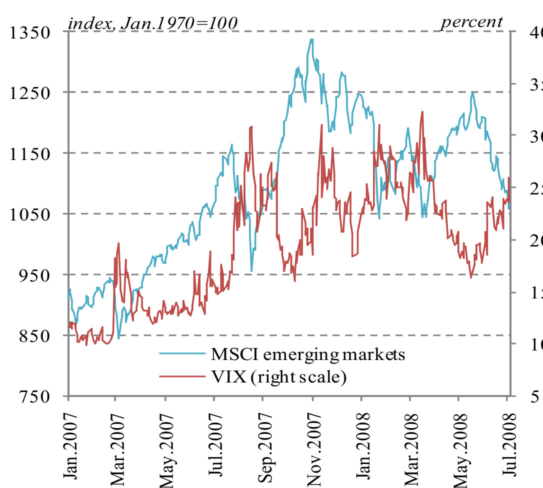
In the EU, the following medium- and long-term measures intended to be adopted: (i) the improvement in the transparency of banks' exposure; (ii) the development of credit assessment by taking into account the liquidity risk; (iii) the consolidation of prudential regulations, on large exposures in particular, with the liquidity risk and securitization to be included in the new amendments to the European Directive on capital adequacy; (iv) the structural improvement of the financial market functioning, by analyzing the role played by rating agencies, and of the "originate and distribute" model used by banks.

2. Trade balance deficit financing could be more difficult if international liquidity remains restrictive. In recent months, liquidity in emerging countries seems to have reverted to the values recorded in mid-2007 (Chart 2.2). Romania reports autonomous liquidity inflows – remittances from abroad and European funds. These autonomous (net) inflows are estimated to be worth EUR 4.5 billion in 2007 (3.7 percent of GDP). In 2008, the volume of transfers is likely to diminish, given the expected significant decline in the economic activity in the main countries hosting Romanian workers (Spain and Italy). In this context, the European fund-absorbing capacity becomes more important.

The developments in the external debt in European emerging countries deserve mention (Chart 2.3):

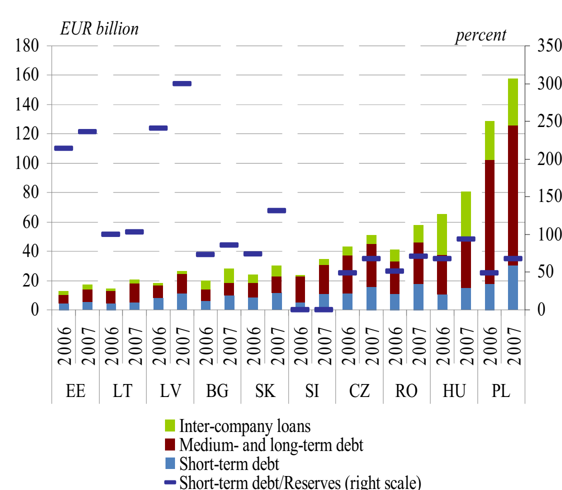
(a) short-term debt rose faster than medium- and long-term debt (on average by 50 percent versus 27 percent in 2006); thus, the worsening of international liquidity could render more difficult the financing of current account deficit. In Romania, short-term external debt expanded by 65 percent in 2007, whereas medium- and long-term external debt rose by 32.5 percent;

Chart 2.2 – Liquidity indicators on international financial markets



Source: Bloomberg

Chart 2.3 – Structure of foreign debt in European emerging countries



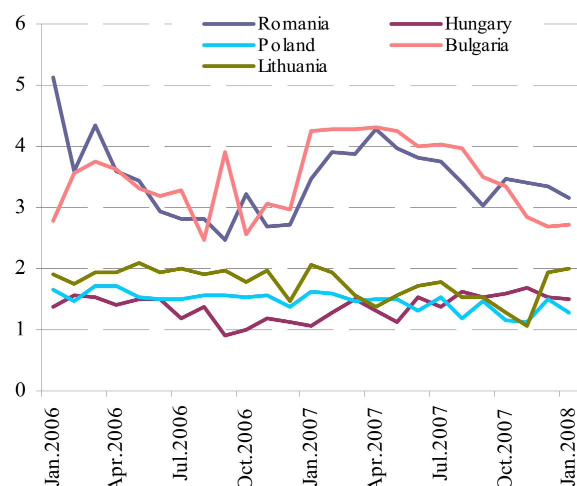
Source: World Bank, websites of central banks

(b) the private sector was responsible for the pick-up in the external debt. In the case of an external indebtedness-induced shock, the private sector is considered to have less crisis management solutions than the public one. In Romania, the share of the private sector's external debt went up from 61 percent to 72 percent (December 2006/December 2007);

(c) the efficiency of official reserves as a last resort instrument used by authorities in the case of an exchange rate shock might have deteriorated. As concerns the countries under review, the share of short-term external debt in official reserves was either high or has posted an increase. Romania, alongside the Czech Republic and Hungary, is part of the group of countries that witnessed a broad stabilization of this indicator at a relatively low level.

3. Financing conditions for companies and households might worsen. Up to now, the countries under review have not faced such a possibility. By contrast, in some cases, the spreads on newly-granted loans posted even a decrease (Chart 2.4). The companies continued to report high investment ratios, while their bank liquidity has not decreased.

Chart 2.4 – Developments in the spread between interest rates on loans granted to non-financial companies in domestic currency and the 3-month inter-bank interest rate (percentage points)



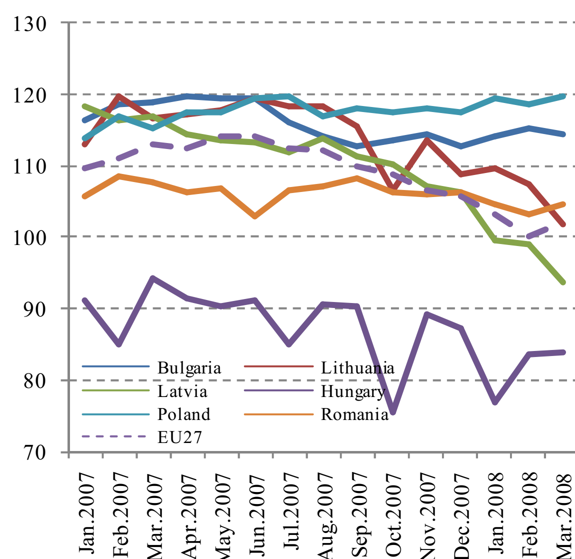
Source: websites of central banks

The hike in financing costs in foreign currency might affect significantly companies and households in Romania. The share of their forex loans (both domestic and external) rose from 58 percent to 63 percent (December 2006/December 2007). The share of Euribor-based medium- and long-term external debt doubled during 2004-2007 from 21.2 percent to 40.1 percent.

Since the onset of the turbulence, Romanian banks have not forecast any tightening of lending conditions for companies or households (according to the regular qualitative questionnaire sent by the NBR to credit institutions). Banks expect loan demand to stabilize.

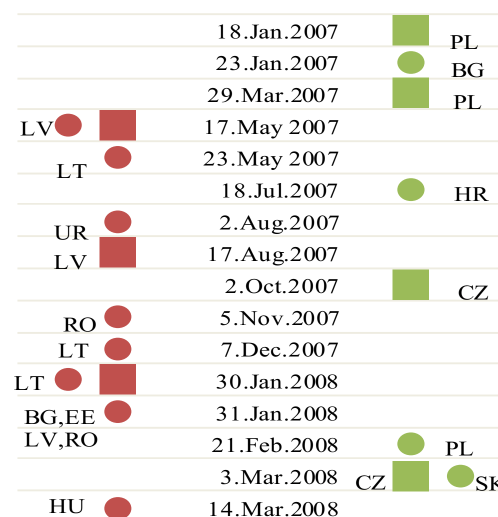
4. The confidence of market players might deteriorate. The regular surveys of the European Commission show that up to now this confidence would not have been affected by turbulence. Both in Romania and across the EU, the expectations for 2008 of economic agents and households have not turned pessimistic (Chart 2.5), so that their consumption and investment decisions might not be significantly affected.

Chart 2.5 – Economic sentiment indicator



Source: the European Commission

Chart 2.6 – The change in the sentiment of rating agencies towards European emerging countries



Note: green: improvement; red: worsening; ■: rating change; ●: outlook change

Source: Bloomberg

5. Risk aversion towards Romania might grow. Starting November 2007, rating agencies have lowered the outlook on the credit rating for Romania. The international market for fixed-income instruments illustrates the same development. The drop in ratings and/or the outlook for the Baltic States, Romania and Bulgaria was due particularly to the signs of overheating (large external deficits and high growth rates of credit) and to insufficiently restrictive fiscal policies, unadjusted to the new macroeconomic context (Chart 2.6).

(B) The hike in oil, food and commodity prices is likely to continue into 2008 as well. The main implications for financial stability are the following: (i) debtors' financing costs (in domestic and foreign currency) might go up unless a relaxation of monetary policy is expected, (ii) the need to earmark a larger part of the household disposable income for outlays on food items might render more difficult the payment of liabilities to banks (especially in the case of households earning smaller incomes and holding a large share of debt service in disposable income) and (iii) the profit of companies in those sectors where the international price of commodities goes up faster than the price of finished goods will decrease.

CHAPTER 3. FINANCIAL SYSTEM AND ITS RELATED RISKS

3.1. Structure of the financial system

Financial intermediation in Romania saw a faster increase in 2007, against the background of the significant advance in the volume of loans granted, as well as in investment on the capital market. Credit institutions, leasing companies and financial investment companies held the largest shares of financial assets. The high concentration of the financial system is indicative of the fact that credit institutions are the only institutions presenting a systemic risk potential.

The share of financial assets came in at 74.1 percent of GDP, as Romania's accession to the European Union bolstered the development of credit and foreign investment in the financial sector. The structure of the financial intermediation sector shows a domestic financial culture focusing primarily on the banking sector, while investment on the capital market, albeit on an uptrend, holds a small share for the time being (Table 3.1.1). As a consequence, the capital market could not assume the role to finance real economy if the banking sector were plagued by imbalances, but to a limited extent, in spite of its benefiting by a good absorption capacity tested by the number of public offerings subscribed. Investment firms play a key role in the stock market intermediation, but the volume of assets held by these entities is low. Insurance companies recorded a positive development over the past years, yet the long-term investment-oriented life insurance component is low.

Table 3.1.1 – Developments in financial system assets[1]

percent of GDP

Financial intermediaries[2]	2003	2004	2005	2006	2007
Credit institutions (1)	30.8	36.6	44.6	50.6	61.5
Insurance companies (2)	1.8	1.9	2.2	2.5	3.0
Investment funds (3)	0.1	0.2	0.2	0.3	0.3
Financial investment companies (4)	1.4	1.3	1.8	2.3	2.8
Leasing companies (5)	1.8	3.0	3.6	3.4	5,0
Other non-bank financial institutions (6)	0.4	0.6	0.9	1.3	1.5
Total	**36.3**	**43.6**	**53.3**	**60.4**	**74.1**

Source: NBR, NSC, ISC, BLS, NIS

1) Net assets of credit institutions, including CREDITCOOP; 2) Estimated total assets; 3) Assets of investment funds; 4) Net assets of financial investment companies (SIFs); 5) Financed net assets; 6) Total assets related to consumer credit companies, to entities engaged in issuing guarantees and assuming commitments, to microfinance companies, and to companies carrying out multi-credit activities.

Most financial companies carried out activities on the market of non-bank financial institutions and on that of insurance and equity investment intermediaries, illustrating a stiff competition as well as a significant dispersion of assets (Table 3.1.2). The other components of the financial system recorded a lower number of institutions owing to the activities calling for a substantial capital volume. It is to be noted the enhanced interest of European financial institutions which aim at gaining access to the financial market in Romania and which received a favorable endorsement from the supervision authorities based on the European single passport.

[1] 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.

[2] Classification in accordance with ESA 95 standards

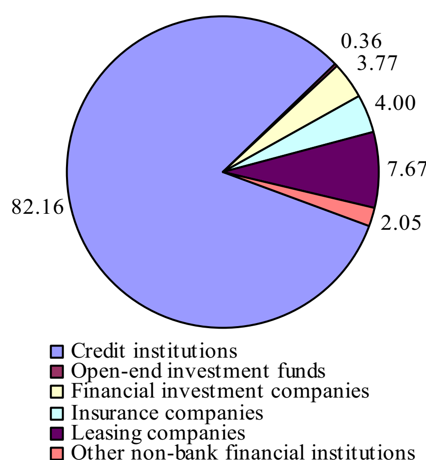
Table 3.1.2 – Number of financial institutions in 2007

	Active institutions	Institutions notified based on the European single passport
Credit institutions	42	126
Insurance companies	42	177
Insurance brokers	382	528
Open-end investment funds	41	13
Financial investment companies (SIFs)	5	-
Investment firms and their branches	71	316
Leasing companies	163	-
Other non-bank financial institutions	3,143	-
Total	**3,889**	**1,160**

Source: NBR, NSC, ISC

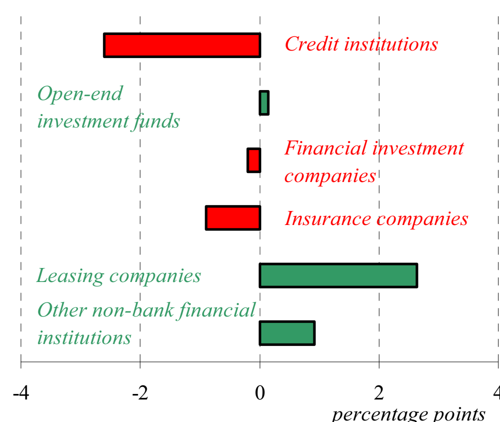
Chart 3.1.1 shows the structure of the domestic financial system in 2007. Credit institutions, leasing companies and other non-bank financial institutions accounted for 91.9 percent of total financial assets, maintaining their large share recorded in the past years.

Chart 3.1.1 – Structure of the Romanian financial system in 2007 (percent in total assets)



Source: NBR, NSC

Chart 3.1.2 – Developments in the Romanian financial system structure during 2003 – 2007 (percent in total assets)



Source: NBR, NSC, ISC, NIS, BLS

The analysis of developments in the financial system structure during 2003 – 2007 (Chart 3.1.2) shows that the shares of credit institutions and insurance companies in total financial assets diminished, while those of leasing companies and other non-bank financial institutions widened. As concerns the assets of entities on the capital market, their share remained relatively unchanged. The drop in the market share of credit institutions in favor of non-bank financial institutions may be accounted for by the looser prudential regime governing the latter until 2007, when they became subjected to the supervision of the National Bank of Romania. As a matter of fact, the largest part of non-bank financial institutions is held or financed by credit institutions that attempted to benefit from the lack of prudential constraints on lending.

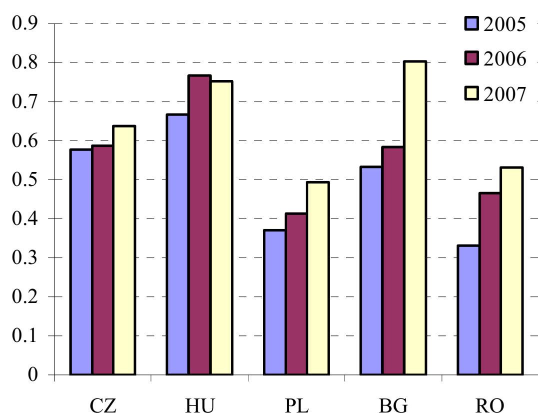
The interconnections established at the level of the financial system are the key elements for the analysis of overall financial stability, the capacity of absorbing potential shocks that might affect some components and the possibility of widening sector imbalances across the system.

The banking sector still has a visibly dominant influence on other components of the financial system, such as the institutions carrying out lending activity (e.g. leasing companies), yet its exposure on the insurance segment, via the investments in the insurance companies, witnessed a drop during the last years.

Beside domestic factors, another factor that might affect the stability of the financial system is the largest share of foreign capital in financial institutions. In mild times on the European financial markets (the main origin area of foreign investment in the domestic financial system), nonresident investors bring additional stability and underpin the development of the domestic financial market. Nevertheless, given the ongoing turbulence and the strong uncertainties on external markets, the foreign capital may spread by contagion some of the risks to the financial system.

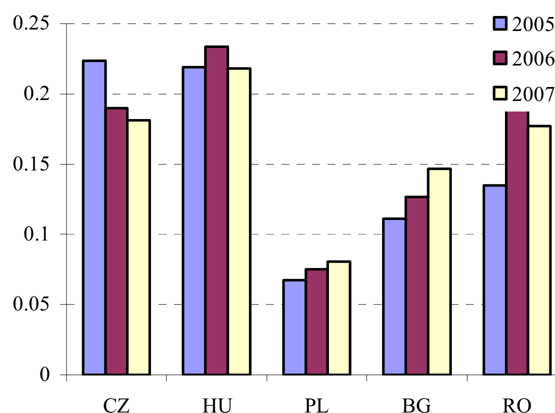
The structure of the financial system is expected to witness significant changes in the period to come, triggered by the start of operations of privately-managed pension funds this year[3]. The growth rate of assets managed by pension funds is expected to be significant, considering that, during the first years of operation, payments will not be considerable. Moreover, the development of this segment will foster particularly the sector of capital market investment. As a consequence, the financial system is anticipated to undergo a slight adjustment in favor of the capital market.

Chart 3.1.3 – Share of loans granted by monetary financial institutions in GDP



Source: ECB, Eurostat

Chart 3.1.4 – Share of loans granted to financial institutions by monetary financial institutions in GDP



Source: ECB, Eurostat

As concerns the total stock of loans granted by monetary financial institutions[4] in relation to GDP, Romania holds a medium position in the region (Chart 3.1.3). The upward trend seen during 2005 - 2007 was corroborated with the positive development on other markets in Central and East Europe, and the total volume of loans granted by monetary financial institutions in Romania exceeded 50 percent of GDP at end-2007. As of 31 December 2007, the loans granted exclusively to resident financial institutions accounted for 17.7 percent of GDP (Chart 3.1.4), i.e. the largest share in total loans granted among the countries under review. By consequence, the banking market featured a high degree of liquidity (below the real economy's absorption capacity) which showed however a slight downtrend in 2007.

[3] Optional pension funds have been functional since 2006; however, the amount of funds collected so far is low.

[4] Monetary financial institutions, defined according to the European Central Bank methodology, comprise the central bank, resident credit institutions and other resident financial institutions which take deposits or substitutes of deposits from other entities than monetary financial institutions, on own account, and which grant loans or make investment in equities.

3.2. Banking sector

3.2.1. Structural developments

The recently acquired status of an EU member state enhances the competition within the domestic banking system featuring a moderate concentration. The legal amendments made during 2007 – by removing some administrative measures for slowing down the dynamics of non-government credit[5] - brought about, in the case of some banks, the easing of lending policy and the fostering of competition. The Romanian banking sector continued to attract foreign investors in 2007 as well; in 2007, the domestic banking market witnessed new entities established, following purchases and mergers of medium- and small-sized banks. In addition, the competition within the banking sector was enhanced by the direct provision of services by foreign financial institutions on the territory of Romania.

In 2007, the structure of the Romanian banking sector witnessed some changes against the background of the authorization of new credit institutions and the merger of some banks already in place[6], and also the pick-up in the banking sector capitalization (10 percent in real terms). Capital increases were seen mainly on the segment of banks with majority private capital (2.1 percentage points), This change is mainly justified by the growth, in terms of structure, of the Romanian private capital banks (1.5 percentage points).

The developments in structural indicators of the Romanian banking sector are shown in Table 3.2.1.

Table 3.2.1 – Structural indicators of the Romanian banking system

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of credit institutions*	41	41	41	39	39	40	40	39	42
Number of banks with majority private capital	37	37	38	36	36	38	38	37	40
Number of banks with majority foreign capital, of which:	26	29	32	32	29	30	30	33	36
– Branches of foreign banks	7	8	8	8	8	7	6	7	10
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
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	94.5
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	87.8
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
Herfindahl-Hirschmann index	1,296	1,375	1,427	1,381	1,264	1,120	1,124	1,171	1,040

Source: NBR
* Including CREDITCOOP

[5] By the provisions of Regulation No. 3/12.03.2007 on the containment of credit risk to loans granted to households, the National Bank of Romania fostered banks to develop their own lending policies in accordance with their risk profile and strategy (i.e. the manner of organizing the granting and monitoring of loans, the collateralization conditions for each type of loans, the categories of eligible clients, the categories of incomes deemed eligible, the total indebtedness etc.). The by-laws of credit institutions were submitted to the NBR Supervision Department for validation.

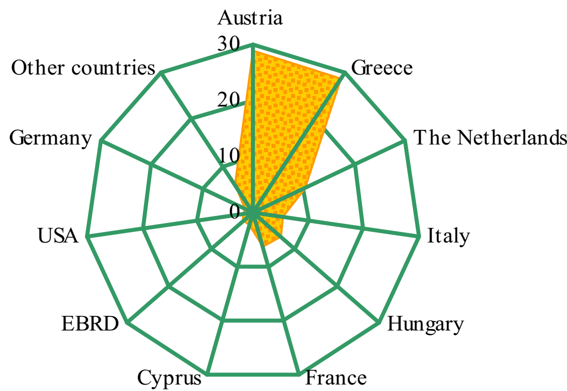
Non-government credit is the credit granted to economy, excluding the credit to general government.

[6] The year 2007 witnessed the establishment of Banca Millennium S.A., a member of the Portuguese group Millennium, and the opening of three branches of the following foreign banks: Fortis Bank SA/NV Bruxelles – the Bucharest branch of Fortis Bank; Caja de Ahorros Y Pensiones de Barcelona – the Romania branch (LA CAIXA) and Finicredito – Instituicao Financeira de Credito S.A., the branch of the Portuguese Finibanco group. Banca Comercială HVB Țiriac S.A. merged by absorption with UniCredit România S.A. – the absorbed bank, the new entity carrying out its activity under the name of UniCredit Țiriac Bank S.A, and Blom Bank Egypt S.A.E. Egypt –Romania Branch transferred its activity to Blom Bank France S.A. Paris – Romania Branch.

Moreover, until the end of March 2008, the NBR received 134 notifications for the provision of services directly by foreign financial institutions on the territory of Romania from the supervision authorities in home countries (126 credit institutions, 3 non-bank financial institutions and 5 electronic money institutions).

From the viewpoint of the homeland of the capital of credit institutions operating in Romania at end-2007 (Chart 3.2.1), the key changes occurred for Greece (an increase of 6.2 percentage points) and Austria and Italy (a decrease of 3.7 percentage points and 4 percentage points respectively). The first two countries remained on top at end-2007, holding equal shares of approximately 29 percent in the aggregate foreign capital.

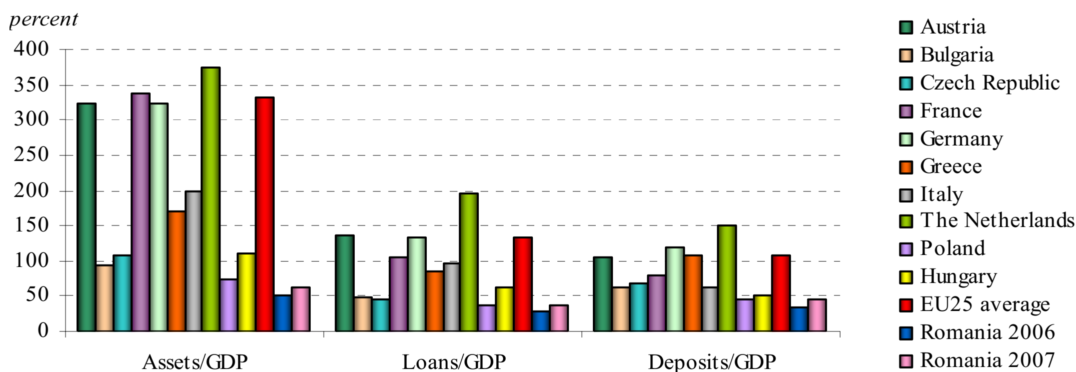
Chart 3.2.1 - Structure of shareholding by country (percent in total foreign capital)



Source: NBR

As concerns **financial intermediation**, Romania continues to rank much below the average of EU countries, in spite of the significant increases over the past years against the backdrop of non-government credit expansion (Chart 3.2.2).

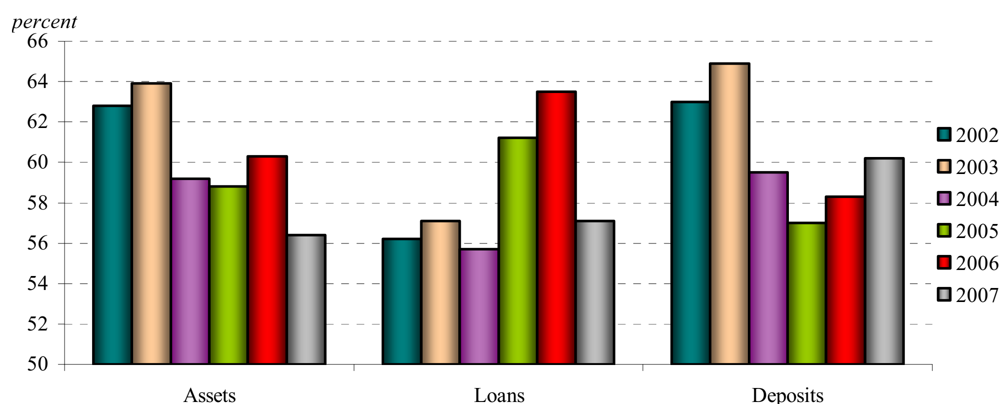
Chart 3.2.2 - Financial intermediation*



Source: NBR, NIS, ECB
*For EU countries the data used refer to 2006

Bank concentration (Chart 3.2.3) was relatively stable, although in Q4 market shares recorded slight decreases in favor of small- and medium-sized banks, as most of them became more aggressive in granting loans.

Chart 3.2.3 - Bank concentration (top five banks)



Source: NBR

The Herfindahl-Hirschmann index shows moderate concentration. The share of five top credit institutions in the aggregate assets places Romania close to the average for EU 25 at 31 December 2006 (Table 3.2.2).

Table 3.2.2 – Concentration degree*

Countries		The share of top 5 credit institutions (%)	Total assets/ Number of banks (EUR millions)
Austria		44	976
Belgium		84	10,685
Bulgaria		50	697
Czech Republic		64	2,013
Denmark		65	4,306
Finland		82	707
France		54	6,910
Germany		22	3,475
Greece		66	5,082
Italy		26	3,461
Latvia		69	841
Lithuania		83	225
United Kingdom		36	24,069
The Netherlands		85	5,429
Poland		47	262
Portugal		68	2,231
Spain		40	7,146
Sweden		58	3,793
Hungary		54	442
EU 25 average		59	4,362
Romania:	2004	**59**	**568**
	2005	**59**	**874**
	2006	**60**	**1,310**
	2007	**56**	**1,653**

Source: NBR, ECB

* For EU countries the data used refer to 2006

Aggregate assets increased markedly in the past three years in relation to the number of banks, exceeding those of Austria, Hungary, Poland, Finland or Bulgaria, but significantly below the EU 25 average, confirming the high expansion potential of the domestic banking system.

3.2.2 Structure of assets and liabilities

The deposits taken from companies and households continued to be the main financing source of banks in 2007 as well, although the share of foreign liabilities rose markedly over the year. Romanian credit institutions invested primarily in the domestic market, which posted a slightly upward trend, particularly owing to non-government credit whose development was mainly influenced by the household segment. The further expansion in the number of loans to households in 2007 caused resident non-bank clients (companies and households) to hold for the first time the net debtor position towards the Romanian banking system, the loans granted to companies and households in relation to aggregate assets outpacing significantly the share of deposits taken from the non-bank sector in total liabilities. The predictable continuation of uncertainties on the international financial market could bring about more significant changes in the balance sheet structure of the Romanian banking 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 in 2007, bolstered, particularly by *Claims on domestic non-bank sector* (Table 3.2.3). They posted an increase mainly as a result of the expansion of loans to households (+ 5.1 percentage points), against the backdrop of higher income, as well as of the relative loosening of lending conditions (including the cut of some interest rates on RON-denominated loans in the first half of the year). The completion of the validation process of internal prudential norms governing the lending to households encouraged the credit institutions' supply of loans[7].

Table 3.2.3 - Asset structure of credit institutions operating in Romania

percent of total assets

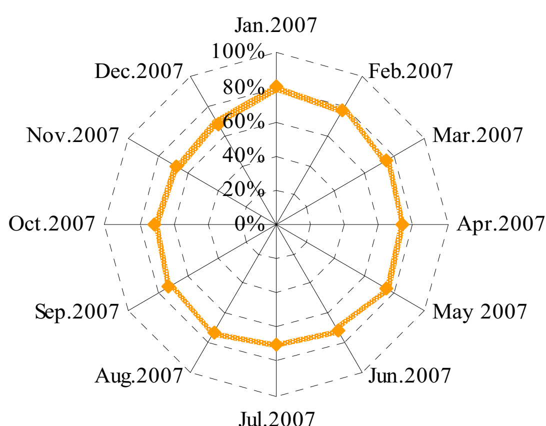
	2001	2002	2003	2004	2005	2006	2007
Domestic assets, of which:	***85.5***	***91.7***	***94.3***	***94.3***	***96.5***	***97.4***	***98.3***
Claims on the NBR and credit institutions, of which:	27.2	32.0	29.3	36.5	40.0	34.9	28.8
- Claims on the NBR	23.4	28.6	26.3	28.5	37.5	31.3	24.9
Claims on domestic non-bank sector, of which:	44.4	46.6	53.8	48.1	48.5	54.8	61.2
- Claims on the government sector	10.8	9.2	4.8	2.4	1.9	1.6	3.7
- Claims on companies	31.3	33.0	36.9	32.7	30.2	30.8	29.9
- Claims on households	2.3	4.4	12.2	13.0	16.4	22.4	27.6
Other assets	13.9	13.1	11.2	9.6	8.0	7.7	8.3
Foreign assets	**14.5**	**8.3**	**5.7**	**5.7**	**3.5**	**2.6**	**1.7**

Source: NBR

[7] Regulation No. 3/12.03.2007 on the containment of credit risk for loans to households came into force on 14.03.2007. By the end of 2007, 17 banks received the approval by the NBR Supervision Department on the use of internal lending norms in accordance with the new regulation.

The share of foreign currency-denominated loans in total loans to the non-government sector (52.0 percent at end-2007), after one year and a half, exceeded the share of domestic currency-denominated loans, being fostered by the appreciation of the domestic currency in the first part of the year, the cancellation of the limits established for the exposures arising from granting foreign currency loans[8] and the still easy access of credit institutions to external financing sources. Credit institutions' external liabilities in foreign currency continued to report relatively high readings during the period under review (Chart 3.2.4) in relation to the loans in foreign currency to the non-government sector.

Chart 3.2.4 - External liabilities in foreign currency/foreign currency loans to non-government sector

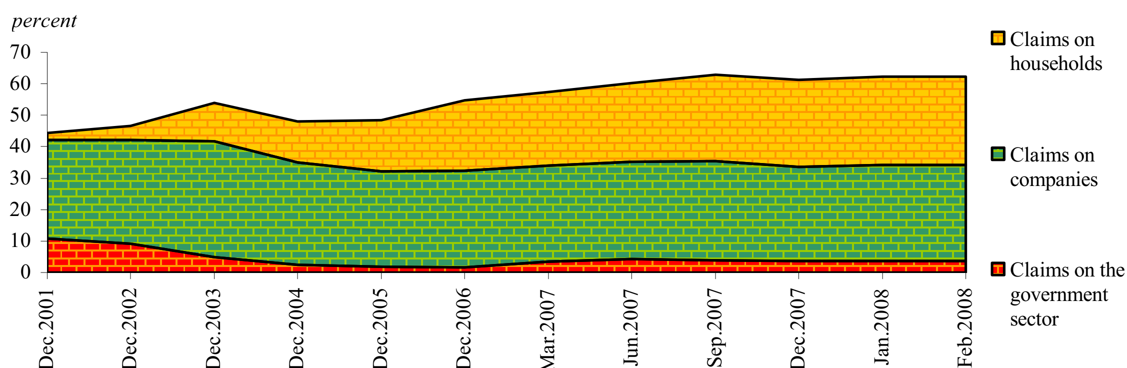


Source: NBR

Claims on companies (-0.9 percentage points) continued to follow a slightly downward trend, ending the year with a structure similar to that in December 2006 (Chart 3.2.5). The main drivers of this development were the increase in average interest rates on new loans to non-financial companies, the depreciation of the domestic currency in the latter half of the year, as well as the companies' larger resort to external financing sources.

Claims on government (+2.1 percentage points) illustrate the mounting demand for loans of local government, and also the rising dynamics of government securities held by credit institutions. Out of the inter-bank placements (-6 percentage points), placements with the central bank remained on top, amounting to 86 percent.

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 at end-2007 (Table 3.2.4) indicates the prevalence of the domestic component mostly sustained by deposits taken from companies and households (49.7 percent, down 5.3 percentage points versus the same year-ago period). Although domestic liabilities held the largest share in total liabilities, they continued to follow a downward

[8] Norms No. 11/2005 on containing the concentration of exposures from foreign currency loans were abrogated, in January 2007, by Norms No. 24/2006.

trend in the past years in favor of foreign liabilities (+5.8 percentage points), against the background of a gradual decline in the average deposit rate on new business of households[9] in the first three quarters of 2007.

In spite of capital increases, especially in the case of private banks, own resources continued to diminish their share in aggregate liabilities, given the much faster rise in foreign liabilities. Inter-bank deposits and deposits taken from the government sector did not see major fluctuations during the past year.

Table 3.2.4 - Bank liabilities structure

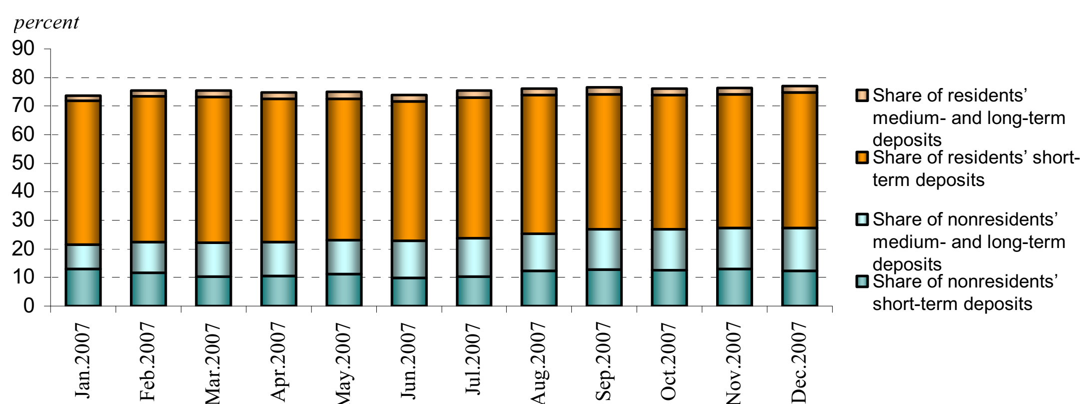
percent in total liabilities

	2001	2002	2003	2004	2005	2006	2007
Domestic liabilities, of which:	**94.1**	**93.0**	**88.3**	**84.1**	**79.1**	**77.5**	**71.7**
Inter-bank deposits	3.7	3.3	2.9	3.0	2.5	3.6	3.8
Non-bank sector deposits, of which:	70.4	71.7	68.3	64.9	61.0	58.1	52.6
- Government sector deposits	3.7	3.1	3.0	2.6	3.5	3.1	2.9
- Corporate and household deposits	66.7	68.6	65.3	62.3	57.5	55.0	49.7
Capital and reserves	14.4	13.5	13.1	11.7	12.2	11.8	9.9
Other liabilities	5.6	4.5	4.0	4.5	3.4	4.0	5.4
Foreign liabilities	**5.9**	**7.0**	**11.7**	**15.9**	**20.9**	**22.5**	**28.3**

Source: NBR

Credit institutions with foreign shareholding had a significant contribution to the increase in the share of foreign liabilities in total liabilities of the Romanian banking sector amid the backdrop of a stronger financing from parent banks than in the previous year. Until the end of 2007, the share of deposits in domestic and foreign currency taken from nonresidents on the medium- and long-term doubled in total liabilities of the Romanian banking sector (Chart 3.2.6).

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

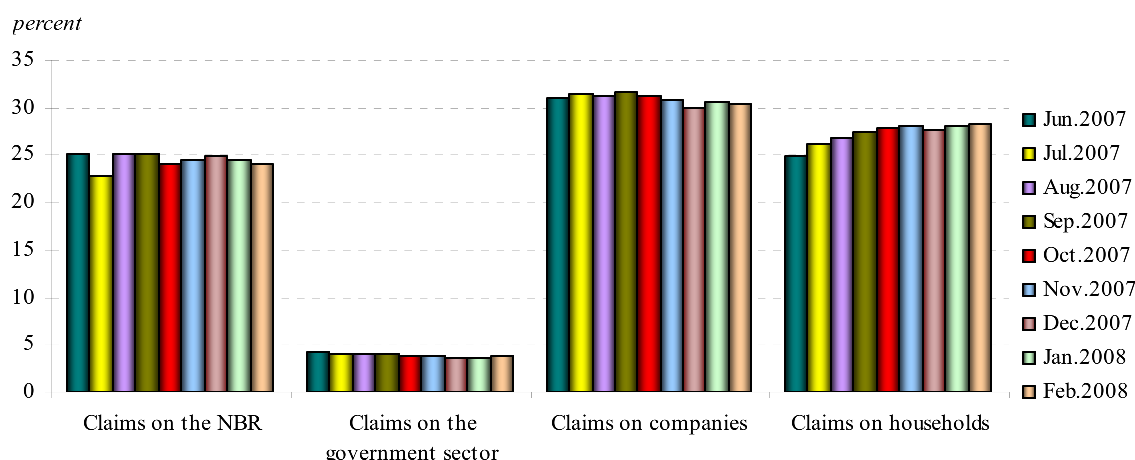


Source: NBR

[9] The average interest rate on new deposits of households dropped in the January – August period, following broadly a trajectory opposite to that of the average interest rate on new deposits of non-financial companies.

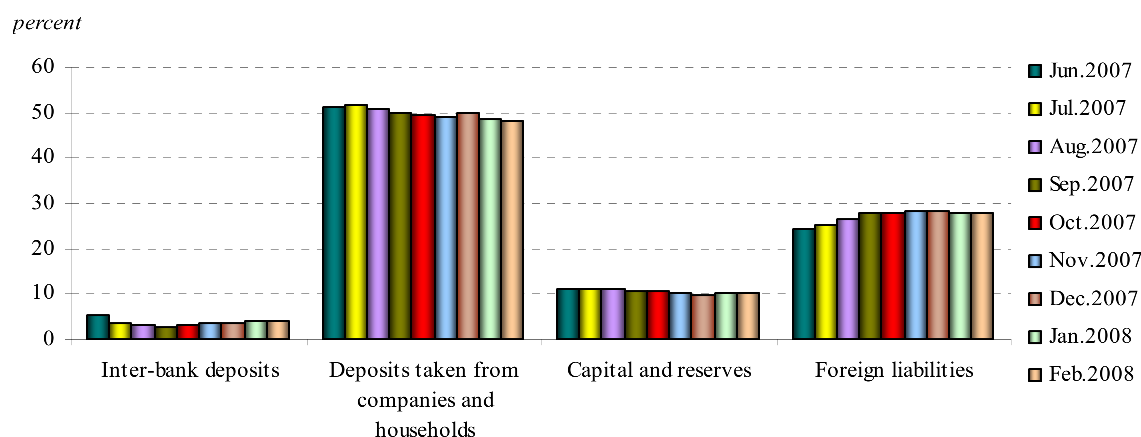
Global financial market turbulence had a limited impact, without visible effects on the structure of the domestic banking sector's balance sheet (Chart 3.2.7, Chart 3.2.8). In the absence of critical liquidity problems, the credit may continue to grow, albeit at a slower pace than in the previous period, owing to the incomplete market saturation and the existence of stimulating interest margins.

Chart 3.2.7 - Structure of main domestic asset categories during June 2007 - February 2008



Source: NBR

Chart 3.2.8 - Structure of main liabilities during June 2007 – February 2008



Source: NBR

3.2.3. Capital adequacy

According to the anticipations in the previous Financial Stability Report, solvency indicators continued to decline in 2007, against the background of non-government credit expansion, household loans in particular. Nevertheless, the Romanian banking system remains adequately capitalized, as indicated by the results of the stress tests carried out by the central bank. In the absence of severe turmoil and liquidity problems and due to the ongoing, albeit slower, rise in non-government loans (on the back of low market saturation) a further downtrend of the solvency indicator is expected for the period ahead. As concerns the

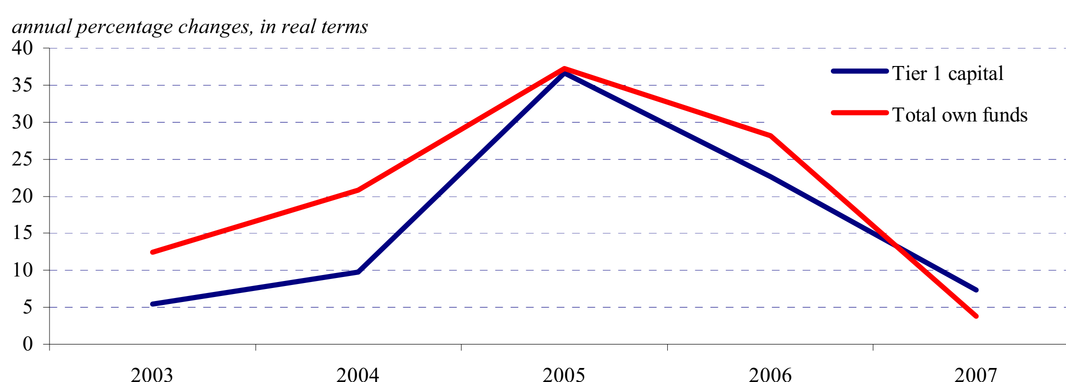
Romanian banks, whose solvency ratio is relatively close to the minimum level of 8 percent, the continued pursue of aggressive policies for the purpose of gaining or strengthening their market share will depend on the increase in own funds, including by shareholders' new equity capital contributions, by taking subordinated loans from parent banks or by profit capitalization. However, it is difficult to establish the current impact of the entry into force of new prudential regulations regarding capital adequacy, which stipulate the enforcement of Basel II principles starting with 1 January 2008. On the other hand, the solvency ratio is expected to raise no problems in the short run, considering the maintenance by most banks of a safe margin of this indicator in relation to the regulated level.

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

An adequate level of capitalization indicators of credit institutions secures the maintenance of the overall financial system stability, considering that these institutions are the key component of the Romanian financial market. The level of capitalization is relevant for the ability of credit institutions to absorb the losses generated by either exogenous shocks induced by the domestic and international macroeconomic environment, or by the inappropriate management of the endogenous risks associated with banking activity.

In 2007, the growth pace of *own funds* of banks, Romanian legal entities, and of their major component – *Tier 1 capital*[10] (Chart 3.2.9) – was slower than that recorded in the past three years.

Chart 3.2.9 - Real growth pace of total own funds and Tier 1 capital



Source: NBR

Moreover, the structure of own funds of banks, Romanian legal entities (Table 3.2.5) underwent several changes in 2007. The item *Tier 1 capital*[11] consolidated its position, as illustrated by the rise to 77 percent in its contribution to own funds financing. In addition, the share of *Tier 2*

[10] Pursuant to Regulation No. 18/23/2006 issued by NBR and NSC, Tier 1 capital consists of: a) subscribed and paid-up share capital, except cumulative preferential shares or, as appropriate, the core capital made available to the branch in Romania by the third-country credit institution; b) share premiums, received entirely, related to the equity capital; c) legal reserves, statutory reserves and other reserves, as well as the retained earnings, following profit distribution; d) net profit of the latest financial year, before its distribution in accordance with the decisions made at the General Meeting of Shareholders, to the limit of the amount intended to be earmarked for each of the destinations stipulated under let. a) – c). Moreover, the items that can be deducted from Tier 1 capital are laid down in Art.5 of the Regulation.

[11] Tier 1 capital includes the primary sources of capitalization.

capital[12] dropped to 30 percent of Tier 1 capital volume, 5 percentage points lower than that recorded in 2006. In this context, Tier 2 capital that includes secondary sources of credit institution capitalization has a further high growth potential[13].

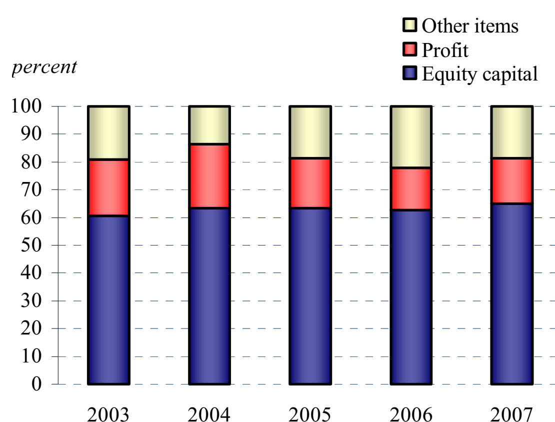
Table 3.2.5 – Development of own funds and capital adequacy indicators

percent

Indicator	31.12.2003	31.12.2004	31.12.2005	31.12.2006	31.12.2007
share of total own funds:	100	100	100	100	100
Tier 1 capital	85.9	78.1	77.7	74.3	76.8
Equity capital	51.9	49.4	49.2	46.5	49.9
Current profit	17.4	17.9	14.0	11.4	12.5
Subordinated loans	3.4	4.8	10.6	14.0	17.1
Revaluation reserves	14.5	14.9	10.0	8.8	9.5
Solvency ratio (> 8%)	21.2	20.6	21.1	18.1	12.7
Ratio of Tier 1 capital to risk weighted assets[14]	18	16	16	13	10

Source: NBR

Chart 3.2.10 - Structure of Tier 1 capital



Source: NBR

The *equity capital* remained the most significant item of Tier 1 capital, together with current profit. Total capital saw a real increase of 10 percent in 2007, lower than that posted at end-2006 (21.8 percent) and at end-2005 (38 percent). However, in 2007, the equity capital consolidated its position as the main supporting element of Tier 1 capital, as it share moved ahead to 65 percent from 63 percent in 2004-2006 (Chart 3.2.10). It is worth noting that out of 40 credit institutions, Romanian legal entities and branches of foreign credit institutions operating in Romania (three newly-established ones) only 15 (13 banks, Romanian legal entities, one branch of a foreign bank and the credit co-operative network CREDITCOOP) increased their equity capital in 2007, as against the prior year when 23 credit institutions reported new capital contributions.

[12] Pursuant to Regulation No. 18/23/2006 issued by NBR and NSC on own funds of credit institutions and investment firms, Tier 2 capital comprises: 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 para.1 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 the capital in the form of subordinated loans, by observing the conditions set forth in Art.16 of the Regulation.

[13] Art.21 para.1 let. a) of Regulation No. 18/23/2006 issued by NBR and NSC on own funds of credit institutions and investment firms, which came into force on 1 January 2007, sets forth that the total Tier 2 capital that may be taken into account when calculating own funds can be no higher than 100 percent of Tier 1 capital. The NBR can approve, at the request of credit institutions, the exceeding of the above-mentioned limit, but only provisionally and in exceptional circumstances.

[14] This indicator shows Tier 1 capital as a share of total risk-weighted balance sheet assets and off-balance sheet items, net of provisions.

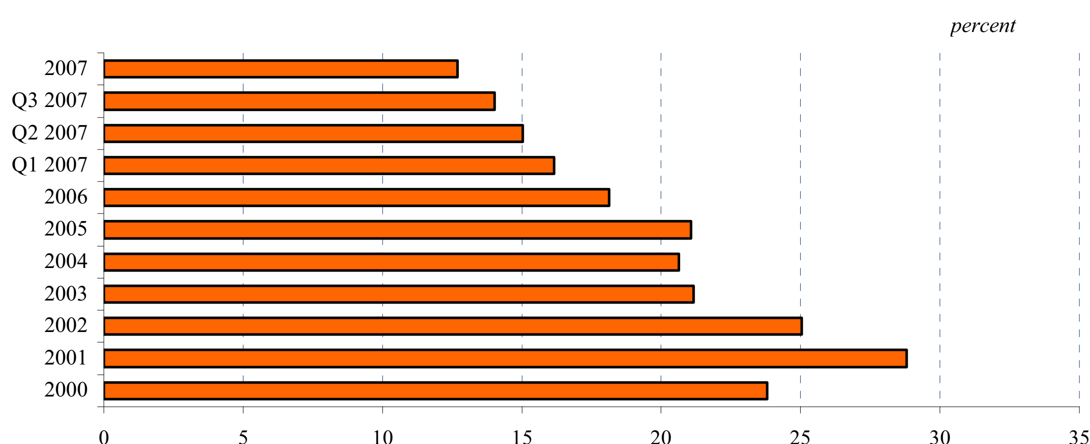
Year 2007 saw the increase in profit from banking activity, as illustrated by the real annual growth rate of 14 percent (versus 4 percent in December 2006). Accordingly, the profit contribution to Tier 1 capital added 1 percentage point to 16 percent (Chart 3.2.10), its share being lower than that posted in 2003-2005.

From among Tier 2 capital components, banks' *subordinated loans* rose markedly in the past two years (27 percent in 2007 and 69 percent in 2006) to such an extent that, in December 2007, they made up over 70 percent of Tier 2 capital components. Accordingly, *wealth revaluation reserves* made a lower contribution to Tier 2 capital financing.

3.2.3.2. Analysis of solvency

In 2007, the downtrend followed in the past years by the overall solvency ratio[15] of credit institutions[16] (Chart 3.2.11) was sharper, this indicator dropping 5.4 percentage points as compared to the end-2006 figure, to 12.7 percent. The main factor behind this development is the ongoing expansion of non-government credit, given that credit institutions' own funds posted a slower growth pace. Nevertheless, the solvency ratio has been maintained at an adequate level, exceeding the minimum level laid down in prudential regulations applicable in 2007[17] in Romania and that required by European and international regulations (8 percent).

Chart 3.2.11 – Trend of solvency ratio (2000-2007)*



Source: NBR

* Also includes Creditcoop starting with 31 December 2003

The overall solvency ratio in the euro area follows a downward trend as well, yet at a slower pace (11.1 percent at the end of 2007 H1, as against 11.4 percent in December 2006[18]). As compared with the previous years when, against the background of a relatively low intermediation, the overall solvency ratio calculated for the Romanian banking system was by far higher than that of several countries in the region, in 2007, the level of this indicator in Romania was similar to those recorded by other EU Member States (Chart 3.2.12).

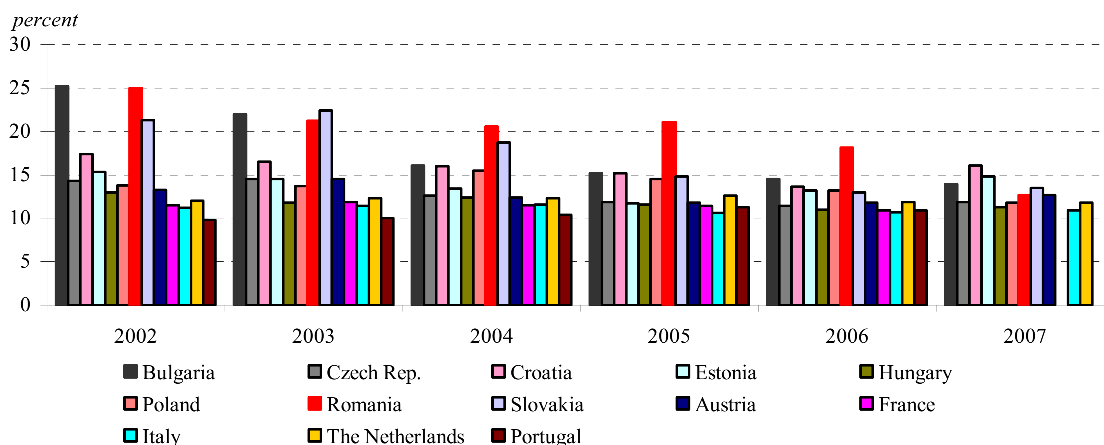
[15] In 2007, credit institutions calculated the solvency ratio in compliance with Basel I principles and NBR Norms No. 12/2003 on the oversight of solvency and large exposures of credit institutions, as subsequently amended and supplemented. The solvency ratio indicates own funds as a share of total risk-weighted balance sheet assets and off-balance sheet items, net of provisions.

[16] Neither the prudential requirements for own funds, nor the prudential indicators calculated based on such requirements are applicable to branches of foreign banks from EU Member States. Pursuant to the provisions of Regulation No. 18/23 of December 2006 issued by NBR and NSC, the own funds of branches of third-country credit institutions operating in Romania shall consist of Tier 1 capital starting with 1 January 2007.

[17] Until 31 December 2006, prudential norms applicable in Romania imposed a 12 percent minimum solvency ratio. Thereafter, the minimum solvency ratio was harmonized with the 8 percent level applicable in Europe.

[18] Financial Stability Review – December 2007, issued by the European Central Bank.

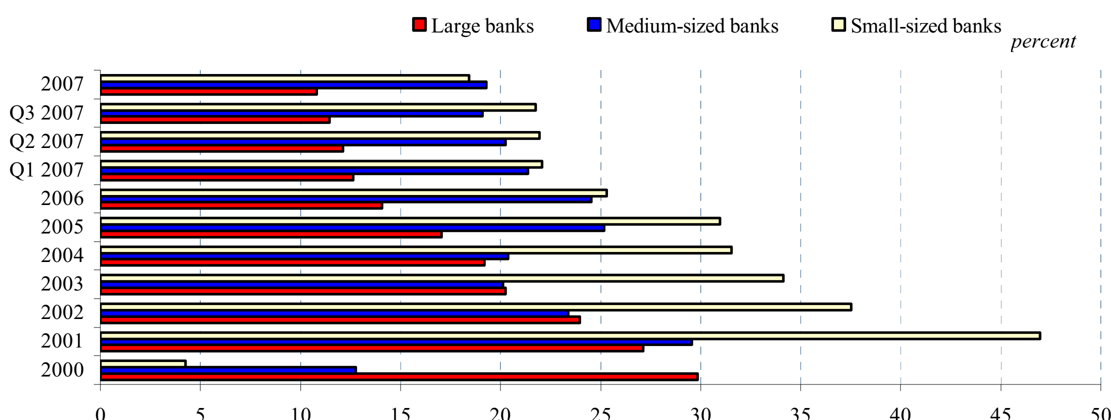
Chart 3.2.12 – Trend of solvency ratio in EU Member States



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

The analysis of solvency ratio by group of banks in terms of banks assets[19] (Chart 3.2.13) shows the persistence of trends recorded in the previous years. In the context of competition for the market share, large banks further posted the lowest solvency ratios (10.8 percent at end-2007, down 3.3 percentage points from end-2006 figure), below the average for the banking system. Furthermore, for the two year in a row, the solvency ratio calculated for small-sized banks is the same with that of medium-sized banks (19 percent in December 2007, down 6 percentage points from end-2006 figure), which illustrates the increasingly active involvement in the lending activity. The nearly 3 percentage point gap in the reduction of the solvency indicator computed for large banks as compared to small- and medium-sized banks is also reflected by the lower concentration in the Romanian banking system. Hence, in contrast to developments in 2006, the market share of the top-five banks in total loan portfolio dropped 6.4 percentage points to 57.1 percent at end-2007, while that in total aggregate assets moved down 4 percentage points to 56.4 percent.

Chart 3.2.13 – Solvency ratio by group of banks (2000-2007)

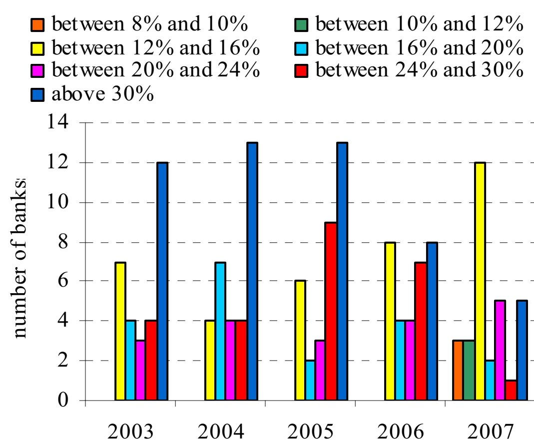


Source: NBR

[19] The National Bank of Romania uses a classification of banks in terms of their asset shares in total assets of the banking system, as follows: large banks are defined as those banks whose asset share is larger than 5 percent of total; medium-sized banks are the banks whose assets hold a share ranging between 1 and 5 percent of total; small banks are the banks whose assets account for less than 1 percent of aggregate assets.

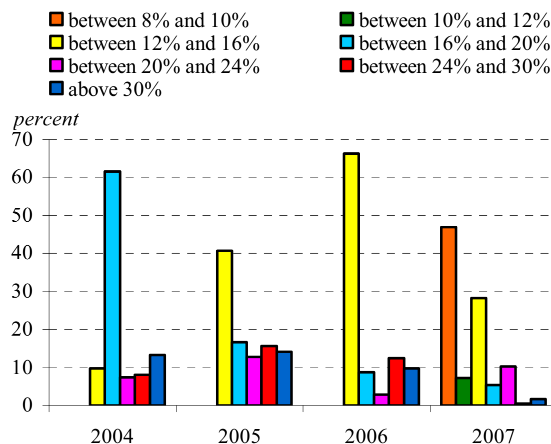
Amid the fast expansion in non-government credit, banks' tendency to migrate towards lower solvency ratios (Chart 3.2.14) continued in 2007 as well. Hence, for the first time in the past eight years, three banks reported solvency ratios in a range between 8 percent and 10 percent, whilst other three banks recorded solvency ratios ranging from 10 percent to 12 percent. The largest concentration is seen in the range of 12 percent and 16 percent, as twelve banks reported solvency ratios within this range. At end-2007, only five banks posted solvency ratios higher than 30 percent, as compared with eight banks at end-2006.

Chart 3.2.14 – Banks in terms of solvency ratio



Source: NBR

Chart 3.2.15 – Bank assets in terms of solvency ratio



Source: NBR

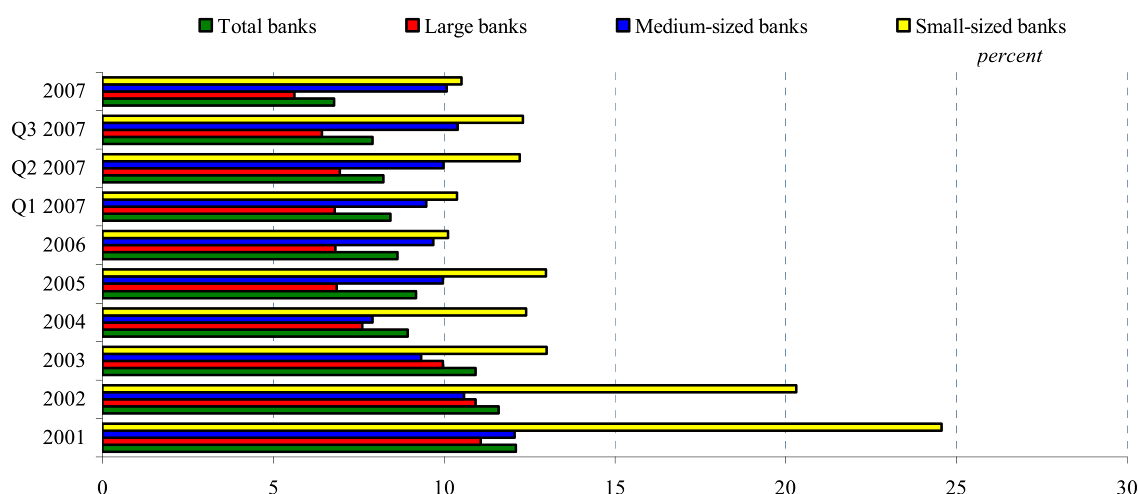
This trend is also substantiated by the bank asset distribution in terms of solvency ratio (Chart 3.2.15), according to which, for the first time in the past eight years, more than half of bank assets were held by banks that recorded, at end-2007, solvency ratios ranging between 8 percent and 12 percent. At end-2007, a higher concentration of assets is seen in the range of 12 percent and 16 percent (28 percent of bank assets) and of 20 percent and 24 percent (10 percent of bank assets) of the solvency ratio.

To sum up, despite the sharper downtrend followed in 2007 by the solvency ratio, this development may be attributed to the increase in the financial intermediation of Romanian banks, which is nonetheless well below that reported by EU Member States. The Romanian banking system remains well capitalized, and the solvency ratio will raise no problems in the short run, considering the maintenance of a safe margin of the aggregate level of this indicator in relation to the minimum level laid down by regulations. However, in the case of several Romanian banks whose solvency ratio is close to the 8 percent minimum level, the gaining or consolidation of their market share will depend on the increase in own funds (via new equity capital contributions from shareholders, subordinate loans, higher reserves, etc). Moreover, there is still the risk associated with the difficulty to currently assess the impact exerted by the entry into force of the new prudential

regulations on capital adequacy[20], which set forth the enforcement of Basel II principles[21] starting 1 January 2008.

In 2007, credit institutions' level of financing from own sources, as reflected by *Tier 1 capital ratio*[22], continued to decline, dropping nearly 2 percentage points from the previous year to 6.8 percent. Moreover, the level of financing from own sources, calculated by group of banks in terms of the share of their assets in total bank assets, is still different (Chart 3.2.16). Thus, large banks still feature the lowest equity ratio (5.6 percent at end-2007, down one percentage point versus end-2006 figure). In contrast, the self-financing of small- and medium-sized banks remained unchanged from the prior year, at about 10 percent.

Chart 3.2.16 - Tier 1 capital ratio by total banks and group of banks



Source: NBR

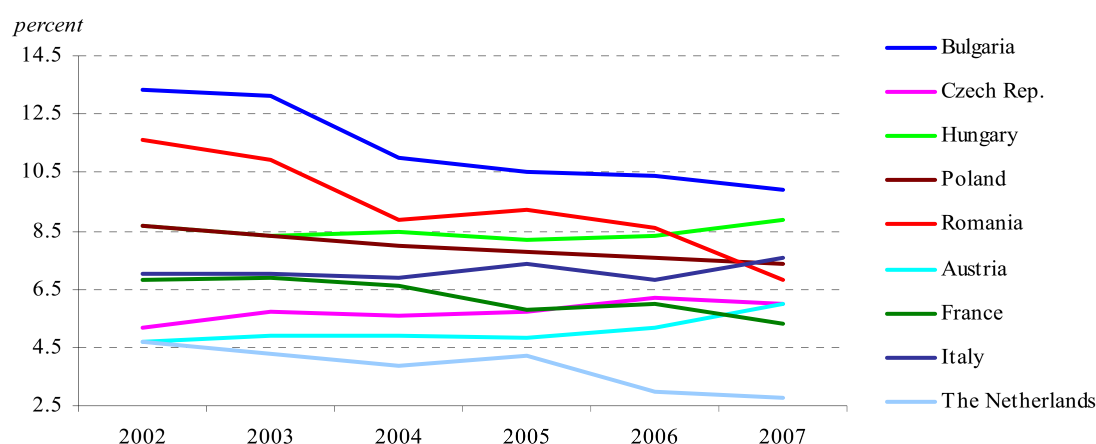
The self-financing of the Romanian banks, calculated at an aggregate level, is still similar to or even higher than that of several EU Member States (Chart 3.2.17).

[20] Regulation No. 18/23/2006 issued by NBR and NSC on own funds of credit institutions and investment firms and other similar regulations require credit institutions, Romanian legal entities, branches of third-country credit institutions operating in Romania, financial investment services undertakings, credit co-operatives within credit co-operative 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, Standardized Approach, Alternative Standardized Approach, Advanced Measurement Approach.

[21] NBR Order No. 12/2007 on the reporting of minimum capital requirements for credit institutions transposes into the Romanian legislation the COREP (*Common solvency ratio reporting framework*) reporting forms drawn up by the Committee of European Banking Supervisors (CEBS), which stands for the instrument of banking supervision according to Basel II principles. The new norms require the observance, both on an individual and on a consolidated basis, of requirements for own fund structure and the capital requirements for credit risk, market risk, operational risk, dilution risk, position risk, settlement risk, counterparty credit risk, commodities risk. As concerns the options of credit institutions, it is worth mentioning that branches of foreign banks do not apply Basel II in Romania, whereas banks, Romanian legal entities, opted for the Standardized Approach for credit risk. Furthermore, regarding the operational risk, 22 banks, Romanian legal entities, opted for the Basic Approach, 9 banks for the Standardized Approach and one bank for the Advanced Measurement Approach.

[22] The indicator "Tier 1 capital ratio" is computed as the share of Tier 1 capital in total assets. The indicator shows the extent to which credit institutions finance their activity from own funds.

Chart 3.2.17 – Comparative trend of Capital/Assets indicator in the European Union



Source: IMF, Global Financial Stability Report (April 2008), NBR data

3.2.3.3 Results of stress test in assessing the solvency ratio and own funds

With a view to assessing, by means of the stress test for 2007 H1, the capability of the Romanian banking system to absorb the negative effects of exogenous shocks, a 20 percent depreciation of the domestic currency was envisaged, amid the 1.5 percentage point rise in interest rate[23].

The stress test has revealed that the specific vulnerabilities of the Romanian banking system are still low. The shock envisaged in the scenario causes the deterioration of the credit portfolio quality, equivalent to a 8.07 percent decline in total own funds. However, about 60 percent of this decrease are offset by the growth of net interest income. Moreover, the banking system could recover half of a percentage point from the erosion of own funds via the direct effect of the exchange rate, given the predominantly long foreign exchange positions. Thus, the total effect on aggregate own funds is a 2.74 percent depreciation.

The impact of the shock on the overall solvency ratio is illustrated by a mere 0.36 percentage point decline (Table 3.2.6) to 14.67 percent, given that, on an individual basis, all banks, Romanian legal entities, would report solvency ratios higher than the 8 percent minimum level stipulated by regulations.

Table 3.2.6 – Impact of the shock on banks' solvency ratio

	Total	Banks with state owned capital	Privatized banks	Banks with domestic private capital	Leading foreign banks	Other banks with foreign capital
Solvency ratio before the shock (percent)	15.03	37.04	11.42	13.81	18.04	18.89
Solvency ratio after the shock (percent)	14.67	37.53	11.15	13.38	17.59	18.11
Size of total impact (p.p.)	**-0.36**	**+0.49**	**-0.28**	**-0.43**	**-0.45**	**-0.78**

Source: NBR

[23] The value corresponding to the interest rate change, namely a 1.5 percentage point rise, was estimated based on the assumption of the 20 percent depreciation of the domestic currency, with the support of the Macroeconomic Modeling and Forecasting Department in the NBR, which ensured the consistency of the exchange rate shock and the interest rate shock.

Privatized banks and banks with domestic private capital could record the lowest solvency ratio after the shock, not because of the shock-induced impact (which is relatively modest, namely -0.28 percentage points and -0.43 percentage points respectively), but because of their lower capitalization levels.

3.2.4. Loans and credit risk

Credit risk was significantly higher as financial intermediation increased. Non-government loans recorded new considerable rises, particularly on the back of credit to households. Foreign exchange credit, accounting for more than half of total non-government loans, displayed a significant development. The loan portfolio quality of the Romanian banks remains adequate, at a level comparable to that of other European countries. In the context of foreign investors' increased risk aversion, the impact of international market turmoil could become significant, by rendering the private sector's access to external refinancing sources, particularly in the medium run, more difficult and more expensive. The heightened depreciation pressures of the domestic currency could have negative effects on unhedged borrowers and, implicitly, on the loan portfolio quality of banks. In the short run, against the background of persistently high liquidity levels in the Romanian banking system, the growth of non-government loans is expected to continue, yet at a slower pace, following the tightening of monetary policy measures taken by the central bank in the first months of 2008. The results of stress tests used to asses the capability of the Romanian banking system to absorb the negative effects of extreme, but plausible, exogenous shocks did not reveal systemic problems up to now.

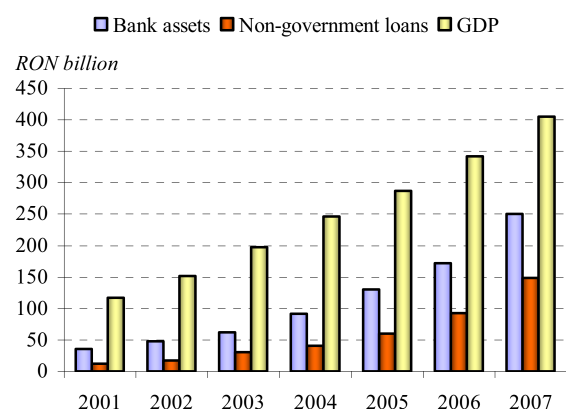
3.2.4.1. Main credit developments

In 2007, non-government loans increased at a faster pace (50.5 percent, in real terms), 3 percentage points higher year on year. Non-government credit was the main factor behind bank asset expansion, accounting for more than 70 percent of their rise (Chart 3.2.18). Hence, financial intermediation, as measured by the shares of bank assets and of non-government loans in GDP, added 11.5 percentage points and 9.6 percentage points to 62 percent and 37 percent respectively at end-2007 (Chart 3.2.19). The causes for the aforementioned developments in non-government loans are related to both loan demand and supply. In 2007, demand for loans was mainly influenced by (i) the further high economic growth and its positive prospects, (ii) rise in household income and further favorable expectations on their level, (iii) decline in interest rates applied by banks on some lending products, on the back of stiffer competition on the Romanian banking market[24] and (iv) domestic currency appreciation in the first half of 2007, which fostered foreign exchange lending. The dampening factors which had an impact on non-government loans in 2007 are: (i) companies' further wide resort to financing sources other than those provided by credit institutions in Romania (loans from non-resident financial institutions, bond issues, new equity capital contributions, trade credits, etc.), (ii) positive anticipations on the easing of lending conditions, which caused the delay in taking loans, (iii) attainment by some clients of the maximum payment commitments (established in compliance with norms issued by banks), (iv) further relatively high borrowing costs, by raising the number or the level of commissions or by applying lower (promotional) interest rates for a limited time period and (v) the severe domestic currency depreciation starting July 2007, amid international market uncertainties. Loan supply was largely influenced by (i) persistent excess liquidity in the case of most Romanian banks, coupled with the still readily available foreign financing sources, (ii) heightened competition in the Romanian banking system,

[24] Except for the competition from domestic non-bank financial institutions, a significant number of non-resident financial institutions started operating on the Romanian banking market in 2007 and notified the NBR of their providing services on the territory of Romania.

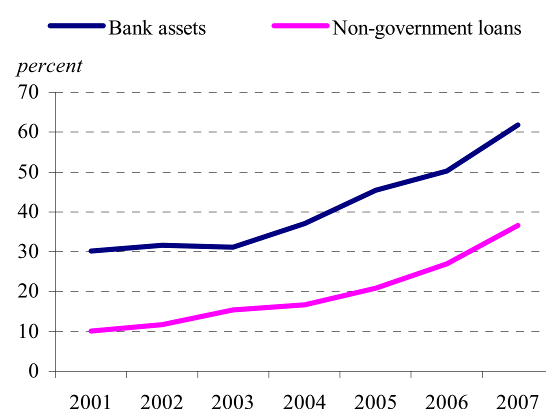
due to the significantly larger number of market players (iii) improved perception of banks as regards the financial situation of their clients, on the back of favorable developments in real economy. Moreover, a significant impact was exerted by the central bank's easing of some prudential measures concerning loans to households and the shift of credit risk management to commercial banks[25].

Chart 3.2.18 – Bank assets and non-government loans



Source: NBR

Chart 3.2.19 – Bank assets and non-government loans as a share in GDP



Source: NBR

The central bank did no longer apply prudential measures concerning the containment of foreign currency loans[26], due to the rapid appreciation of the domestic currency versus the euro in the first part of 2007, which made this non-government credit component resume the fast growth pace (to account for 54 percent of non-government loans at end-2007), to the detriment of RON-denominated loans. Thus, RON-denominated loans saw a reversal of their upward trend after nearly 18 months (Chart 3.2.20). The prevalence of foreign currency-denominated loans is ascribable to the annual growth rate of 73 percent, in real terms, in 2007 (as against only 28 percent at end-2006, when the containment measures applied by the central bans were still in force). A significant share of foreign currency loans (about 70 percent) was covered from foreign currency-denominated liabilities of non-residents, even though the central bank maintained its restrictive policy on the minimum reserve requirement ratios[27]. Taking into account the risks associated with foreign currency-denominated loans and their developments in 2007, the central bank tightened, in

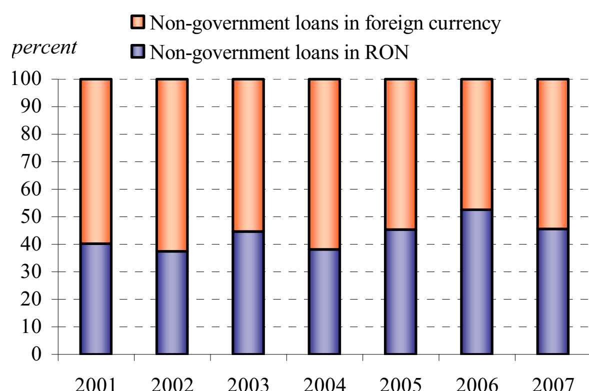
[25] NBR Regulation No. 3/2007 on limiting credit risk associated with loans to households, published in *Monitorul Oficial al României* No. 177/14 March 2007 stipulates that the maximum accepted monthly payment commitments are established by lenders, in terms of categories of clients, in their regulations, which must be approved by the NBR. The Regulation sets forth that, until the approval by the NBR of the internal regulations of credit institutions and non-bank financial institutions, monthly payment commitments shall be no higher than 40 percent. The Regulation repealed NBR Norms No. 10/2005, as subsequently amended and supplemented, on limiting credit risk associated with loans to individuals, which imposed, among others, the following prudential requirements: a) the value of a real-estate investment loan shall not exceed 75 percent of the value of the building for whose purchase the loan is applied for and/or the value of the cost estimate, and value of collateral shall be no lower than 133 percent of the loan value; b) monthly payment commitments shall be no higher than 40 percent of the applicant's and his/her family's net incomes, as appropriate; c) monthly payment commitments, as they arise from consumer loans, shall be no higher than 30 percent of the applicant's and his/her family's net incomes, as appropriate; d) monthly payment commitments, as they arise from real-estate investment loans, shall be no higher than 35 percent of the applicant's and his/her family's net incomes, as appropriate.

[26] Starting January 2007, the National Bank of Romania repealed Norms No. 11/2005 on containing the concentration of exposures from forex loans.

[27] In 2007, the central bank's regulations imposed a level of 40 percent for the minimum reserve requirement ratios on foreign currency-denominated liabilities of credit institutions.

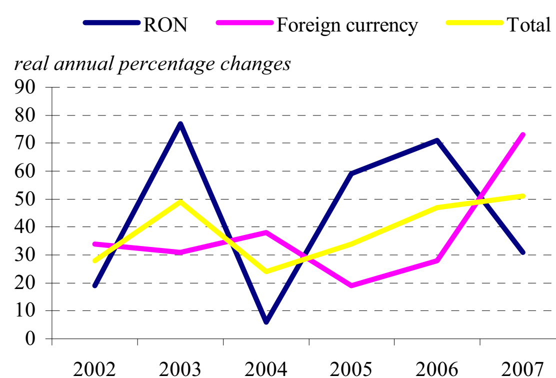
early 2008, the provisioning requirements for loans extended by banks to unhedged borrowers[28], for prudential and macroeconomic reasons. The rise by merely 31 percent of RON-denominated loans (Chart 3.2.21) caused the 7 percentage point drop in the contribution of this component to non-government loans in 2007.

Chart 3.2.20 – Non-government loans by currency



Source: NBR

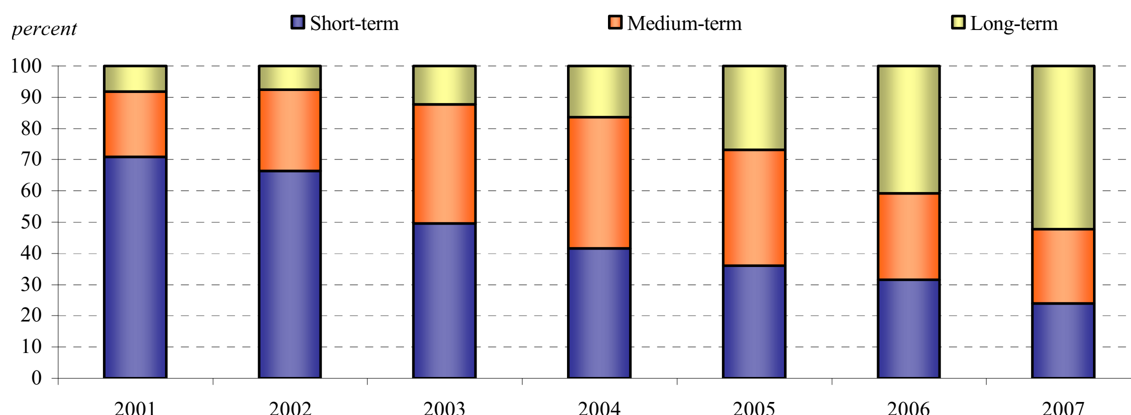
Chart 3.2.21 – Real growth rate of non-government loans – total and by component



Source: NBR

It is worth mentioning the swift growth rate of long-term loans[29] (93 percent in real terms as against 2006), which caused this loan category to hold the largest share in total non-government loans at end-2007 (52 percent, up more than 11 percentage points). The main determinants of this development are the persistently high demand for investment credit from companies and for real estate credit from households.

Chart 3.2.22 – Non-government loans by maturity



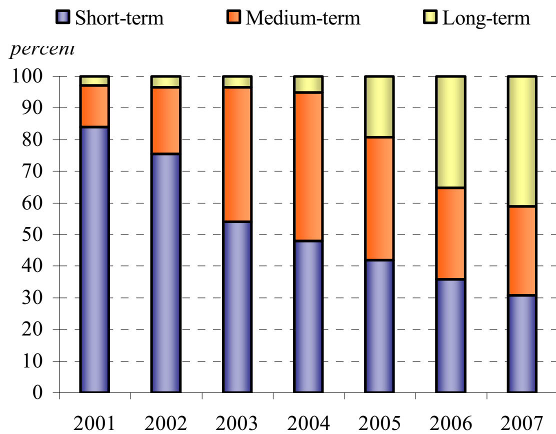
Source: NBR

[28] NBR Regulation No.4 of 18 February 2008 on amending and supplementing NBR Regulation No. 5/2002 on the classification of credits and investments, as well as the establishment, adjustment and use of credit-risk provisions (published in *Monitorul Oficial al României*, Part One, No.146 of 26 February 2008), which entered into force on its publication date, sets forth separately provision coefficients for foreign currency-denominated loans or loans index-linked to the exchange rate of a currency, extended to unhedged borrowers, with a higher level than those applicable to RON-denominated loans. Unhedged borrowers, natural entities, include the individuals that do not generate net positive cash flows in the denomination currency of the loan, allowing the timely repayment of principal and interest. Cash inflows are adjusted in terms of certainty and permanence.

[29] Long-term loans are the defined as loans that can be repaid by clients over a period of time exceeding five years.

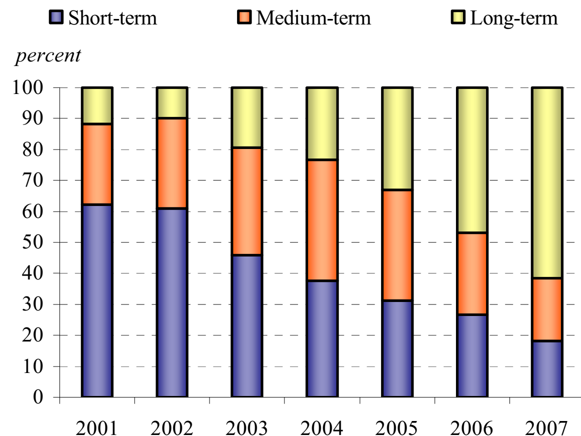
The sharper upward trend of long-term foreign currency loans was also visible in 2007 (Chart 3.2.24), being mainly illustrated by the aggregate level of foreign currency-denominated loans (62 percent in December, up 15 percentage points from end-2006). Similarly, long-term RON-denominated loans came to hold a prevailing share (41 percent in December 2007, up 6 percentage points against end-2006), yet at a slower pace (Chart 3.2.23).

Chart 3.2.23 – Non-government loans in RON by maturity



Source: NBR

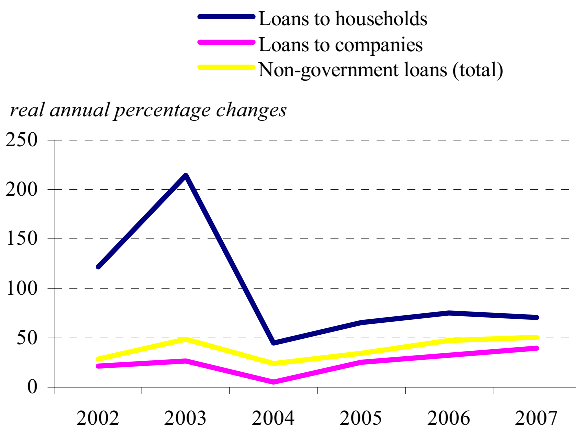
Chart 3.2.24 – Non-government loans in foreign currency by maturity



Source: NBR

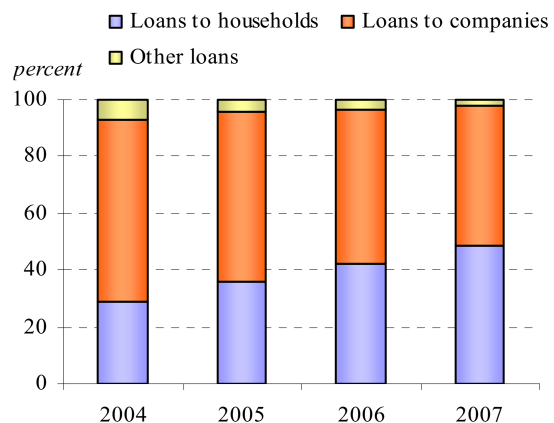
Loans to non-financial institutions, which were traditionally the main component of non-government credit, stayed on a downtrend in 2007, dropping 4 percentage points (to 50 percent of the aggregate level of credit portfolio held by the Romanian banks). The swift growth rate of loans to households (71 percent, in real terms, 20 percentage points higher than the overall annual growth pace of non-government loans) generated the significant change in the structure of non-government credit (Charts 3.2.25 and 3.2.26). Thus, year 2007 saw the expansion of household loans (making up 48 percent of total non-government credit at end-December).

Chart 3.2.25 – Non-government loans by destination



Source: NBR

Chart 3.2.26 - Non-government loans structure



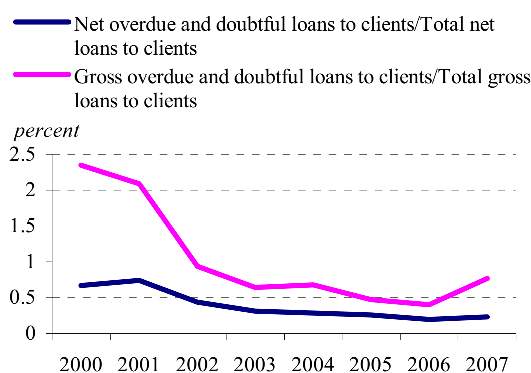
Source: NBR

3.2.4.2. Credit quality

In 2007, the further fast-paced increase in non-government credit was not accompanied by the deep worsening of the quality of banks' loan portfolio. The volume of *overdue and doubtful loans granted to non-bank clients*[30] (calculated as both net and gross values), remained at extremely low levels, i.e. below 1% of the loan portfolio granted to non-banks clients (Chart 3.2.27). Nevertheless, the loan portfolio quality is constantly monitored by the central bank, the more so as, at the outset of 2008, the local currency depreciated sharply, which might cause credit risk to grow, especially in the case of banks extensively involved in foreign currency lending.

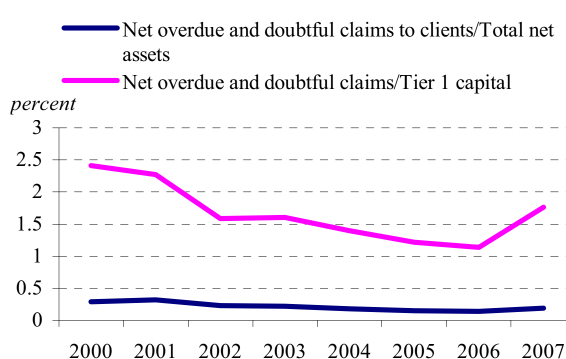
As regards loans to households, which posted the fastest rate of increase in 2007, the level of overdue loans remained relatively low (0.6 percent of total loans granted to individuals, on balance at end-2007), this state of affairs being however influenced by the robust dynamics of this segment of non-government loans.

Chart 3.2.27 – Credit quality in the banking system



Source: NBR

Chart 3.2.28 – Credit quality in the banking system

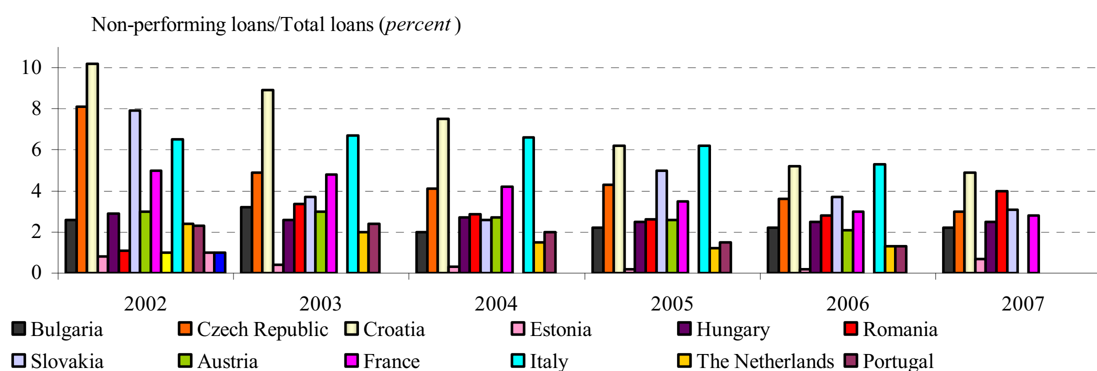


Source: NBR

Moreover, *past-due and doubtful claims (net value)* recognized in credit institutions' balance sheets as a share of *total bank assets* and *of Tier 1 capital* (Chart 3.2.28), although slightly on the rise, are posted extremely low levels in 2007 as well (0.2 percent and 1.8 percent respectively). The adequate level of banks' Tier 1 capital allows the absorption of lending-related losses resulting either from exogenous shocks or inappropriate practices of credit risk management.

The quality of Romanian banks' loan portfolio is still comparable with that in many EU countries (Chart 3.2.29).

Chart 3.2.29 – Credit quality in the European Union



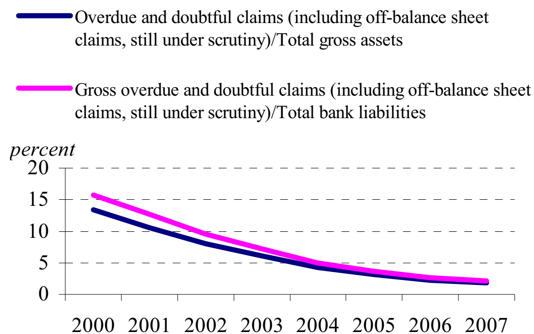
Source:Global Financial Stability Report (April 2008) – IMF; NBR calculations

[30] Non-bank clients include both companies and households.

The indicators expressed as a ratio of *past-due and doubtful claims (including off-balance-sheet claims, still under scrutiny)* and *total bank assets (gross value)*, on the one hand, and *bank liabilities*, on the other, also continued to improve in 2007 (Chart 3.2.30), both indicators declining by around 0.5 of a percentage point (to 1.8 percent and 2.1 percent in December respectively), amid the steep rise in banks' balance sheet.

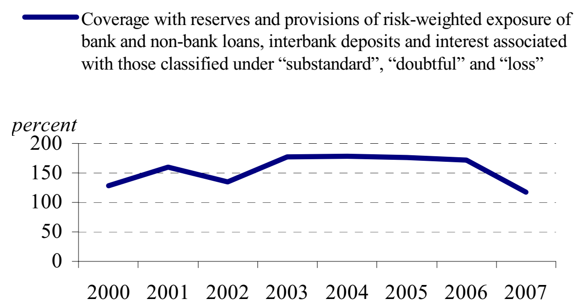
After four years during which the coverage with reserves and provisions of risk-weighted exposure of bank and non-bank loans, interbank deposits and interest associated with those classified under "substandard", "doubtful" and "loss" (Chart 3.2.31), remained relatively constant, in 2007, they dropped by 55 percentage points, to 117 percent at end-December. This development emerged as the adjusted figures associated with the claims classified under "substandard" and "doubtful" rose more swiftly than the volume of provisions established for these asset classes, the criteria for classification in the said asset classes being the clients' financial performance and the debt service.

Chart 3.2.30 – Credit quality in the banking system



Source: NBR

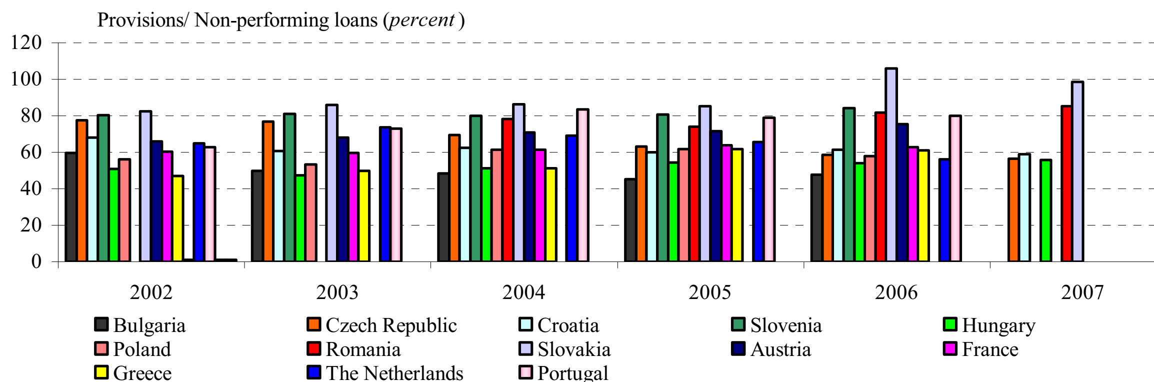
Chart 3.2.31 – Coverage of claims classified under "*substandard*", "*doubtful*" and "*loss*"



Source: NBR

However, the coverage with provisions of non-performing loans in the Romanian banks' portfolio is well above the level seen in many EU countries (Chart 3.2.32).

Chart 3.2.32 – Coverage of non-performing loans in the European Union



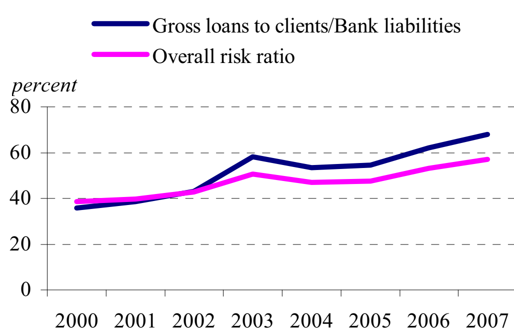
Source: IMF, NBR

The further deepening of financial intermediation in Romania is illustrated, in 2007, by the persistent growth of the ratio of *loans to clients (gross value)* to *bank liabilities* (Chart 3.2.33) by 6

percentage points, to 68 percent. As a result of the same process, *the overall risk ratio*[31] (Chart 3.2.33) advanced 4 percentage points in 2007, to 57 percent. The comparative analysis of bank assets distribution based on the overall risk ratio (Chart 3.2.34) still shows that, in 2007, this indicator moved to levels reflecting higher credit risk assumed by the Romanian banks, with stimulative interest rates on loans in both local and foreign currencies. At end-2007, the largest share of bank assets (42 percent) was accounted for by banks with overall risk ratio ranging from 60 percent to 70 percent. Moreover, concentrations were accounted for in the 50-60 percent band (31 percent of assets) and in the 40-50 percent band (19 percent of assets).

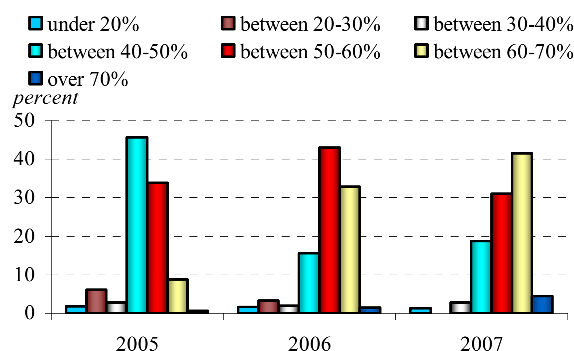
Credit risk ratios 1 and 2[32] (Chart 3.2.35) have stayed on the upward course they entered two years earlier, requiring a close monitoring from both supervisory authority and banks' management.

Chart 3.2.33 – Risk assessment indicators calculated based on credit institutions' balance sheets



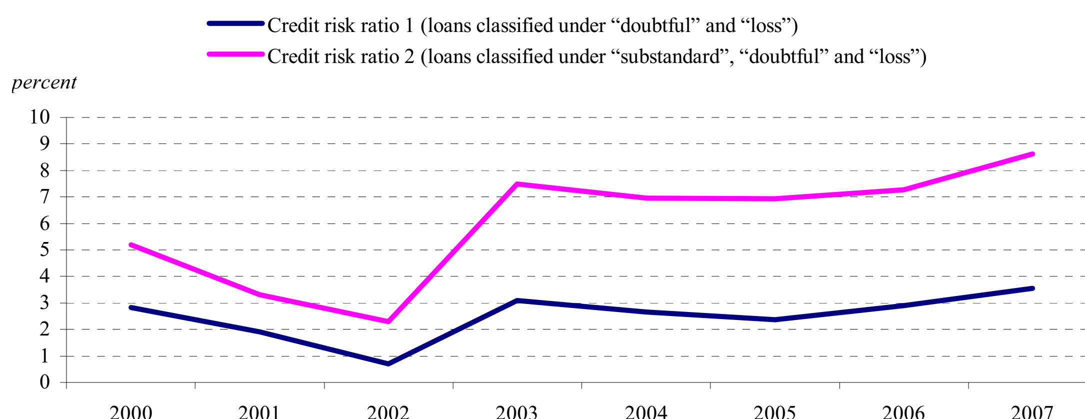
Source: NBR

Chart 3.2.34 - Net asset distribution based on overall risk ratio



Source: NBR

Chart 3.2.35 – Credit quality in the banking system



Source: NBR

[31] *The 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. The indicator is determined based on the data provided by banks in the solvency report and it measures banks' exposure to credit risk.

[32] *Credit risk ratio 1* is the ratio of unadjusted exposure relative to bank loans, non-bank loans, inter-bank placements to interest classified under "doubtful" and "loss" in total loans, inter-bank placements and related interest.

Credit risk ratio 2 is the ratio of unadjusted exposure relative to bank loans, non-bank loans, inter-bank placements to interest classified under "substandard", "doubtful" and "loss" in total loans, inter-bank placements and related interest.

3.2.5. Liquidity risk

In 2007, the Romanian banking system saw the decline in excess liquidity amid further expansion of lending and the contraction of liquidity on the international financial markets. The liquidity indicator of credit institutions, Romanian legal entities, has remained at a safety level overall and connectivity on the interbank market is rising. The systemic risk continues to be extremely low, interbank bilateral exposures showing low levels overall compared to own funds and the liquid assets of lending banks. The reliance of asset financing on external resources coming from financial institutions is growing, yet it remains under the vulnerability level recorded by other countries in the region. None of the credit institutions surveyed by the NBR within the liquidity assessment survey conducted in March 2008 needed to put in place the contingency plan as a result of global financial market turmoil.

The performance of credit institutions in terms of matching liabilities and assets on maturity bands remains adequate, yet overall liquidity of the banking system continues to diminish given higher bank intermediation. The liquidity indicator for the banking system, calculated according to the regulations in force[33], has stayed above the minimum level of 1, yet the difference between effective and required liquidity is contracting in relative terms (Table 3.2.7).

Table 3.2.7 – 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

Source: NBR

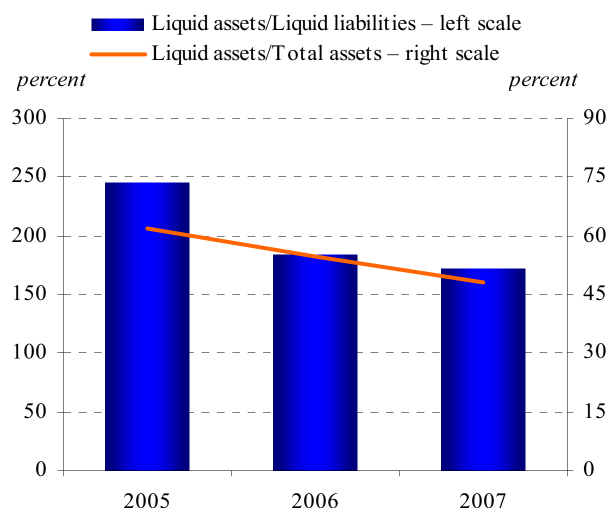
The downward trend in global liquidity and its remaining at a safety level are illustrated by the share of liquid assets in both liquid liabilities and total assets (Chart 3.2.36). The indicator *liquid assets/liquid liabilities*[34] declined more slowly in 2007 compared to the prior year, (i.e. 12.7 percentage points in 2007 versus 61.3 percentage points in 2006), which maintained a large discrepancy between liquid assets and liquid liabilities, corresponding to a ratio of about RON 1.7 liquid assets to a RON 1 liquid liabilities. Concurrently, the share of liquid assets in total assets has remained at a safety level, i.e. 48.3 percent at end-2007, following a 6.6 percentage point contraction from the end-2006 figure (54.9 percent).

The main vulnerability to liquidity risk faced by credit institutions in Romania stems from the persistent behaviour of some banks whose strategy to finance the expansion of lending relies on attracting interbank resources. The stronger pace of lending, higher than that of deposits taken from non-banks caused the *indicator loans/deposits* to step up to 109 percent in 2007 from 91.1 percent a year earlier (Chart 3.2.37).

[33] 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.

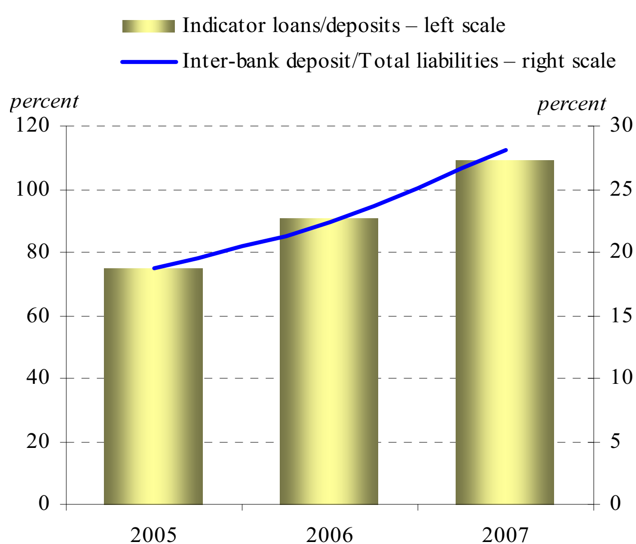
[34] The indicator takes into account the assets, liabilities and off-balance-sheet items with maturity of up to 3 months.

Chart 3.2.36 – Liquidity indicators of the banking system



Source: NBR

Chart 3.2.37 – Development of the indicator loans/deposits compared to the share of inter-bank deposits in total liabilities



Source: NBR

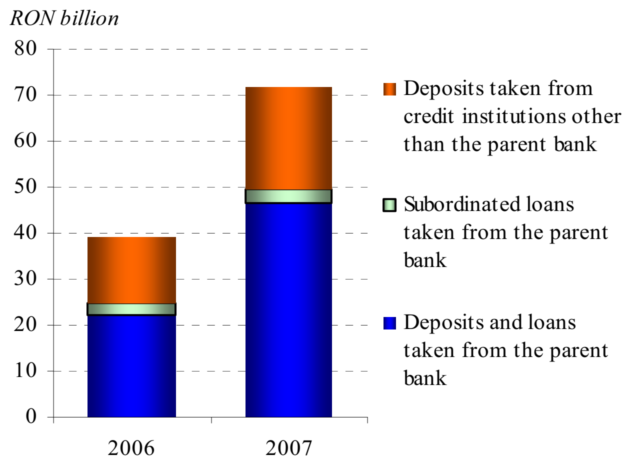
In this context, the balance sheet equilibrium was maintained by the rise in the share of interbank funds in total liabilities from 22.3 percent in 2006 to 28 percent in 2007, the Romanian banking system's reliance on potentially highly volatile resources moving up. Their concentration and increasingly higher value boost credit institutions' exposure to liquidity shocks, in the context of a potential negative change in institutional investors' sentiment regarding the prospects for their placements in the Romanian banking system.

The structural analysis of interbank resources illustrates the prevalence of foreign resources coming especially from parent banks. Given that the amounts taken from parent banks accounted for roughly 70 percent of total interbank resources used by credit institutions in Romania at end 2007, the worst-case scenario in terms of risk might envisage the instance when parent banks would face liquidity shortages themselves. Even under such circumstances, they will reduce the financing of their subsidiaries in Central and Eastern Europe only in case of a severe liquidity crisis, since a large part of their profits is provided by those subsidiaries. As the Romanian banking system is dominated by banks based in Austria and Greece[35], which do no appear to face unmanageable challenges in the context of the current turmoil[36], the severity of a potential external shock is reduced.

[35] The top four countries that hold bank capital in Romania are: Austria (22 percent), Greece (21.7 percent), the Netherlands (7.7 percent) and France (5 percent) – December 2007.

[36] IMF Country Report No.07-145, April 2007, IMF Greece - 2007 Article IV Consultation Preliminary Conclusions of the Mission, December 2007

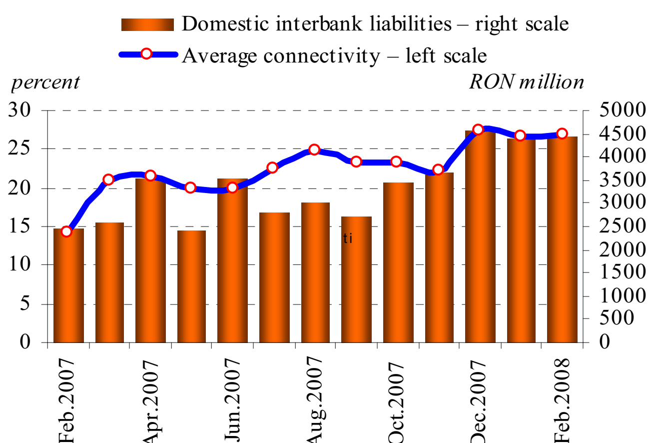
Chart 3.2.38 – Structure of deposits taken from other credit institutions



Source: NBR

Concurrently with the heavier resort to resources from parent banks, financing from the domestic market was also on the rise. The stress test of the Romanian banking system to the risk of internal interbank contamination has revealed that chain bankruptcies are less likely to occur, as bilateral exposures of domestic banks are generally reduced compared to lending banks' own funds and liquid assets. In addition, although the value of interbank deposits taken by credit institutions, Romanian legal entities, has risen in nominal terms by 82 percent during February 2007-February 2008 (Chart 3.2.39), the concentration level of domestic interbank liabilities, calculated using the Herfindahl-Hirshmann index shrank from 1,531 basis points to 1,258 basis points over the same period. This process is justified mainly by the increased domestic interbank connectivity[37] (from 14.11 percent in February 2007 to 26.81 percent a year later), which allowed deposits taken from the domestic interbank market to increase as lender groups also diversified. The stress test results show that the potential severity of a systemic shock could not erode bank assets by more than 1 percent, even assuming the worst-case scenario of three credit institutions facing default simultaneously, which is highly unlikely. The prospects for a domestically generated systemic shock to hit the Romanian banking system depend on the potential spreading of some credit institutions' behaviour as regards their decision to finance their lending activity mainly from interbank sources.

Chart 3.2.39 – Comparative analysis of interbank liabilities associated with banks, Romanian legal entities and interbank connectivity



Source: NBR

In this context, liquidity management of credit institutions in Romania relies increasingly on the development of instruments adequate for assessing vulnerabilities and on providing in-depth contingency plans applicable in case of liquidity shocks. The main approaches envisage some dry runs based on scenarios that usually cover both the emergence of adverse market conditions and specific shocks affecting credit institutions such as substantial withdrawals of deposits by individuals or the refusal of lending banks to maintain deposits after maturity. The results of the stress tests illustrate the options of credit institutions in case of a liquidity crisis. The contingency plans include, besides the access to financing provided by the parent bank or other

[37] The level of inter-bank connectivity is the share of the number of financial relationships in total potential financial relationships on the inter-bank money market, except the central bank.

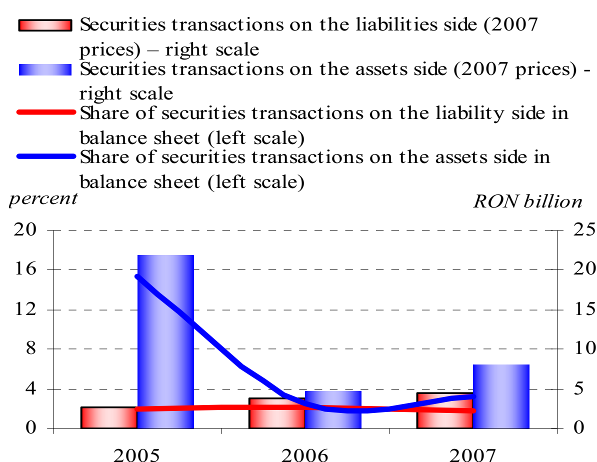
credit institutions, taking loans from the central bank, under full collateralization or sale of assets, particularly tradable assets.

3.2.6. Market risk

Market risk further poses only a relatively low threat to the financial stability in Romania. Albeit slightly up from the levels cited in the prior Financial Stability Report, the exposures of credit institutions to market risk are still at manageable levels. As concerns the market risk components, the interest rate risk remains the main source of vulnerability as banks, Romanian legal entities, rely increasingly on interbank financing and the global financial market turmoil caused the rise in related risk premiums.

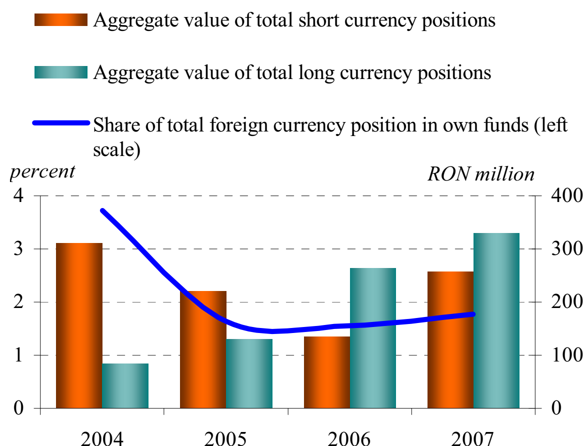
The share of securities transactions in total balance sheet transactions further stands below 4 percent (Chart 3.2.40), in terms of both liabilities and assets. The structural analysis indicates that securities transactions on the liabilities side consisted mainly in foreign currency-denominated bond issues (about 62 percent), while securities transactions on the assets side rely mainly on purchasing RON-denominated investment securities (roughly 55 percent). Among the other components, transactions in financial derivatives stand out, their balance sheet balances accounting for 0.51 percent on the liabilities side and 0.31 percent on the assets side at end-2007.

Chart 3.2.40 – Transactions in securities



Source: NBR

Chart 3.2.41 – Foreign currency position



Source: NBR

The direct exposure of credit institutions in Romania to the exchange rate risk has remained low, the share of total foreign currency position in own funds standing below 2 percent for the second consecutive year (Chart 3.2.41). The shift from predominantly short foreign currency positions to predominantly long foreign currency positions during 2006 continued well into 2007, but the difference between them diminished. In the context of a potential depreciation of the exchange rate by 20 percent, 14 credit institutions would incur losses ranging between 0.13 percent and 8.45 percent of own funds, small-sized banks being the most exposed. However, the Romanian banking system as a whole would not be affected by a potentially drastic change in the exchange rate, at least not via the direct effect channel.

The interest rate risk to the Romanian banking system remains moderate overall, in terms of both the profit and loss account and the balance sheet structure. Matching assets and liabilities is adequate in terms of interest rates, yet more vulnerable compared to the prior year due to some credit institutions' practices of financing lending expansion by attracting interbank deposits. Amid intensified competition on the credit

market, interest rates on asset transactions with non-bank clients are adjusting more slowly to the volatile conditions specific to global financial market turbulence than the interest rates on interbank deposit-taking operations and the net interest margin is affected.

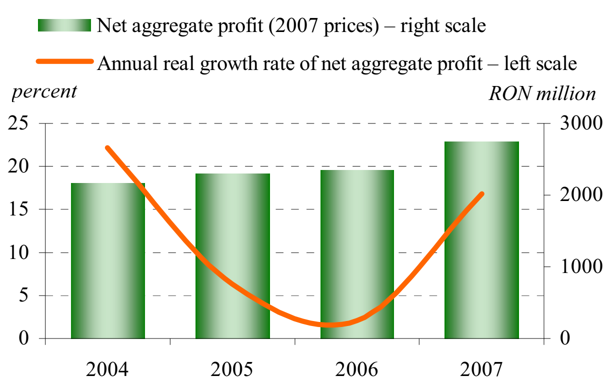
Looking ahead, we expect that credit institutions' keener concern in expanding the deposit base of non-bank clients could restore the intermediation function of the Romanian banking system, with beneficial effects on its resilience to shocks capable of altering the interest rate curve, at least via the direct effect channel.

3.2.7. Profitability and efficiency

Assessments for end-2007 showed a rebound in the growth rate of aggregate profit compared with that recorded in recent years, amid better performance of large credit institutions. Credit institutions' strategy focus on the volume of activity as the main source to achieve favorable financial results strengthened during 2007. In this context, some credit institutions had to restructure their activity while others had to continue the fast expansion of their territorial networks. Profitability ratios (ROA and ROE) continued to decline slightly, although operational efficiency improved in 2007, amid credit institutions' increased cautiousness regarding operating costs. In the short run, amid global financial market turbulence, the assumption of a stronger negative impact on the profitability of credit institutions due, most likely, to the increase in costs related to interbank financing, cannot be precluded.

In 2007, the Romanian banking system recorded a net aggregate profit of RON 2,746.6 million (EUR 0.82 billion), up 17 percent from 2006 (Chart 3.2.42). The larger territorial network and the new own lending guidelines issued by banks[38] boosted bank intermediation, with credit institutions further pursuing their strategy aimed at offsetting the narrowing of interest margins[39] by diversifying income sources and by higher receipts from a larger loan volume (especially its foreign currency component).

Chart 3.2.42 – Net profit of the banking system



Source: NBR

Distribution of profit was heterogeneous, the highest values in both absolute and relative terms being recorded by large banks in particular. Given that the top three credit institutions, in terms of asset holdings, took a market share of 45 percent, they accounted for more than 60 percent of net aggregate result. Some middle- and small-sized banks, cumulating about 5 percent of bank assets, incurred losses at the end of 2007.

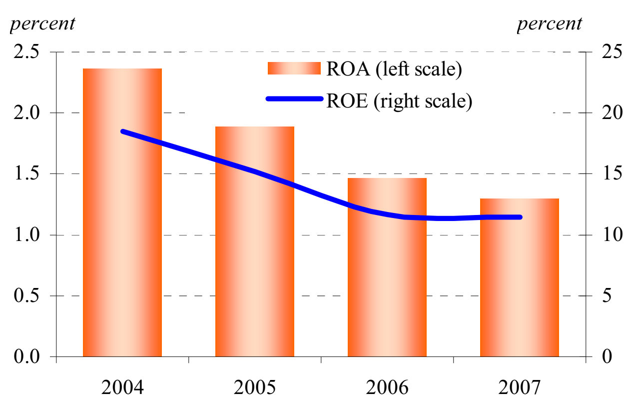
Returns on equity (ROE) decreased slightly in year-on-year comparison (11.44 percent in 2007 from 11.67 percent in 2006), the net profit growth rate being comparable to that of equity. ROE analysis using the

[38] NBR Regulation No. 3/2007 on limiting credit risk associated with loans to households allowed the shift to the creditors of the responsibility of credit risk management derived from lending to households.

[39] The spread between RON-denominated lending and deposit rates in relation to households shrank from 13.3 percentage points at end-2005 and 8.1 percentage points at end-2006 to 7.4 percentage points at end-2007, while those relative to non-financial corporations contracted from 9.6 percentage points and 6.3 percentage points to 5.1 percentage points in the same reviewed period.

Du Pont breakdown, shows that lower return on bank equity is mainly ascribable to the contraction in the profit -generating capacity of assets (from 1.46 percent in 2006 to 1.3 percent in 2007), as an enhanced leverage effect (from 7.97 percent in 2006 to 8.82 percent in 2007) offset only in part the fall in return on assets (ROA).

Chart 3.2.43 – Comparative analysis of ROE and ROA



Source: NBR

Large investment aimed mainly at expanding bank networks and heightened competition caused the share of profit in operating income to drop about 2.6 percentage points (from 20.18 percent in 2006 to 17.6 percent in 2007). However, this development did not affect the income-generating capacity of assets. The asset utilization rate rose slightly to 7.37 percent at end-2007 from 7.26 percent at end-2006. In this context, ROA continued to decline during 2007, albeit at a slower pace than in recent years (Chart 3.2.43), remaining at levels similar to those recorded in other European countries (Table 3.2.8).

Table 3.2.8 - Comparative analysis of ROE and ROA at European level (percent)

	2003		2004		2005		2006		2007	
	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA	ROE	ROA
Austria	7.0	0.3	14.8	0.6	14.8	0.6	16.9	0.7	18.3	0.8
Bulgaria	22.7	2.4	20.6	2.1	22.1	2.1	24.4	2.2	25.4	2,5
Czech Republic	23.8	1,2	23.3	1.3	25.2	1.4	22.5	1.2	23.1	1.3
Greece	8.9	0.6	6.4	0.4	15.9	0.9	12.8	0.8	20.1	1.3
Italy	7.4	0.5	9.3	0.6	9.7	0.7	11.5	0.8	...	...
Poland	5.4	0.5	17.1	1.4	21.9	1.6	21.0	1.7	25.6	1.8
Romania[40]	15.6	2.2	18.5	2.4	15.2	1.9	11.7	1.5	11.4	1.3
Serbia	-1.2	-0.3	-5.3	-1.2	6.7	1.1	10.0	1.7	12.8	2.1
Hungary	19.3	1.5	25.3	2.0	24.7	2.0	24.0	1.8	22.9	1.8
European average	**11.3**	**0.5**	**13.7**	**0.5**	**15.0**	**0.5**	**16.7**	**0.6**	**...**	**...**

Source: IMF Global Financial Stability Report, April 2008

Credit institutions' capacity to control operating costs amid a brisk expansion of lending improved during 2007, the value of the **cost income ratio** (65.3 percent) diminishing by about 2.2 percentage points from the prior year (Chart 3.2.44).[41] This performance was achieved against the background of higher operating income dynamics (+34 percent) compared to that of operating costs (+29.7 percent).

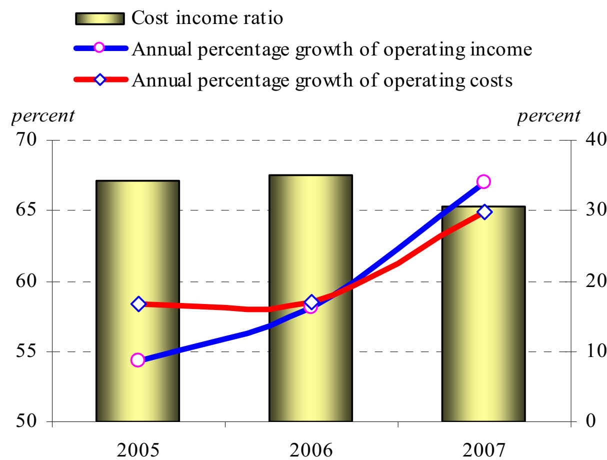
The structural analysis of operational revenues illustrates the diversification of banks' income sources, on the backdrop of better turning to account the opportunities provided by the financial market. Net income from foreign exchange operations was the most dynamic component of operating income their share increasing from 10 percent in 2006 to 18 percent in 2007, due to the

[40] ROA, ROE (2004 – 2007) were recalculated based on average values of assets, equity respectively. Data for ROA, ROE of the Romanian banking system for 2007 are 1.3 percent, 11.4 percent respectively.

[41] The level recorded by the Romanian banking system is comparable with the average in European countries, i.e. 60.2 percent at end-2006 (Global Financial Stability Report, Oct. 2007, p. 146).

high volatility of the financial market. At the same time, the share of income from commissions in operating income in 2007 remained virtually unchanged from 2006, i.e. about 18 percent, its value rising at a similar pace with that of operating income.

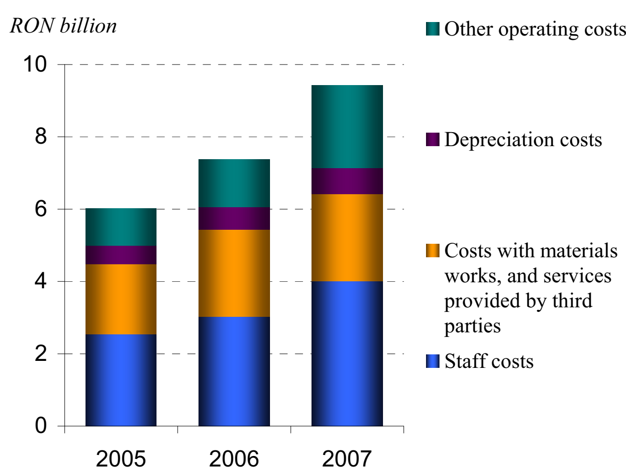
Chart 3.2.44 – Cost income ratio



Source: NBR

The share of net interest income in operating income declined to 44.8 percent, amid slower growth of interest income (+33.7 percent) as compared to interest expenses (+44.4 percent). Compared to the previous year, the substantial increase in interest costs is attributable mainly to the rise in interest paid on deposits taken from other credit institutions (+137.5 percent) and in interest on loans taken from the latter (55.2 percent). The impact on net income from interest rates differed from bank to bank, the hardest hit being the credit institutions that displayed a mismatch between the deposits from non-bank clients[42] and the loans granted. The recent global financial market turbulence caused interest costs to rise further, due to higher interest rates relating to interbank funds.[43]

Chart 3.2.45 – Structure of operating costs



Source: NBR

Staff costs continued to hold the largest share (39.3 percent) in operating costs (Chart 3.2.45), 7,648 persons being added to the 58,536 bank employees existing at end 2006). At the same time, *costs of materials, works and services provided by third parties*, as well as *depreciation costs* did not recorded material downgrades. .

Provision-related expenses advanced by 44.7 percent in real terms, in 2007, mainly as a result of the expansion in non-government credit by 50.5 percent and to legislation changes[44].

The maintenance of the high profitability goals set by shareholders and the fierce competition on the Romanian banking market pose constraints to credit institutions to find adequate solutions with a view to continuing the positive dynamics of bank activity efficiency. The larger volume of activities fosters profitability, which in turn favors financial intermediation in Romania.

[42] Vulnerability which may be exacerbated in the context of a liquidity squeeze (the Northern Rock episode in the United Kingdom).

[43] Weekly average of ROBID-ROBOR indicators increased from 5.9 percent in July 2007 to 7.5 percent in December (NBR Monthly Bulletin December 2007, p. 58). Concurrently, risk premiums followed an uptrend during 2007.

[44] NBR Regulation No. 5/2007 limits the conditions under which specific credit risk provisions may be used.

3.3. Non-bank financial sector

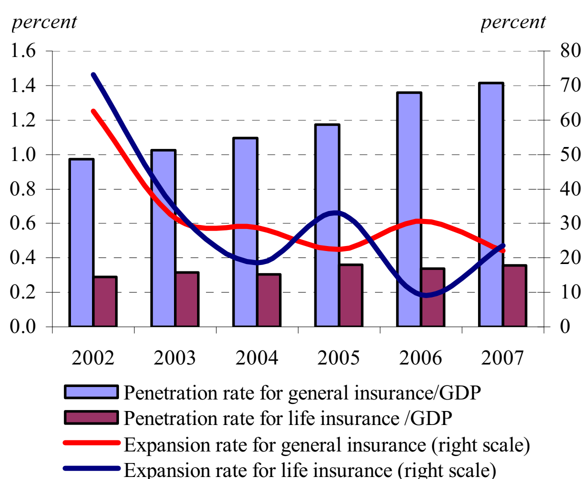
3.3.1. Insurance market

Insurance market continued to develop at a high pace, being spurred by the further economic growth and households' keener interest in insurance services. The penetration rate of insurance lags behind that in Central and Eastern Europe. The harmonization of the national legislation in the field with the European one continued and the global financial market turbulence did not affect the stability of the Romanian insurance market. The main risks that may cause tensions in the insurance market are the rise in the claims ratio for general insurance and the contraction of the domestic capital market which had a negative impact on the profitability of securities portfolio for life insurance.

The impact of global financial market turmoil on the insurance sector in Romania is limited, posing no risks that could affect the financial stability of this sector. The exposures of the insurance companies on the domestic securities and real estate markets – the hardest hit international markets- are relatively low and the higher yields from such investments in recent years can absorb potential losses. Moreover, life insurance companies make long-term investment, anticipating the potential corrections that could be made on the financial markets during the term of the contracts and transfer market risk to policyholders in the case of unit-linked products. There are no monoline insurers operating on the domestic market, which could provide bond portfolios and which are affected by international credit crises, and the investment made by the domestic insurance companies on international capital markets are modest.

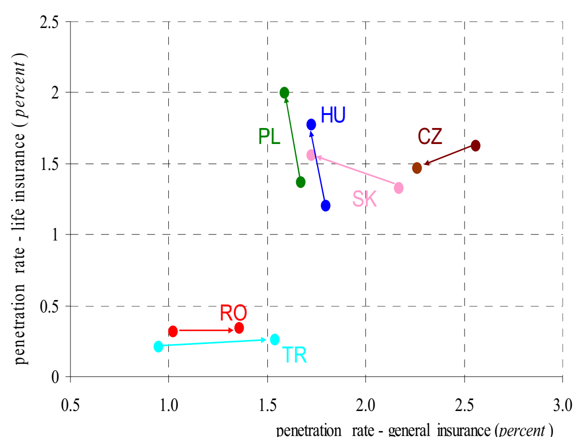
The two sub-sectors experienced different dynamics, the growth rate of life insurance outpacing that of general insurance (Chart 3.3.1). In the general insurance category, vehicle insurance held the largest share (72 percent), some of the fastest growth rates being reported in road transport means insurance and financial loss insurance, where they accelerated by 41.2 percent and 50.95 percent respectively year on year. The impact of economic growth in Romania, including the improved financial standing of households and the increased awareness as regards the protection additional to that offered by the public sector in areas such as the pensions system and the health insurance, contributed to the faster growth rate of gross subscribed premiums associated to life insurance. The largest shares are still held by life insurance, annuities and additional life insurance (64.1 percent) as well as by unit-linked products (33.9 percent).

Chart 3.3.1 – Insurance market development



Source: ISC, NBR

Chart 3.3.2 – Insurance intermediation in Romania and other Central and Eastern European countries (2003-2006)



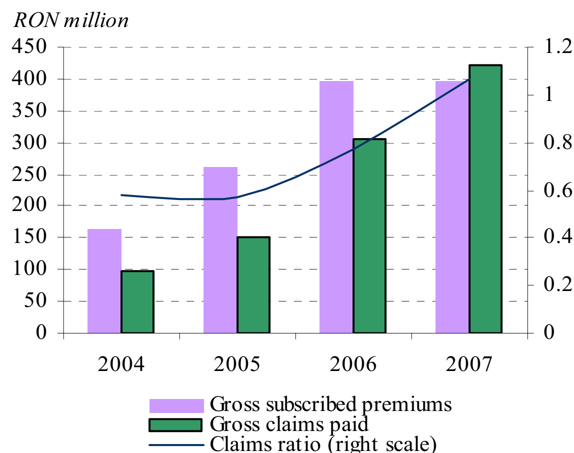
Source : Comité européen des asssurances, ICS, NBR calculations

The dynamics of underwriting activities was outpaced by that of insurance claims paid that advanced 27.7 percent compared to 25 percent growth recorded by the subscribed premiums, which may have a negative impact on the financial stability of the sector in the medium run. This development was mainly due to the stiffer competition on the vehicle insurance segment and to increasing cost repairs that caused required premiums to become inadequate for covering the risks assumed.

However, the substantial growth recorded over the past years in absolute terms did not speed up the convergence process to the more advanced insurance markets in Central and Eastern Europe (Chart 3.3.2.). The penetration rate of insurance in Romania has remained almost steady during 2003-2006 for the life insurance segment, while the general insurance moved ahead.

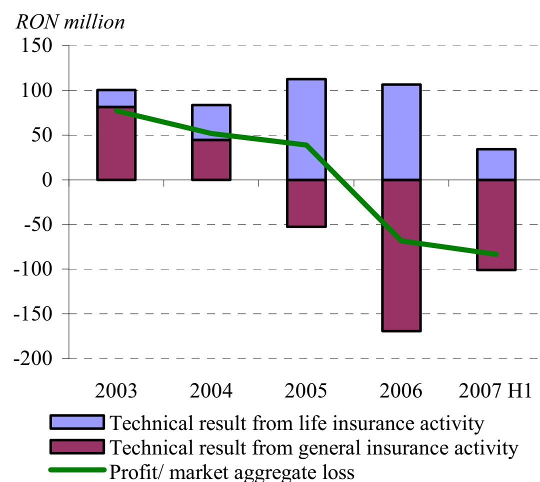
The credit insurance market remained flat in 2007 compared to 2006 in terms of subscribed premiums, but the risks taken over by insurance companies, assessed by using the claims ratio, increased (Chart 3.3.3). Net loss incurred by this market segment shows that insurance companies underestimated risks on the backdrop of the worsening of insured loans portfolio. The value of the loss is modest, yet its persistence to rise may generate instability as the credit insurance market features high concentration.

Chart 3.3.3 – Credit insurance development



Source: ISC

Chart 3.3.4 – Insurance sector profitability



Source: ISC, MEF

The profitability of insurance companies (Chart 3.3.4) derives from the adequate management of risks related to underwriting activity and of portfolio investments. The downward trend manifested in recent years continued well into 2007 H1, net aggregate profit of the market dropping to RON 84 million (roughly 2.3 percent of total gross subscribed premiums).

The asymmetric distribution of technical results observed during 2003-2006 continued in 2007 H1. Thus, technical results recorded by the general insurance sector heightened the likelihood of losses to increase in 2007 H1 compared to the year-earlier period, the number of companies reporting losses on this market segment rising from 19 to 20 and its market share expanded from 38 percent to 51 percent. The downward trend in general insurance was ascribed mainly to the faster dynamics of insurance claims compared to that of subscribed premiums, especially on the vehicle insurance and credit insurance segments. Where the negative technical results cannot be offset by investment yields, insurance companies should proceed to increase their capital in order to maintain their

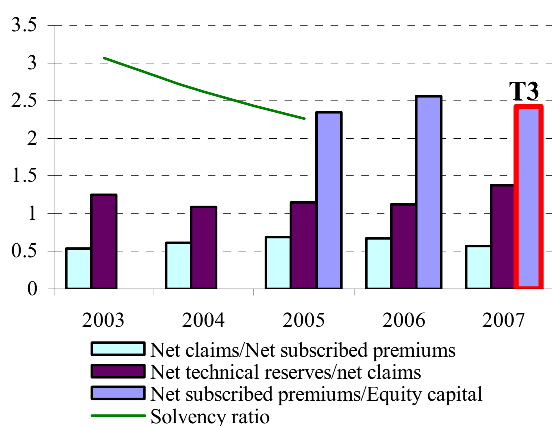
solvency. The main challenge this financial market has to face in the medium and long run is the adjustment of risk premiums so that a sound risk management could be ensured in order to obtain better technical results.

The life insurance sector further saw good performance, yet the rise in acquisition costs and those required by entering on the voluntary private pensions system slowed down the pace of increase. The technical result recorded by the life insurance sector, mainly due to the rise in subscribed premiums, could be negatively impacted by the capital market dynamics through weaker demand for unit-linked products for life insurance. They represent a less stable source of income for companies compared to traditional insurance, due to the direct connection between the volume of subscribed premiums and financial market developments.

General insurance

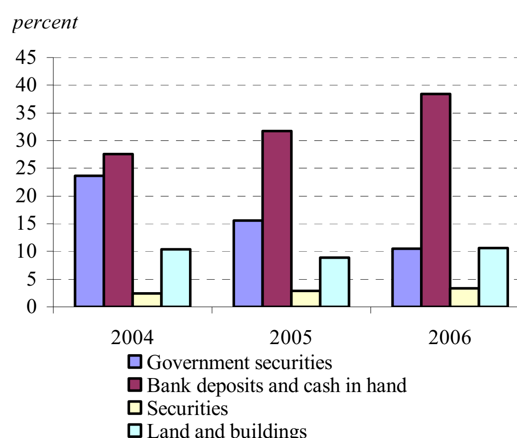
The aggregate financial stability indicators stood at levels that ensured the well functioning of insurance companies (Chart 3.3.5), without being influenced by the increasing number of insurance claims in recent years. The coverage of net claims paid in total net technical reserves grew markedly in 2007 versus 2006 due to the expansion of gross subscribed premiums and constant resort to reinsurance, and general insurance companies benefited from capital infusion.

Chart 3.3.5 – Financial stability indicators for general insurance



Source: ISC, MEF, NBR

Chart 3.3.6 – Assets covering technical reserves for general insurance (main assets)



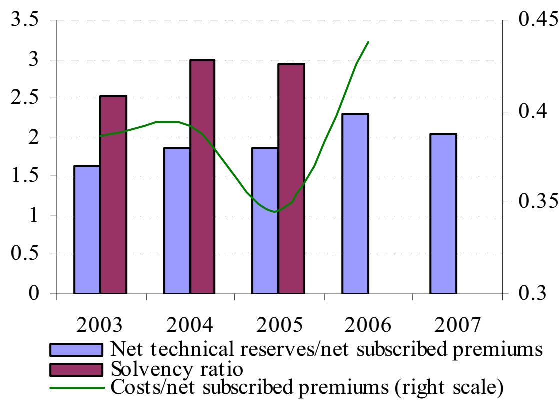
Source: ISC

General insurance companies reduced their investment in government securities in favor of bank deposits and securities (Chart 3.3.6). Therefore, the risk related to financial investment portfolio grew but the small share of securities and the soundness of the Romanian banking system ensure a high degree of security for the assets covering technical reserves. The possible reasons behind the advance in bank deposits could be the larger volume of insurance claims paid that required insurance companies' ready access to immediate liquidity and the reduction of the stock of securities on the government securities market.

Life insurance

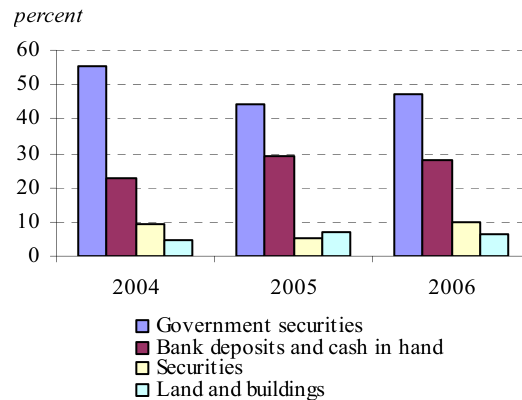
The life insurance sector continued to expand without experiencing the deterioration of financial stability indicators (Chart 3.3.7). The larger share of costs in total net subscribed premiums did not entail lower profitability on the life insurance segment as companies benefited from sound risk management.

Chart 3.3.7 - Financial stability indicators for life insurance



Source: ISC, NBR

Chart 3.3.8 – Assets covering technical reserves for general insurance (main assets)



Source: ISC

The growth of the capital market in recent years and the need to diversify the low-risk investment portfolios induced the rise in the share of securities and government securities in total assets covering technical reserves (Chart 3.3.8). The government securities portfolio may depreciate in real terms, should interest rates remain on the upwards path in the coming period.

3.3.2. Non-Bank Financial Institutions

The fast pace of activity, the adequate level of financial performance indicators of non-bank financial institutions (NBFI) and the small share of financing granted to them in total claims portfolio of credit institutions, lower the possibility of transferring risks to other financial sectors. Moreover, the NBR put in place a regulatory and supervisory framework which introduced adequate standards for loan granting, classification and provisioning, thereby promoting a sound portfolio management, also reducing the possibility to transfer financial losses between sectors, with direct impact on maintaining financial stability.

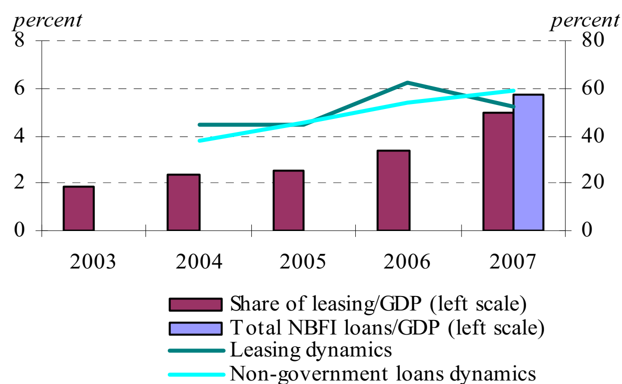
Table 3.3.1 – NBFI by activity measured as share in total loans granted (31 December 2007)[45]

percent

Factoring, discount and forfeiting operations	1.14
Financial leasing	81.89
Consumer loans and installment sale	7.73
Real estate loans	3.99
Micro loans	0.11
Transaction loans	3.49
Loans for equipment purchase and stocks refinancing	0.85
Other loans	0.80

Source: NBR

Chart 3.3.9 – NBFI penetration rate, leasing dynamics and non-government loans



Source: NBR, ALB, ASLR

[45] The analysis included 192 NBFI which reported to the NBR by 1 March.2008.

The structure of lending activities performed by NBFI shows that financial leasing holds the largest share, the value of goods financed through leasing accounting for 5 percent of GDP in 2007, whereas total claims of NBFI took about 5.7 percent of GDP (Chart 3.3.9).

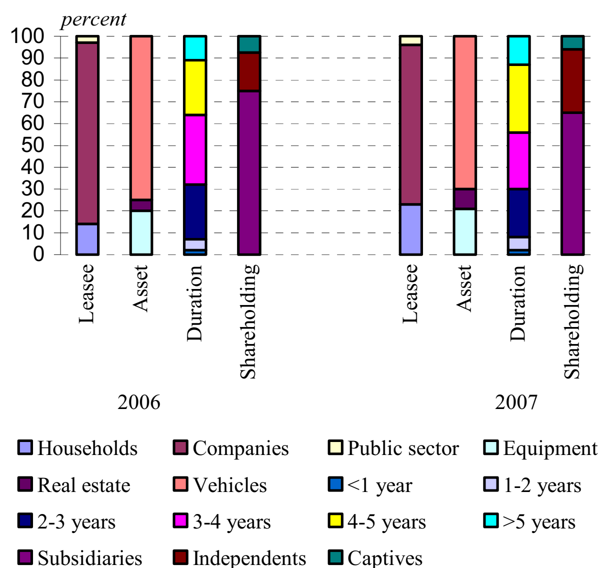
The dynamics of financing through leasing and that of non-government loans show the complementarity of the two activities – leasing and lending – that could be partly explained by the connections between the two sectors. Following the recent years' trend, bank-affiliated leasing companies still hold the largest market share (over 65 percent).

The structural analysis of the leasing market provides useful data for assessing the development of the financial market segment: (1) diversification of loan portfolio in terms of lessees and their business activity as well as the larger financing of equipment and real estate assets to the detriment of the vehicles segment; (2) extension of leasing contract duration may have a negative impact on credit risk caused by the sharp depreciation of the goods financed through leasing in the first years of operation; (3) the over 90 percent share in total financing held by institutions enrolled with the NBR's Special Register is indicative of a sound risk management as these entities are subject to tight prudential requirements which strengthens the soundness of the system.

Financial leasing contracts are concluded preponderantly in foreign currency (72 percent). With a view to diminishing the exchange rate risk, NBFI adjust their positions by attracting foreign currency resources, which allows the transfer of risk to borrowers.

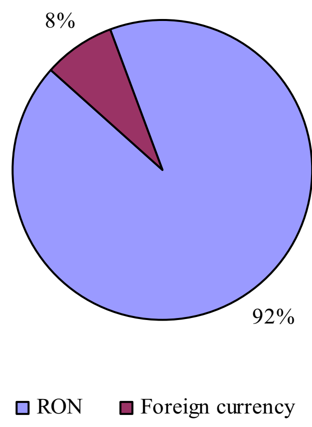
In contrast to leasing contracts, consumer loans – the second largest component of NBFI activity – are mostly RON-denominated and individuals are their main target. Therefore, currency risk is of no consequence.

Chart 3.3.10 – Structure of financial leasing contracts



Source: ALB, ASLR, NBR

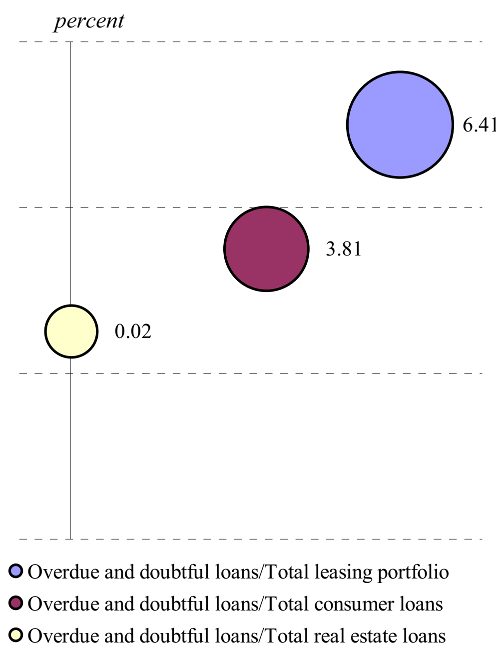
Chart 3.3.11- Structure of consumer loans granted by NBFI (Dec. 2007)



Source: NBR

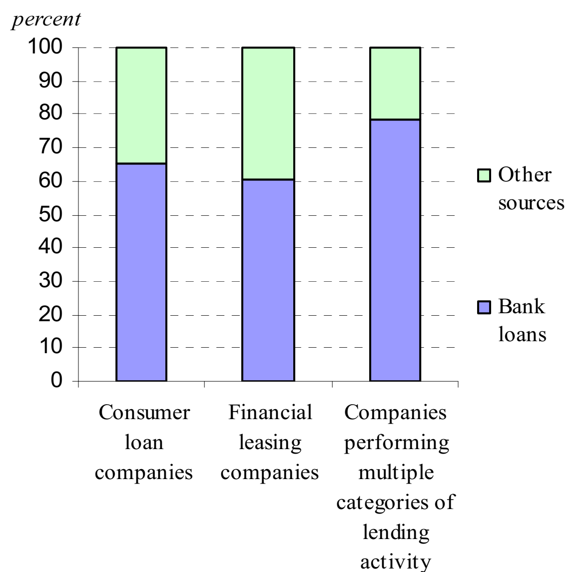
Credit risk is the main risk facing NBFI. According to existing data the share of past-due and doubtful claims in the volume of loans granted may vary depending on the activity performed (Chart 3.3.12). Although the share of leasing activity is higher, the analysis must take into account the increased likelihood of retrieving in the case of leasing contracts, as leasing companies retain the proprietary right over the leased asset throughout the duration of the contract. Nevertheless, the large share of past-due and doubtful claims in total loans extended by NBFI (5.93 percent), compared to those held by the banking system (0.77 percent), illustrates the less tight lending policy applied by this sector. This spread is expected to shrink once NBFI have been placed under regulation and monitoring by the NBR. As regards the NBFI enrolled with the NBR's Special Register, under NBR supervision, a new framework for the management and assessment of credit risk similar to that applicable to credit institutions was established.

Chart 3.3.12 - Loans granted by NBFI



Source: NBR

Chart 3.3.13 – The share of bank loans in total borrowings by NBFI (31 December 2007)



Source: NBR

Unlike credit risk, the relevance of market risk is low on this financial market segment due to the fact that, as regards both foreign currency distribution and costs to attract resources, NBFI adjust their refinancing structure depending on the loans granted. Thus, market participants reduce their exposure to exchange rate risk and interest rate risk that are transferred to borrowers. Yet, domestic market depreciation and the higher interest rates applied by credit institutions may have an indirect impact on the performance of NBFI, affecting both asset quality, by boosting non-performing loans, and the dynamics of financing. The analysis of financial stability and profitability indicators for 2007 (Table 3.3.2) indicates the soundness of the financial sector whose development is bolstered by business profitability.

Table 3.3.2 - Indicators of NBFI financial stability and performance in 2007

percent

Indicator	Special Register	General Register	Banking System
Equity ratio [46]	6.76	7.85	6.78
Loans granted in total borrowings	104.84	105.42	68.06
Loans granted in total assets	90.2	89.55	59.28
ROA	0.81	0.41	1.10
ROE	11.93	5.56	10.37

Source: NBR

The higher degree of integration of NBFI into the banking system is relevant from the perspective of financial stability analysis. Apart from the positive impact of synergy, this tendency may lead to the reallocation, concentration and intensification of risk on a consolidated basis. Based on the existing connections in terms of capital and financing, credit risk associated with NBFI may migrate towards credit institutions.

At end-2007, the obligations of NBFI towards banks accounted for 73 percent of total borrowings, which indicates their heavy reliance on the banking system as the main source of attracting funds. The reason behind the above-average share of companies performing multiple categories of lending activity is the inclusion of credit institutions-affiliated companies under this category in the NBR's Special Register, as these companies may cover a wide range of operations. On the other hand, the Romanian banking system's exposure to NBFI sector, in terms of loans taken by the latter, is modest, holding about 2.5 percent of total non-government loans.

Another feature of the sectoral interdependence consists in involving the insurance sector in the financing relationship banks-NBFI, through loans insuring[47] requested by credit institutions in order to cover default losses associated to claims on the NBFI sector.

3.4. Capital markets

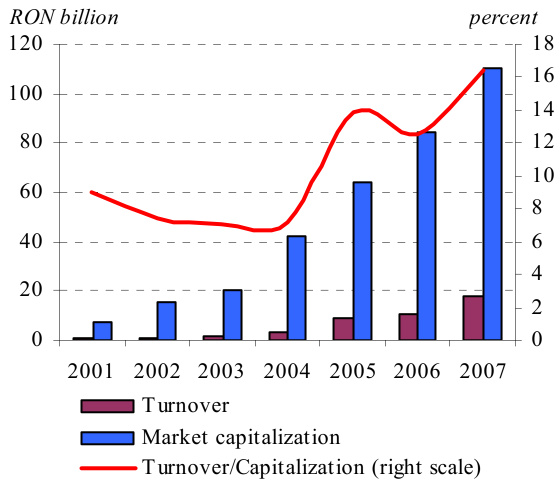
The global financial market turbulences and the dynamics of domestic macroeconomic equilibria caused a repricing of risks which impacted the Romanian capital market as well. This was reflected by the relatively large fluctuations in stock-market indices in the latter half of 2007 and a decrease in market capitalization and turnover in early 2008. Given these developments, risks on the domestic capital market tended upwards. Nevertheless, the process of convergence with the European capital markets continued during 2007, upheld by the rise in turnover and market capitalization, new listings on the Bucharest Stock Exchange and the development of the derivatives market.

The capital market posted mixed developments in 2007. The first part of the year saw a surge in the major stock-market indices against the backdrop of a favorable economic environment whilst in the second part of the year capital market dynamics reversed and its performance tracked the developments on most global markets, amid a high risk aversion as a result of financial market turbulence generated by the US sub-prime mortgage crisis.

[46] Equity/Total assets

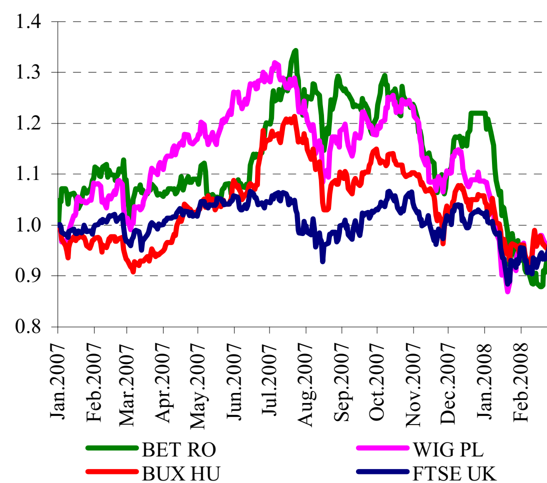
[47] At end-2007, loans insured by the banking system for refinancing leasing totaled about RON 1.5 billion.

Chart 3.4.1 – Yearly turnover and market capitalization



Source: BSE

Chart 3.4.2 – Developments in stock-market indices (reference period: January 2007)



Source: Bloomberg

Capital market infrastructure continued to develop in 2007. This was mirrored by the commissioning of two institutions supportive of the trading activity, i.e. the Central Depository and the Bucharest Clearing House, the launch of the derivatives market on the BSE and the admission to quotation of allocation rights. Special mention deserves the fact that in 2007 the NSC registered, based on the single passport, 358 investment firms and credit institutions from EU Member States and their branches, as intermediaries.

The Bucharest Stock Exchange witnessed a positive performance in 2007, with the sharp uptrend in the first half of the year offsetting the downturn in the latter half. Against this background, the BET index increased 22 percent in 2007, while BSE capitalization[48] went up 31.1 percent year on year to reach RON 110 billion, or 27.3 percent of GDP. At regional level, Romania had a median positioning, after Poland and the Czech Republic, but ahead of Hungary, Slovenia, Bulgaria and Slovakia. At the same time, market liquidity measured as the ratio of turnover to market capitalization ran, on average, at around 16 percent against 13 percent in 2006 (Chart 3.4.1). However, liquidity of the BSE remains rather low compared to its region peers (in Poland and the Czech Republic, stock market liquidity equals on average 47 percent and 55 percent[49] respectively).

On the Sibiu Monetary, Financial and Commodities Exchange, trading in financial derivatives declined by 18.2 percent in 2007, after the remarkable performance of 2006, when it rose almost nine times. Nonetheless, the decline in the number of traded contracts was countered by the higher prices of the listed derivatives, thus the total value of traded contracts increased by 20 percent compared with 2006. Among EU Member States in the region, the Romanian derivatives market belongs to the top-three group, together with Poland and Hungary. Market structure remained broadly unchanged, as the more sophisticated options in comparison with financial futures rendered the balancing of activity on these markets difficult. Under the circumstances, the share of options contracts in total traded contracts was stuck at around 1 percent in 2007. In early 2008, an upturn in

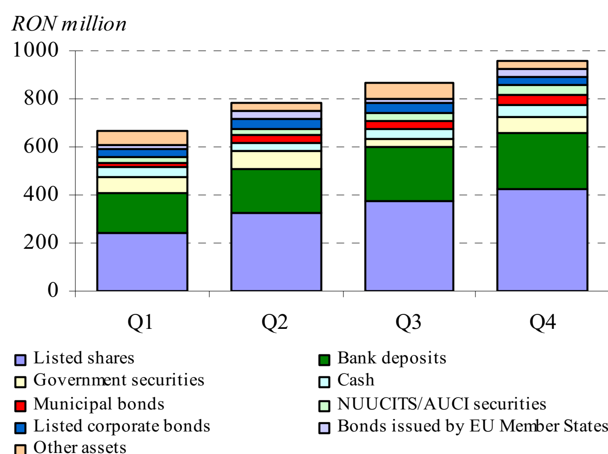
[48] Including RASDAQ

[49] Source: www.gpw.pl, http://www.pse.cz

the trading volume was manifest, compared with the turnover seen in late 2007, reflecting a stronger interest in this market.

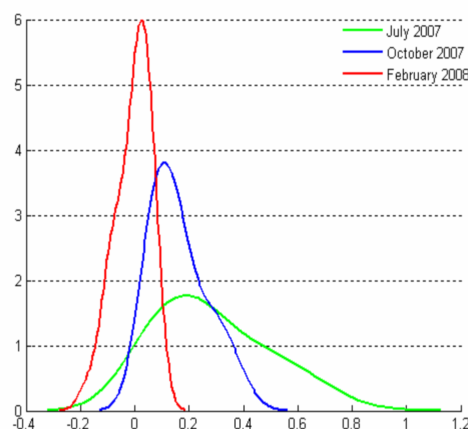
Demand for financing through equity issue remained low in 2007 as well, even though equity supply was on the rise. Transgaz IPO, the largest in the history of the domestic capital market, was oversubscribed more than 28 times, although the market was undergoing a correction phase. Hence, the explanation for low liquidity could be the low diversification options, in view of a potential demand for investments.

Chart 3.4.3 – Total assets of open-end investment funds in 2007



Source: NSC

Chart 3.4.4 – Normal kernel distribution of returns achieved by NUUCITS



Source: NUUCITS, NBR calculations

In the period under review, the Romanian stock exchange moved in line with its peers in Poland and Hungary (Chart 3.4.2). However, at year-end, amid investor optimism as regards a capital market rebound in early 2008, the BSE fared better. Such expectations failed to materialize over the next period and the market response to the poor performance of foreign markets in January-February 2008 was augmented, thus resulting in a sharper correction than that observed in other equity markets across the region.

The open-end investment funds sector expanded in 2007, as the number of such funds rose to 41 from 32 in 2006. Net assets of open-end investment funds added 50.7 percent year over year to RON 954 million at end-2007. Out of the total open-end investment funds, the largest market shares were held by equity funds (41.8 percent), diversity funds (36 percent) and monetary funds (13.8 percent). The cumulated net assets of financial investment companies (SIF) increased year on year to stand at 45.29 percent in 2007.

Structural analysis of open-end investment funds shows that listed shares posted the largest growth during 2007, from 36 percent in Q1 to 45.4 percent in Q4. The increase in exposure to equity markets amid the poor performance of these markets in 2007 H2 points to fund managers' optimism in terms of the duration and the depth of the correction on the BSE.

With a view to capturing the developments in open-end investment funds profitability during the local stock market downturn, Chart 3.4.4 depicts the frequency distribution[50] of returns reported by

[50] The frequency distribution was estimated based on normal kernel function by taking into account the funds' returns in a 12-month period. 0y shows the frequency of returns and 0x indicates ex-post returns.

such funds in three separate periods (July 2007, October 2007, and February 2008). The chart illustrates how return variance declined once the capital market entered a downward drift, the funds with a large weight of securities in their portfolios being the hardest hit. From 28.2 percent, on average, in July 2007, returns entered negative territory in February 2008, reaching -0.6 percent. At the same time, the frequency distribution asymmetry changed: while in July it was oriented to the right, indicating a greater variance of above-average returns compared to below-average ones, in February this asymmetry shifted slightly leftwards. The explanation for this change could lie with the developments in highly risky open-end investment funds. These funds' high sensitiveness to stock market fluctuations caused returns to distance themselves from the average during the first-half upturn, followed by a fall below the average in the ensuing downturn.

Even though the Romanian capital market performance in the second half of 2007 had a bearing on the results of the open-end investment funds, this sector's systemic risk is relatively low due to the small share of its assets in total financial system assets.

On the corporate bonds market there was only one issue worth RON 300 million and the trading volume, albeit up by 175 percent year on year, remains meager. Behind the poor development of this market stood the weak corporate governance and the internal financing culture, which is mostly bank oriented.

The impact of global turbulence

The Romanian capital market was characterized by large swings in stock market indices and liquidity in 2007, generated not only by external factors such as the global market boom in the early months of the year and heightening tensions on the US sub-prime mortgage market, but also by a considerable shift in investor sentiment on the soundness of domestic macroeconomic indicators after the inception of financial market turmoil. Global risk repricing led to a change in nonresident investors' behavior on emerging markets, which also had an impact on the domestic capital market.

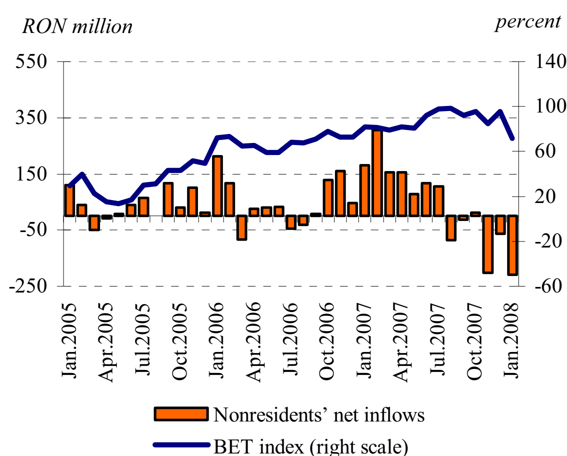
Nonresident investors have moved to reduce their capital flows to the domestic capital market from August 2007 onwards (except December), due to a growing risk aversion compared to the first part of the year. The substantial inflows seen in December could be due to Transgaz IPO, where the level of subscription was fairly high.

As for the BSE[51], non-resident investors turned mainly to sellers in August 2007 (Chart 3.4.5). In the subsequent months, this process carried on, with non-resident investors' net sales amounting to RON 561 million at end-January 2008. However, the dismal performance of capital market indices over the first three months after the outbreak of the turbulence occurred against the background of a small volume of nonresidents' net sales (RON 87 million), leading to the assumption of a pure contagion[52] effect in this correction phase.

[51] Bucharest Stock Exchange (not including RASDAQ and the derivatives market in Sibiu)

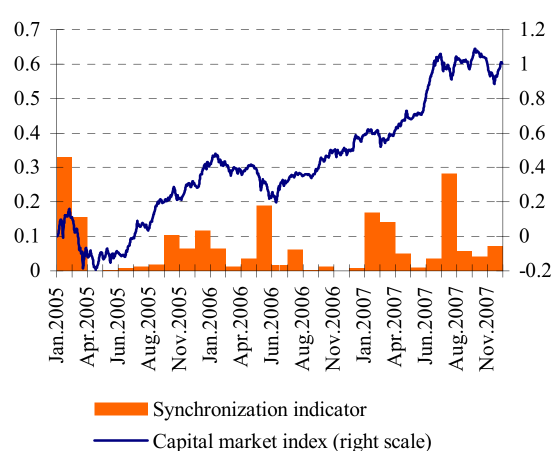
[52] Caused by the shift in investors' risk aversion, not by directly affecting the fundamental asset value

Chart 3.4.5 – Nonresidents' net inflows at the BSE



Source: BSE

Chart 3.4.6 – Synchronization indicator for the BSE



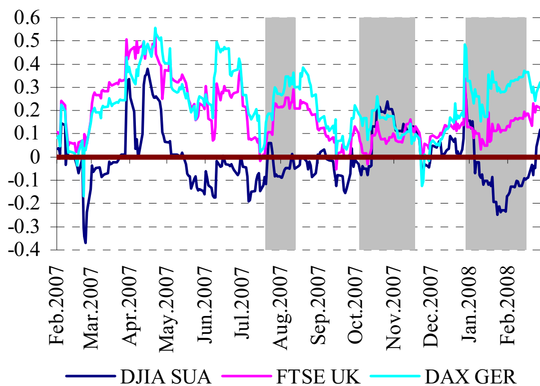
Source: BSE, NBR calculations

This assumption is underpinned by the analysis of the synchronization indicator[53] for the BSE. In August 2007, it stood above the levels seen in the previous months, implying a smaller importance of company-related information and thus an increase in the importance of external factors playing a role in investors' selling decisions. As far as risks were concerned, market synchronization is an unfavorable phenomenon, as it removes the benefits reaped from portfolio diversification during financial turbulence.

On the local stock exchange, there were three episodes of wide index swings since the onset of the global financial turmoil: July-August 2007, October-November 2007 and January-February 2008. The level of correlations between the BET index and global indices pinpoints a stronger influence of developments on mature capital markets (Chart 3.4.7) and closer synchronization with emerging markets in the region (Chart 3.4.8) during certain correction episodes. The strongest impact was observed at the burst of the global financial turmoil (July-August 2007), when investors' risk aversion picked up sharply, and in early 2008 when investor concerns on the US economy tipping into recession and the risk of its spilling over to other markets around the world prompted capital market sell-offs and a shift in investor focus towards government securities, precious metals and commodities markets. The downturn on the domestic equity market in October-November 2007 was largely attributed to domestic macroeconomic factors, as the market saw a decoupling of the local market from its global peers in terms of daily developments. At that time, the difficult external environment translated into an across-the-board decline, but domestic factors had the strongest impact on stock exchange developments. The negative outlook assigned to Romania by Standard & Poor's weighed heavily on nonresident investors' behavior and their exposure on the local capital market decreased rapidly.

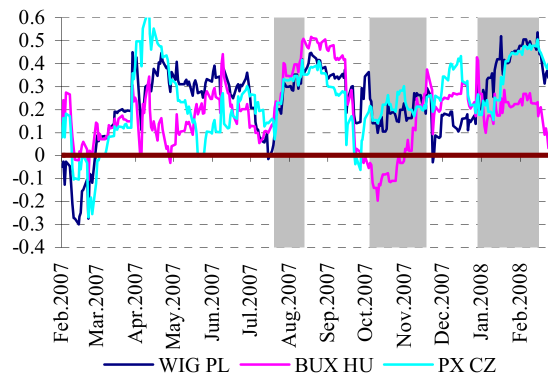
[53] The synchronization indicator for the market depicted in Chart 6 captures, for one-month periods, the extent to which daily developments in the major shares traded coincide with overall market performance. The indicator may range from 0 to 1; a high level points to stock market inefficiency caused by large buyings/sales, without differentiating in terms of individual performance.

Chart 3.4.7 – Daily correlations adjusted by the volatility between BET index and mature market indices



Source: Bloomberg, NBR calculations

Chart 3.4.8 – Daily correlations adjusted by the volatility between BET index and emerging market indices

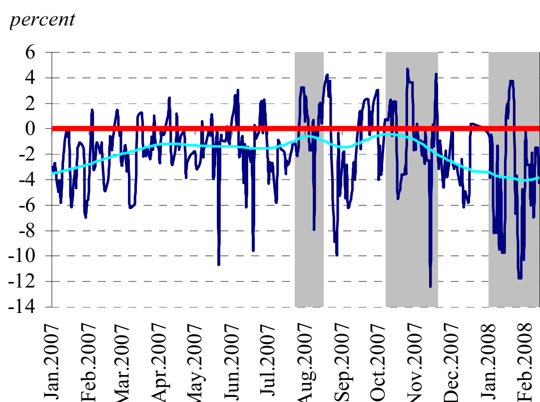


Source: Bloomberg, NBR calculations

Correlations with emerging markets in the region were stronger and in contango with mature markets during downturns. By contrast, correlations tend to return to low values when corrections come to a halt, pointing to a weak integration of the domestic capital market with its regional and particularly global peers (correlations with the US market are insignificant).

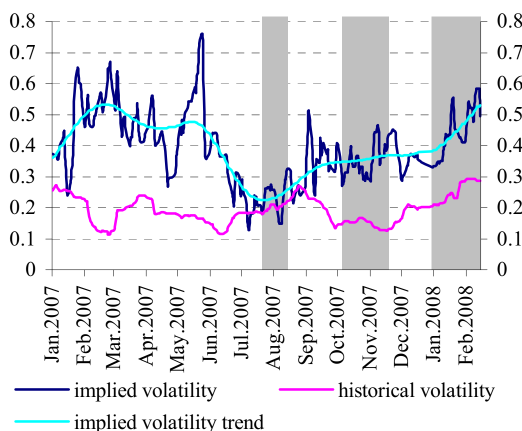
The spot-futures basis[54] for the financial investment companies – SIF (Chart 3.4.9) shows a moderate optimism of investor who did not expect sharp and long-lasting corrections on the BSE, and a high volatility on the futures market in January-February 2008. The onset of global tensions had a powerful impact on the Sibiu futures market and investors revised sharply downwards their expectations of higher spot prices. The following domestic and external shocks were more easily cushioned by the market, thanks to rising liquidity that pushed the spot-futures basis into negative territory.

Chart 3.4.9 – Spot-futures basis and its trend during SIF price corrections episodes



Source: NSC, NBR calculations

Chart 3.4.10 – Historical and implied volatility of SIF prices



Source: NSC, NBR calculations

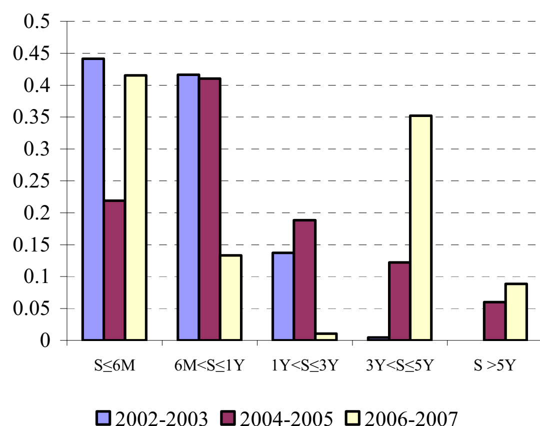
[54] The basis is the difference between spot and 3-month futures prices, computed as weighted averages of trades on the three underlying stocks, i.e. SIF1, SIF2, SIF3 and SIF5. The series are representative for the futures market, as they accounted for 97.3 percent of the total futures positions in 2007.

Implied volatility, i.e. the indicator quantifying investors' risks aversion, is set out in Chart 3.4.10. The uptrend in stock prices and investor confidence in the economy's growth potential over the medium- and long-term pushed expected risk down, so that implied volatility slipped to the year's low, shortly before the onset of global financial turbulence. Investors on the options market expected the July-August downturn in prices of underlying stocks to be a short-lived one, without affecting the market's rising trend and causing for short periods lower levels of implied volatility derived from options quotations as against historical volatility. The persistence of negative signals from mature markets, together with worsening investor sentiment relative to domestic macroeconomic equilibria, led however to an uptrend in implied volatility and the growth of implied volatility–historical volatility spread.

The government securities market[55]

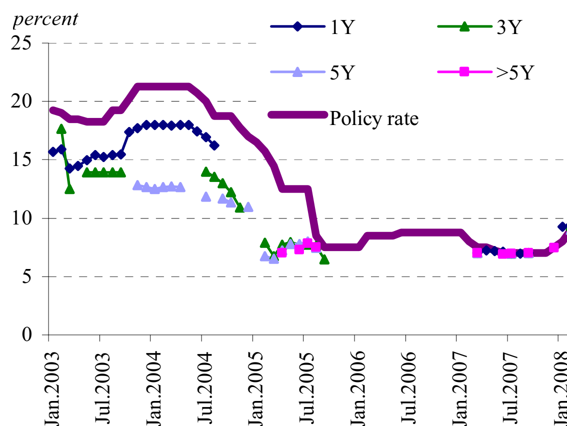
Structural analysis of government securities launched in 2002-07 (Chart 3.4.11) shows a longer average maturity for newly-issued paper, with the bulk of agreed maturities concentrating around the very near term (up to and including 6 months) and the medium term (3 to 5 years). Such a trend favors the growth of domestic financial markets, but the volume of long-term issues remains low owing to difficulties in pricing such debt instruments given the incipient development stage of the overall domestic financial market and the lack of sturdy institutional investors showing interest in long-term securities. This state-of-affairs could improve starting 2008, once privately managed compulsory pension funds have made their market debut. Such funds seek the high safety attached to long-term debt instruments and thus prefer investing in government-issued long term bonds.

Chart 3.4.11 – Term structure of government securities issues (T)



Source: NBR

Chart 3.4.12 – Term structure of yields on government securities issues and policy rate



Source: NBR, NBR calculations

The yields on newly-issued securities launched in the period 2003-05 followed the trajectory of the policy rate, hinting at expectations of sustainable disinflation. Starting 2007, the yield curve flattened out and the downward trend in yields was disrupted, amid stronger inflationary pressures (Chart 3.4.12). The recent interest rate increase did little to dampen investors' concerns as they expect the costs of overall financing to keep rising and the monetary policy to be tightened further.

[55] Government securities are not traded on a market regulated by the NSC.

3.5. Financial crisis management framework in the European Union and in Romania

3.5.1. The European financial crisis management framework

The European financial system has experienced several financial crises, banking crises in particular, over the past decade. Such crises had certain common traits, such as the combinations of various exogenous shocks and faulty risk management practices. European authorities have raised concerns and have made efforts towards identifying the best solutions for overcoming financial crises ever since 1999. It was then that the finance ministers and central bank governors of European countries agreed to assign the Economic and Financial Committee (EFC) the task of assessing the capacity of EU regulatory and supervision structures to preserve financial stability amid the rapid changes occurring in the financial environment. Since then, European Union structures have focused primarily on issues related to financial crisis management.

Financial crisis prevention is a priority both for private institutions themselves and for the public authorities. Despite the fact that financial institutions' main objective consists of obtaining profit, they should avoid taking excessive risks, incurring losses or facing liquidity issues by maintaining an adequate capitalization level, implementing an efficient internal control system, as well as by properly managing specific risks. As far as public authorities are concerned, financial crisis prevention relies on micro- and macro-prudential measures. Regulation and supervision stand out as the most important micro-prudential tools, whose aim is to preserve financial stability and to allow the early detection of potential issues that individual financial institutions could face. Along with micro-prudential tools, banking crisis prevention should also be consolidated at a macro-prudential level, both domestically and on a European or even global scale, through measures such as strengthening market discipline and transparency, developing and implementing international codes and standards, as well as enhancing the performance of the financial system. A solid architecture has been built at European Union level for financial crisis management (Table 3.5.1).

Table 3.5.1 – The European institutional architecture for financial crisis management

Levels	Functions	Decision-makers	Co-operation structures
European Union (27 Member States)	◆ EU legislation (minimum harmonization of domestic legislations) ◆ Policy-coordination ◆ Policy-shaping ◆ State aid control	◆ ECOFIN Council ◆ European Parliament ◆ European Commission i) legislative proposals ii) competition authority	◆ *Economic and Financial Committee* ◆ *Financial Services Committee* ◆ Regulatory committees
European Monetary Union (13 Member States)	◆ Single monetary policy ◆ Payment systems' oversight ◆ Contribution to financial stability and supervision	◆ ECB's Governing Counci	◆ Eurosystem committees
National	◆ National legislation ◆ Use of public funds	◆ 27 finance ministries ◆ 27 national parliaments	◆ At EU level
	◆ Banking supervision ◆ Insurance supervision ◆ Securities regulation ◆ Supervision of financial conglomerates	◆ 15 national central banks ◆ 14 cross-sectoral supervisory agencies ◆ 1 banking supervisor ◆ ca. 13 insurance and pensions supervisors ◆ ca. 13 securities regulators	◆ Home- /host-country relationships ◆ Consolidated supervision of banking groups ◆ Supplementary supervision of financial conglomerates ◆ Supervisory committees ◆ Bilateral, banking groups', regional and EU-wide MoU
	◆ Central banking functions (Member States outside euro area) ◆ Lender of last resort (emergency liquidity assistance)	◆ 27 national central banks	◆ ECB's Governing Council (euro area) and General Council (EU) ◆ Eurosystem committees (euro area or EU) ◆ EU-wide and regional MoU
	◆ Deposit insurance	◆ Ca. 37 schemes with various features)	◆ Informal

Legal framework: EU Treaty + directly applicable national laws and regulations (minimum harmonisation through EU legislation) enforced by national authorities and courts.

Source: "The Lender of the Last Resort in the European Single Financial Market" – Garry J. Schinasi, Pedro Gustavo Teixeira, Institute for Law and Finance – Working Paper series no. 43 (March 2006); NBR data

The **Economic and Financial Committee (Financial Stability Table)** provides advisory services to the ECOFIN Council in the economic and financial fields (financial stability issues included). It meets one week ahead of the ECOFIN Council meetings. The EFC meets in full format, in a restricted format as well as in three specific formats. The EFC meets in a specific format, the "Financial Stability Table", at least twice a year in order to prepare the relevant meetings of EU finance ministers and central bank governors.

The EFC's most prominent financial stability task consists of informing finance ministers and central bank governors on the prevailing financial conditions and risks that various financial system sectors are exposed to, as well as disseminating such information at the level of EU structures duly qualified to prepare and enforce the adequate policies. The EFC ensures the exchange of information and economic policy drafting by making available a structure within which all EU finance ministries, central banks and supervisory authorities can communicate effectively.

The **Banking Supervision Committee (BSC)** is a body assisting the European System of Central Banks in fulfilling its statutory duties as regards the prudential supervision of credit institutions and financial system stability. The BSC comprises NCB representatives, supervisory authorities in the banking sector or in other financial sectors in the euro area/EU, as well as ECB representatives. The most important tasks of this committee consist in:

- monitoring and assessing developments in the banking sector or in other euro area/EU financial sectors in terms of financial stability. The BSC contributes to the drafting of regular analyses on financial stability conditions and prepares relevant projections for the euro area and the European Union;
- assessing the impact of legislative and supervision requirements on the financial system stability and structure, as well as on economy financing. The BSC is entitled to provide advisory services for preparation of ECB opinions on national or community-wide bills in the field of prudential supervision of credit institutions and financial system stability;
- promoting co-operation and exchange of information between central banks and supervisory authorities in areas of common interest, including the preparation and putting in place of memoranda of understanding for co-operation and exchange of information with a view to fulfilling the tasks of the concerned authorities, as well as the prevention or efficient management of financial crises. Against this background, the BSC prepared a "Memorandum of Understanding on high-level principles of co-operation between the banking supervisors and central banks of the European Union in crisis management situations", which was signed in 2003. As part of this co-operation agreement, the BSC ensures a framework for the multilateral exchange of information in crisis situations, by providing a communication platform between the banking supervisory authorities and central banks, with this function relying on the ECB infrastructure.

The **Committee of European Banking Supervisors (CEBS)** is comprised of high level representatives from the banking supervisory authorities and central banks of the European Union (ECB included), whose primary tasks consist of: giving advice to the European Commission on implementing European legislation; enhancing co-operation among supervisory authorities; convergence in supervisory practices. Given that promoting co-operation among supervisory authorities is a prerequisite for financial stability, the CEBS has the task of developing an efficient mechanism aimed at facilitating the exchange of information both in normal conditions and under stress.

Furthermore, the CEBS acts as a scene of public consultations, thus promoting dialogue, transparency and co-operation among all financial market participants. The CEBS has an observer status in the Financial Services Committee, preparing reports on banking supervision issues, and in the Economic and Financial Committee, by getting involved in general strategy issues in the field of supervision.

The **Financial Services Committee** was established in February 2003 by the ECOFIN Council with the following tasks: preparing a strategic, cross-sectoral assessment, distinct from the legislative process; defining medium- and long-term financial services strategies; reviewing key issues over the short run, evaluating the progress made in the field of financial services; providing advice and assessments in relation to both domestic (e.g. single market) and external issues (e.g. World Trade Organization). The FSC Chairman attends regular meetings on financial market strategy issues with representatives of the Committee on Economic and Monetary Affairs within the European Parliament.

In addition, three memoranda were concluded at European Union level, with the aim of establishing a cross-border co-operation framework for financial crisis management:

- *The Memorandum of Understanding on co-operation between payment systems overseers and banking supervisors in Stage Three of Economic and Monetary Union* (2001);
- *Memorandum of Understanding on high-level principles of co-operation between the banking supervisors and central banks of the European Union in crisis management situations* (2003);
- *Memorandum of Understanding on co-operation between the banking supervisors, central banks and finance ministries of the European Union in financial crisis situations* (2005).

3.5.2. ECOFIN Council decisions on strengthening European Union arrangements for financial stability

Following the priorities established by the ECOFIN Council of October 2006 and the discussion at the informal meeting of EU finance ministers and central bank governors in September 2007, the Council agreed to take further steps, at the EU and national level, to develop the arrangements for cross-border financial stability within the EU. These steps are based on recommendations from the Economic and Financial Committee and take into account the state of financial integration in the EU and existing stability arrangements.

These measures need to be adopted in view of the increasing number of large cross-border banking groups, given that maintaining financial stability in the European Union should be the focus of all Member States. Moreover, the European framework governing prudential supervision and financial crisis management should accommodate rapid and efficient action from all authorities concerned, so as to solve any emerging issues.

3.5.2.1. Common principles for cross-border financial crisis management

The Council of the European Union has approved a set of common principles to form the basis for co-operation among national authorities in preserving financial stability within the EU. These principles should be followed in the management of any cross-border financial crisis with systemic implications, which involves at least one banking group which (i) has substantial cross-border activities and (ii) is facing severe problems which are expected to trigger systemic effects in at least one Member State; and (iii) is assessed to be at risk of becoming insolvent. In the Council's opinion, the set of principles constitutes a consistent and sound basis for responding to any financial crisis situations in the EU, specifying the dominant considerations for cross-border co-operation, taking into account that quick actions may be needed to safeguard financial stability. The common principles mainly refer to the following:

- The objective of crisis management is to protect the stability of the financial system in all countries involved and in the EU as a whole and to minimize potential harmful economic impacts at the lowest overall collective cost. The objective is not to prevent bank failures.
- In a crisis situation, primacy will always be given to private sector solutions which as far as possible will build on the financial situation of a banking group as a whole. The management of an ailing institution will be held accountable, shareholders will not be bailed out and creditors and uninsured depositors should expect to face losses.
- The use of public money to resolve a crisis can never be taken for granted and will only be considered to remedy a serious disturbance in the economy and when overall social benefits are

assessed to exceed the cost of recapitalization at public expense. The circumstances and the timing of a possible public intervention can not be set in advance. Strict and uniform conditions shall be applied to any use of public money.

- Full participation in management and resolution of a crisis will be ensured at an early stage for those Member States that may be affected through individual institutions or infrastructures, taking into account that quick actions may be needed to solve the crisis.
- Policy actions in the context of crisis management will preserve a level playing field. Especially, any public intervention must comply with EU competition and state-aid rules.

3.5.2.2. Strategic roadmap for strengthening EU arrangements for financial stability

The Council of the European Union has adopted a strategic roadmap aimed at strengthening EU arrangements for financial stability, consisting in: (a) a series of procedures and principles to enhance co-operation and preparedness and (b) a review of the tools for crisis prevention, management and resolution.

The procedures and principles to enhance co-operation and preparedness mainly comprise:

- EU supervisory authorities, finance ministries and central banks signing an extended EU wide MoU, built on the 2005 MoU, to include common principles on crisis management including on the sharing of fiscal burden, as well as a common analytical framework.
- clarifying co-operation obligations including possible amendments to EU-banking legislation, especially to: clarify the existing obligations for supervisory authorities, central banks and finance ministers to exchange information and to co-operate in a crisis situation; increase the information rights and involvement of host countries; clarify the role of the consolidating supervisors and facilitate the timely involvement of relevant parties in a crisis situation; and examine whether, to this end, legislative changes are necessary, including to reinforce the legal requirements for supervisory collaboration and information sharing.
- conducting an EU wide crisis simulation exercise in spring 2009 to test the proposed arrangements.

The review of the tools for crisis prevention, management and resolution mainly refers to:

- the Commission and Member States working towards clarifying in 2008 when a banking crisis could be considered by the Commission as “a serious disturbance for the economy” (under the Treaty and state aid rules). The Commission shall consider streamlining procedures focusing on how state aid enquiries under critical circumstances can be treated rapidly.
- clarifying, during 2007 – 2009, the EU Deposit Guarantee Schemes Directive, especially: practical agreements and clarification of the scope of the Directive and tasks of DGS, “topping-up”, information exchange between schemes, reducing pay-out delays and improving depositor information. Deposit Guarantee Schemes and relevant authorities in Member States will be involved. Final results are expected by March 2009.
- the Commission performing a feasibility study during 2007 – 2009 on reducing barriers for cross-border asset transferability while introducing appropriate safeguards within banking, insolvency and company law, taking into account that the reallocation of assets in a crisis affects the ability of stakeholders in different legal entities to pursue claims. The overall

objective is to reinforce the primacy of private solutions, avoid counter-productive ring-fencing of assets, and facilitate a smooth management of a crisis.

3.5.3. The role and importance of setting up a domestic standing group

The current requirements of the European Union with regard to financial crisis management – to be complied with by all Member States, Romania included – in order to enhance the capability of national authorities in managing the potential financial crises refer to the creation of a domestic standing group on financial stability. This body should include representatives of all financial system supervisory authorities, the finance ministry included. The major goal of the domestic standing group would be to ensure the exchange of information between the authorities, as well as to prevent, appraise and manage possible difficulties having a systemic impact. Romania complied with this requirement by signing, on 31 July 2007, a *Memorandum of Understanding for co-operation in the field of financial stability and financial crisis management*, which provides for the creation of the National Committee for Financial Stability, whose goal is to effectively co-ordinate financial stability tasks and financial crisis management.

The tasks that domestic standing groups have to fulfill include:

- drafting national contingency plans, which should include responsibilities of all supervisory authorities participating in the group, the Ministry of Economy and Finance included.
- regular testing of the financial system by organizing simulation exercises at national and EU levels, with the participation of all authorities represented in the domestic group.
- preparing regular assessments of the financial system's resilience to extreme, yet plausible shocks, by using stress test analyses and informing the finance ministry of the aggregate results thereof.

In October 2006, the FSC prepared a material (FSC 4177/06) for the Member States regarding the best practices governing the creation and functioning of Domestic Standing Groups (DSG). Mention should be made that, on the date of drafting the report, a somewhat small number of EU Member States had such groups in place and, if they did exist, they had been operational only for a short while. The main conclusions of the report on domestic group structure indicate that a high level of representation of the authorities within the domestic group ensures the said authorities' commitment to carry out the obligations assumed in the MoU. Furthermore, although at EU level the MoU was signed only by the central banks and the banking supervision authorities, the FSC recommends that all supervisory authorities of the various financial system sectors be represented in the domestic group, for streamlining the DSG activity. As regards the finance ministry's role in the domestic group, it was concluded that – given its tasks in relation to the financial stability general framework and the possible need to use public funds – this authority plays an extremely important role within the domestic group, regardless of whether it chairs the group or not.

3.5.4. Financial stability domestic framework

With a view to strengthening the prudential supervision framework, the National Bank of Romania has concluded several memoranda of understanding on banking supervision with authorities from other countries, as follows: *Banca Naţională a Moldovei* (July 2001), *Banking Regulation and Supervision Agency of Turkey* (February 2002), *Central Bank of Cyprus* (April 2002), *Banca d'Italia* (December 2002), *Bank of Greece* (January 2003), *Bundesanstalt fur Finanzdienstleistungsaufsicht* (March 2003), *De Nederlandsche Bank N.V.* (July 2004),

Commission Bancaire (September 2005), *Hungarian Financial Supervisory Authority* (November 2005). The main purpose of these memoranda consists in the exchange of information in case of credit institutions with their head office and one of their secondary offices located in any of the countries that are parties to the co-operation agreement, particularly with regard to: the institution's financial standing; the degree of compliance with bank prudential requirements (capital adequacy, liquidity, large exposures, bank exposure to insiders, foreign currency position); significant shareholders; any considerable faults identified by the supervisory authority in the credit institutions' activity, likely to have a negative impact on the bank's financial standing and activity (especially as concerns default in payment, decline in capital adequacy, lower turnover, jeopardizing the viability or stability of the banking system, etc.); preliminary measures and measures aimed at correcting any major deficiencies found in the credit institutions' activity (concluding a written agreement with the bank's board of directors setting forth a correction program, planning a share capital increase, temporary suspension or replacement of directors, etc.); special administration and supervision measures; withdrawing the approval granted to bank managers; withdrawing the bank's operating license; proposal to wind up the bank or declare it bankrupt and initiating the relevant legal proceedings, etc. The memoranda concluded by the National Bank of Romania with similar authorities from the aforementioned countries also include a clause on preserving the confidentiality of supplied information.

The co-operation between the National Bank of Romania and the other regulatory and supervisory authorities of various sectors within the domestic financial system went through several stages and intensified as required by financial system developments. Overall, the Romanian financial system has become much more dynamic and complex in the past few years, leading to intertwining at institutional and operational levels as well as in terms of products offered to clients. This was particularly manifest in case of financial conglomerates, i.e. groups of institutions with organizational and economic ties operating simultaneously on several system markets. These developments called for the co-operation among the authorities in charge of licensing, regulating, supervising and controlling the component markets of the financial system in order to ensure the transparency, stability and integrity of the financial system and its component markets, as well as the compliance with the applicable legal framework.

The first achievement in coordinating the efforts of all supervisory authorities of various financial sectors – amid the steadily increasing complexity and degree of integration of the Romanian financial system – was marked by the "Memorandum of Understanding for co-operation in the field of financial system supervision", concluded on 3 April 2002 by the National Bank of Romania, the National Securities Commission and the Insurance Supervisory Commission.

Subsequently, given its financial stability tasks, the National Bank of Romania concluded, on 10 March 2006, a "Memorandum of Understanding for co-operation in order to promote stability of the financial system as a whole and of its components" with the National Securities Commission and the Insurance Supervisory Commission. The Private Pension Scheme Supervisory Commission adhered to the above-mentioned memorandum on 14 December 2006. This protocol is particularly tailored for co-operation under normal functioning of the Romanian financial system.

The Memorandum of Understanding between the Ministry of Economy and Finance, the National Bank of Romania, the National Securities Commission, the Insurance Supervisory Commission and the Private Pension Scheme Supervisory Commission for co-operation in the field of financial stability and financial crisis management was signed on 31 July 2007. The National Committee for Financial Stability was established based on this agreement. The protocol governs the co-operation among supervisory authorities in general and with the Ministry of Economy and Finance in

particular in the event of market turmoil or even financial crises at the level of the Romanian financial system as a whole or some of its components.

The Committee consists of the following members: the Minister of Economy and Finance, the Governor of the National Bank of Romania, the President of the National Securities Commission, the President of the Insurance Supervisory Commission and the Chairman of the Private Pension Scheme Supervisory Commission. The President of the Committee will serve a term of one year and each of the members is appointed to this position by rotation. The first ever president was appointed during the first meeting of the Committee, namely the Governor of the National Bank of Romania.

The key responsibilities of the National Committee for Financial Stability are to promote a steady and efficient exchange of information between the authorities responsible for the regulation and supervision of various parts of the financial system and the Ministry of Economy and Finance, and to appraise, prevent and, where appropriate, manage financial crises at the level of individual financial institutions, financial groups or the financial market as a whole. Mention should be made that co-operation under the Memorandum will be carried out without prejudice to powers and responsibilities of the signatories, as arising from the provisions of the legislation governing their activity.

The tasks of the National Committee for Financial Stability, as laid down in the ECOFIN Council's recommendations on financial crisis management, include the regular testing of the financial system by organizing nationwide simulation exercises for crisis situations, with the participation of all authorities represented in the domestic group. The first such simulation exercise was organized by the central bank on 6 February 2008, with the participation of representatives from the National Bank of Romania, the Ministry of Economy and Finance, the National Securities Commission, the Insurance Supervisory Commission, the Private Pension Scheme Supervisory Commission, and the Bank Deposit Guarantee Fund. This exercise was based on a scenario focusing on a liquidity crisis triggered by an internal fraud at a commercial bank of systemic importance. In terms of location, organizers opted for the centralized version, which allows for a better observation of participants' behavior and enhanced recording of the exercise stages. The simulation exercise was conducted in compressed time, not in real time. As far as the representation of the authorities was concerned, the choice was made for the mixed version.

In addition, the National Bank of Romania drafted several documents aimed at improving the preparedness for the efficient management of potential turmoil or crises in relation to the financial system, as follows: "The contingency plan applicable to credit institutions"; "Checklist of problems to be solved in case of unexpected situations"; the lists with contact persons at management level and experts within the supervisory authorities of the Romanian financial system; list of contacts of EU supervisory authorities.

On 1 August 2007, the Governor of the National Bank of Romania and the Governor of the Bulgarian National Bank signed the *Statement of Adherence of the central banks and banking supervisors of the new Member States to the Memorandum of Understanding on high-level principles of co-operation in crisis management situations* (signed by EU countries in 2003) and to the *Memorandum of Understanding on co-operation between payment systems overseers and banking supervisors* (signed by EU countries in 2001).

Furthermore, the Council of the European Union invited Member States to sign, in the spring of 2008, an extended co-operation agreement based on the memorandum of understanding on crisis management concluded in 2005 by the central banks, supervisory authorities and finance ministries of EU Member States. This new agreement encompasses: common principles; a common analytical

framework to assess the systemic implications of potential crises, with a view to ensuring a common terminology applicable to cross-border financial crises by all relevant authorities and laying the groundwork for the timely carrying out of the necessary assessments to facilitate the decision-making process in crisis situations; a crisis management practical guide, reflecting a common understanding of the stages and procedures in a cross-border crisis situation. The National Bank of Romania signed this extended agreement during the ECOFIN meeting held on 4-5 April 2008.

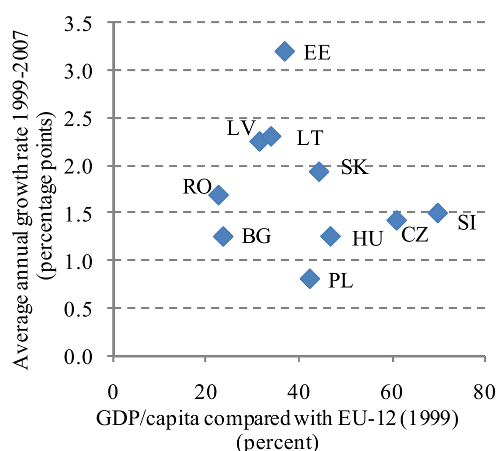
CHAPTER 4. DOMESTIC MACROECONOMIC RISKS

Domestic macroeconomic risks increased, yet they remain moderate. The monetary policy tightening puts pressure on highly leveraged companies and households. Moreover, the decrease in the central bank's net debtor position leads to the problem of identification of the necessary collateral eligible for money market operations. In 2007, exchange rate developments affected the predictability of decisions made by economic agents. The worsening conditions on the external financial markets entailed the increased likelihood of a current account deficit adjustment (via the exchange rate and by improving the structure of the economy).

4.1. Real sector

Economic growth continued at a sustained pace (6 percent) in 2007 as well. The pace of real convergence stayed above the average for the past eight years (Chart 4.1.1), but was slower than that recorded by EU-8 countries (except Hungary). The risks to financial stability arising from the real sector may stem from two structural sources: (A) the concentration of financial resources in non-tradables[56] sectors (should the risks associated with an exchange rate shock materialize) and (B) the worsening conditions on labour market, on the back of declining unemployment to the lowest levels in the past years and pressures from the public sector, which accelerated the erosion of external competitiveness and corporate profitability.

Chart 4.1.1 – Initial level (1999) and catching up rate GDP/capita (PPS) compared with EU-12



Source: Eurostat

Note: 2007 figures are forecasts

(A) The worsening conditions on the external financial markets led to the increased likelihood of a current account deficit adjustment. The wider the current account deficit, the higher the challenge of rebalancing. Moreover, the larger the share of financial flows to non-tradables sector, the greater the flexibility needed for adjustment. As concerns Romania's economy, both negative impacts (external imbalance and large share of financing to non-tradables sector) are at high levels. Furthermore, the non-tradables sector contribution to GDP has decreased slightly , its growth rate lagging behind that recorded by tradables sector in 2007 H2. Loans from both domestic and external sources taken by companies from non-tradables sector are higher than those of companies producing tradables goods and show a faster dynamics. However, this development is specific not only to Romania, but also to all the Central and Eastern European

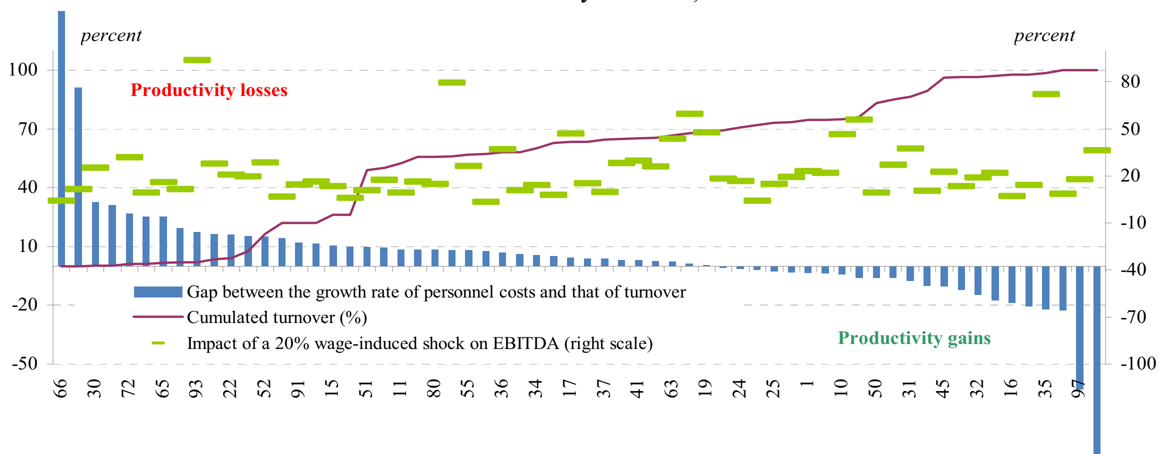
[56] The companies producing non-tradables (that are not intended for foreign trade) include companies carrying out activity in construction, trade and transport services, warehousing and communications. The companies producing non-tradables (that are intended for foreign trade) comprise companies operating in agriculture, hunting and forestry, industry and energy.

countries (CEE)[57]. Under these circumstances, the current account deficit may be subject to a mixed adjustment, albeit lower than in countries facing similar problems (considering particularly the structure of financing flows).

(B) The gap between demand for and supply of labour continued to narrow, with employment rising to 60.5 percent in 2007 Q3. The widening of labour deficit in major economic sectors, as well as the increased wage pressures (which are higher during an election year) will further rank among the challenges in 2008.

More than 70 percent of turnover is attributable to companies that recorded a steep disparity between the growth rate of wages and that of the activity volume (June 2007) (Chart 4.1.2). The impact of 20 percent wage hikes on profitability (EBITDA) ranges predominantly between 5 percent and 40 percent, *ceteris paribus*. Should the above-mentioned increase materialize, corporate profitability could be significantly affected (implicitly the companies' ability to withstand a shock) and/or part of the rise in wage costs could feed through into prices.

Chart 4.1.2 – Differential between wage growth and turnover dynamics by sector, June 2007 (x-axis refers to the Classification of Activities in the National Economy – NACE)



Source: NBR calculations, MEF

Textiles industry continues to rank among the sectors most vulnerable to wage pressures. This sector holds a significant, yet narrowing share in total exports. The drop in export share caused by textiles industry is mainly attributable to the deteriorating competitive position, on the back of a wage dynamics higher than that of turnover recorded in the past four years, as well as to the RON appreciation.

4.2. Economic policies

The long-term economic growth sustainability requires a higher contribution from exports and an adjustment of the role played by consumption. With a view to obtaining these results, an adequate economic policy mix is much more significant than any of its components taken separately. A restrictive monetary policy may only partly offset the lack of support from fiscal and income policies. The economic policy mix must be reconsidered in the light of: (i) persistent financial

[57] The IMF (Regional Economic Outlook, 2007) highlights that the volume of loans to CEE companies producing non-tradables doubled its share in GDP (2000-2006), while that of loans to companies producing tradables remained unchanged.

market turmoil, (ii) hike in world food and energy prices, (iii) sharp widening of Romania's current account deficit, (iv) further pressure from wage policies and (v) limited exchange rate capacity to support disinflation.

Finding an optimal economic policy mix with a view to ensuring economic growth sustainability must take account of:

(i) ongoing implementation of structural reforms in order to foster productivity and external competitiveness;

(ii) further monetary policy restrictiveness;

(iii) fiscal policy tightening, channeling of budgetary resources to investment in particular, improvement of budget planning by using multiannual budgets and by ensuring a smooth and predictable budget execution;

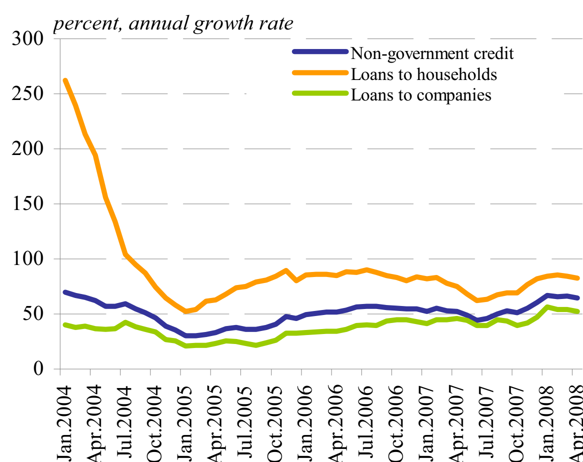
(iv) matching of income policy and productivity gains.

4.2.1. Price stability and financial stability

The rise in inflationary pressures and the worsening conditions on international financial markets entailed the tightening of regional monetary policies, putting pressure on highly leveraged companies and households.

(A) Non-government loans stayed on an uptrend, increasing over 60 percent (December/December). The most sustained development was further reported by household loans, which posted an annual growth of more than 80 percent. These developments showed no signs of alleviation in the past years (Chart 4.2.1) and the causes may be attributed to both demand and supply, as both of them had a similar impact.

Chart 4.2.1 – Non-government loans in Romania



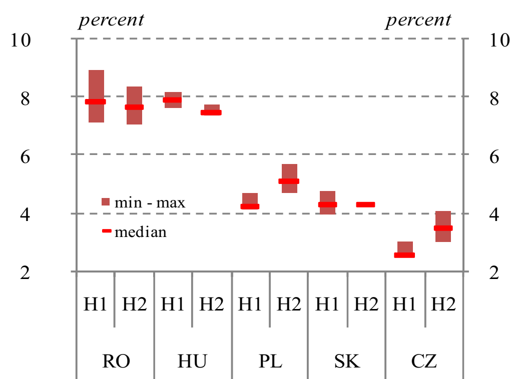
Source: NBR calculations

The swift expansion of credit, foreign currency-denominated loans in particular, is a source of concern for both financial stability and price stability, as it: (i) generates inflationary pressures, (ii) contributes to the current account deficit widening, (iii) fosters currency risk and (iv) increases credit risk, particularly that associated with households.

It is difficult to find viable solutions for alleviating the rapid credit growth. The rise in interest rate in order to contain inflationary pressures (i) could bolster foreign currency credit to a higher extent (also due to the possible RON appreciation effect) and (ii) could affect the already highly leveraged clients. Prudential measures, although they proved viable in some cases, were effective only in the short run. Credit institutions can provide another solution, namely that the growth rate of credit should be consistent with the management capacity (also according to stress-test results), as well as with the current and future levels of capital and provisions.

(B) Liquidity constraints on international financial markets were not manifest on the money market in Romania. The volatility of money market rates in the first half of the year was largely due to larger-than-expected liquidity-absorbing operations carried out by the Treasury, which overlapped the increase in non-residents' transactions on the forex market (Inflation Report, August 2007). During March-June 2007, credit institutions faced significant liquidity restraints, repeatedly making wide resorts to the lending facility. It is worth mentioning that, despite their being significantly higher than in previous time periods, repo operations conducted by the central bank were the main instrument used to inject funds, thus helping alleviate tensions on the money market. The difficulty of credit institutions to identify the necessary collateral eligible for money market operations will increase insofar as the net debtor position of the central bank will decline. In this context, the export of large-value loans to low-risk companies can diminish, as these loans could be used as collateral for the refinancing from the central bank (assuming that the relevant laws will allow it).

Chart 4.2.2 – 3-month interest rates in the interbank market in 2007 H1 and H2

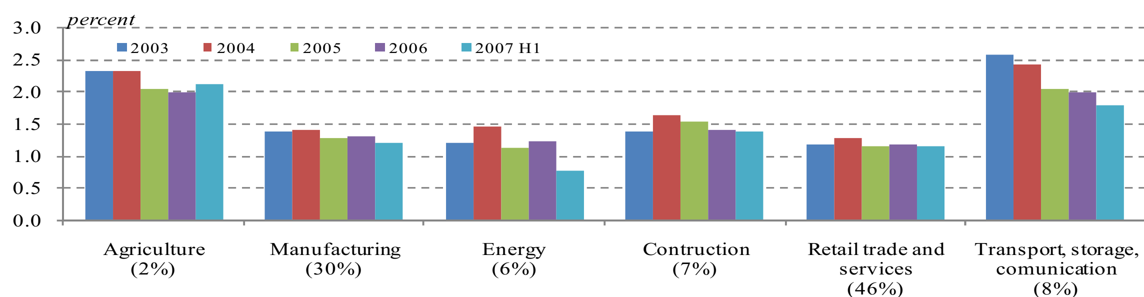


Source: websites of central banks, Bloomberg

(C) In 2007 H2, interbank interest rate volatility was lower (Chart 4.2.2), also on the back of the new monetary policy measures[58] applied with a view to improving the signaling role of the interest rate and the monetary policy transmission mechanism. Nonetheless, the volatility is above that recorded by countries in the region, which could affect to some extent the behavior of banks and economic agents.

In 2007 H1, liquidity needs also affected the real sector, with banks shifting to the domestic market in order to identify fund resources. Hence, interest rates on new deposits made by non-financial institutions changed significantly in the first period, while those on loans were more stable, being generally in line with the policy rate developments.

Chart 4.2.3 – Share of interest costs in total operating costs by sector



Source: NBR calculations, MEF

Note: The figures in brackets indicate the share of the respective sector in total turnover economy-wide

(D) The share of interest costs (including the costs related to foreign currency loans contracted in Romania or abroad) in total operating costs of companies is decreasing slightly; thus, the regular

[58] Such measures were: (i) narrower range of interest rates by lowering the differential between the interest rate on the lending facility and that on the deposit facility by 3 percentage points and (ii) shorter maturity of the key monetary policy tool from one month to two weeks.

changes in the monetary policy rate would not hamper the activity in the real sector (Chart 4.2.3). The interest costs are lower in sectors making the largest contribution to value added. In industry, the rise in interest rate will particularly affect companies carrying out activity in high technology industries and medium-low technology industries.

4.2.2. Implications of exchange rate developments on financial stability

In 2007, exchange rate developments affected the predictability of decisions made by economic agents. In 2007 H1, the domestic currency appreciated by 8 percent. During August 2007 – March 2008, the local currency depreciated significantly by 18 percent. The exchange rate volatility remained in the upper variation band on regional markets (Chart 4.2.4), reaching the highest level at end-November, when S&P rating agency upgraded the credit rating from "stable" to "positive", which raised market uncertainty surrounding a possible major correction of the RON. Forex market liquidity posted a twofold increase, with daily traded volumes moving up from EUR 0.8 billion (January 2007) to EUR 1.58 billion (March 2008). This development was due to (i) foreign investors' increased interest in Romania and (ii) rise in actual financial needs of economic agents.

The factors behind this development were both **(A)** structural and **(B)** incidental.

(A) The structural characteristics of the Romanian FX market are appropriate for a volatile development (Table 4.2.1). Therefore, the effects of the turmoil are likely to be stronger than in other countries in the region. As concerns the four characteristics under review, the features of the Romanian market may generate the highest fluctuations amid the change in risk perception: (i) the FX market has the smallest volume as compared with the Polish zloty, the Turkish lira or the Hungarian forint; (ii) most foreign currency operations generally have a very short maturity (81 percent of operations, versus 77 percent in Poland or Hungary, 58 percent in Turkey, etc.); (iii) financial derivatives have the lowest share (60 percent), so that the possible solutions to cover currency risk are less resorted to; (iv) non-resident investors hold 90 percent of the derivatives market. The spillover effect could be even stronger (considering their volume is the lowest).

Table 4.2.1 – Structure of FX markets in some CEE countries (April 2007)

	Average daily volume, USD mill.	Derivatives[59] (USD mill./percent)		Non-residents on derivatives market (USD mill./percent)		Instruments with maturity < 7 days (USD mill./percent)	
Romania	2,510	1,508	60	1,351	90	1,225	81
Poland	8,813	6,820	77	5,404	79	5,274	77
Hungary	6,715	4,658	69	3,945	85	3,632	78
Czech Republic	4,947	3,631	73	2,995	82	2,110	58
Turkey	3,362	3,311	98	2,456	74	1,737	52

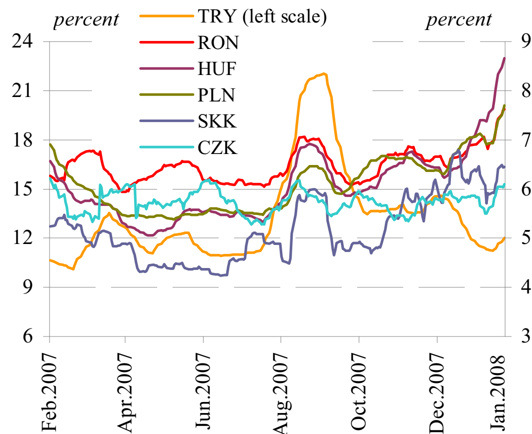
Source: BIS, Triennial Central Bank Survey 2007[60]

[59] The foreign exchange derivatives taken into account are: forward contracts, FX swap and currency swap, options. As concerns the Romanian market, over 90% of transactions in derivatives are FX swaps and only 7% are forward contracts, more than 60% being related to EUR/RON and 33% to EUR/USD (according to BIS).

[60] Bank for International Settlements, 2007, Triennial and semiannual surveys on positions in global over the counter (OTC) derivatives markets at the end-June 2007, November.

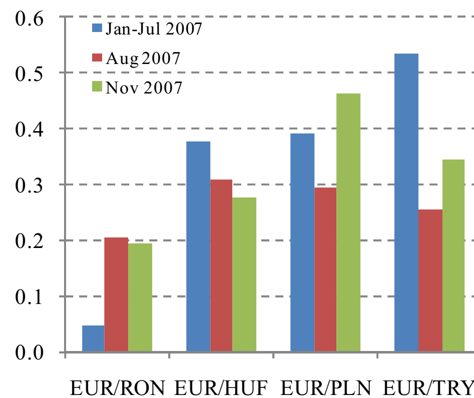
Starting August 2007, FX market was more sensitive to changes in investors' sentiment. The correlations of exchange rate and those of VIX Index[61] indicator rose subsequently to a level similar to other countries in the region (Chart 4.2.5)[62]. The reaction of the Romanian FX market may be accompanied by a high volatility due to the change in non-residents' global risk sentiment.

Chart 4.2.4 – Conditional volatility of exchange rates vs. euro (20-day moving average)



Source: NBR calculations, Bloomberg

Chart 4.2.5 – Correlations of exchange rates versus the risk aversion indicator – VIX Index



Source: NBR calculations, Bloomberg

* adjusted correlations according to Forbes, Rigobon (2002)[63]

Table 4.2.2 – Currency developments during the accession period

percent, cumulative*

	RON	PLN	HUF	SKK	CZK
Pre-accession (6 months)	3.95	0.35	4.31	2.9	1.49
Post-accession (6 months)	7.62	10.51	2.69	1.77	2.03
Total yield	11.58	10.86	7.00	4.66	3.52

Source: NBR calculations

*appreciation (+)/depreciation (-)

(B) Among the incidental factors that contributed to the significant dynamics of the exchange rate, the following deserve mention (i) the optimistic sentiment of investors after Romania's accession to the EU and (ii) domestic disturbances.

(i) Accession to the EU translated the same as in other EEC countries, into the domestic currency appreciation. During the pre- and post-accession period (six months before and six months after the accession), the domestic currency appreciated 11.6 percent, as compared to the Polish zloty (10.9 percent) or the Hungarian forint (7 percent). Cumulating the pre- and post-accession exchange rate developments, the RON recorded the highest appreciation of all currencies under review upon the EU accession (Table 4.2.2). It may have been an overappreciation which was corrected in 2007 H2 (which explains the most significant depreciation of the RON).

[61] Also known as Chicago Board Options Exchange Volatility Index or "fear index", representing the market expectations on the volatility developments for the following 30 days. The index is calculated based on implicit volatilities of "out of money", "put" and "call" options, for the S&P 500 index.

[62] Contagion tests however do not provide clear evidence in this respect.

[63] Forbes, K. and R. Rigobon, 2002, "No Contagion, Only Interdependence: Measuring Stock Market Comovements", Journal of Finance, p. 2223-2261, October.

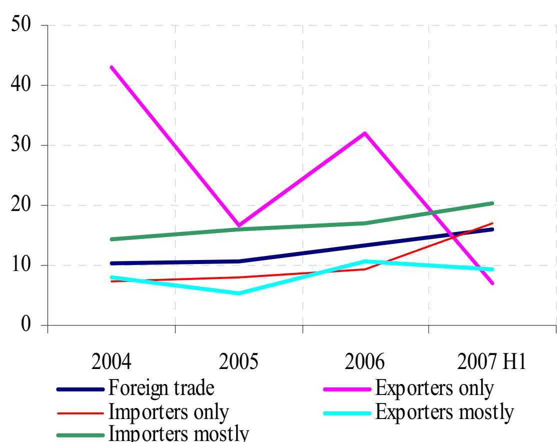
(ii) In the first part of the year, some money market pressures (the mismatch between banks at the end of the reserve maintenance period which overlapped payments of income tax to the Treasury) translated into the exchange rate appreciation. In the second part of 2007, fears surrounding the flare-up in inflation and the economic developments (widening of trade deficit along with the drop in the financing rate via foreign direct investment and the economic slowdown at the end of the second quarter) were two factors contributing to the RON depreciation.

4.3. External balance

4.3.1. Current account deficit and its financing

Current account deficit increased by EUR 16.95 billion in 2007, its share in GDP coming in at 14 percent. The depreciation of the domestic currency in the latter half of 2007 and the drop in domestic consumption had as a result a faster dynamics of exports than of imports in early 2008. Importers improved their financial standing in the first half of 2007 (the profit grew, while indebtedness remained relatively flat – Chart 4.3.1).

Chart 4.3.1 – Foreign trade companies' profitability - ROE (percent)



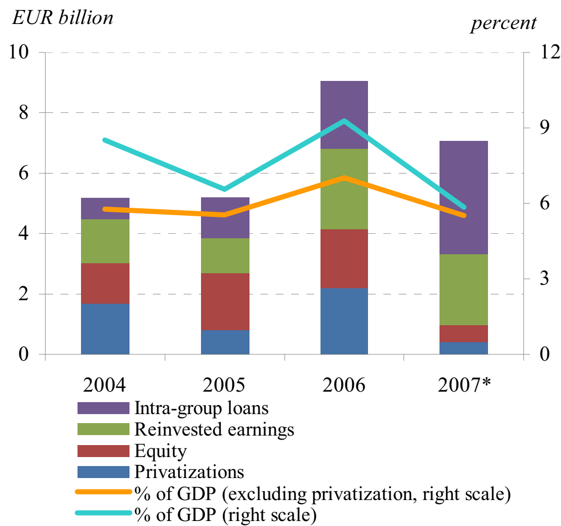
Source: NBR calculations, NIS

Under these circumstances, they can better face an exchange rate shock. On the other hand, these companies' overdue payments with banks have posted recently an increase, which might indicate the existence of vulnerabilities (particularly as they were registered in the first part of 2007, when the RON appreciated). Micro-structural analyses have not shown systemic causes, but only elements specific to the respective companies.

In 2007, inflows from foreign direct investment (FDI – net direct investment of non-residents) came in at EUR 7.141 billion (Chart 4.3.2), Romania ranking second among EU8+2 countries, after Poland[64]. Although the volume of proceeds diminished markedly in 2007, the inflows posted a significant level, especially in the non-bank sector (which saw an increase by 16.8 percent in 2007). The inflows continued to be channeled towards the manufacturing sector (Chart 4.3.3), yet at a slightly slower pace than towards non-tradables sectors. Although this is a natural process within the catching-up process, a possible concentration of resources earmarked for non-tradables sectors may cause boom & bust developments.

[64] According to the flows related to the first three quarters in 2007, Eurostat data.

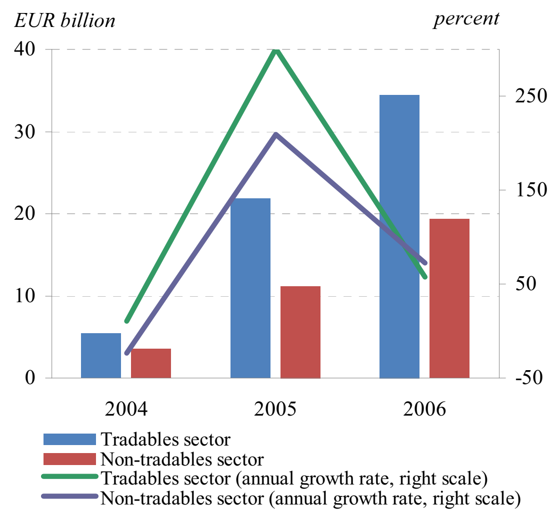
Chart 4.3.2 – Structure of FDI flows



Source: NBR

* provisional data

Chart 4.3.3 – Inflows of FDI capital into the two economic sectors

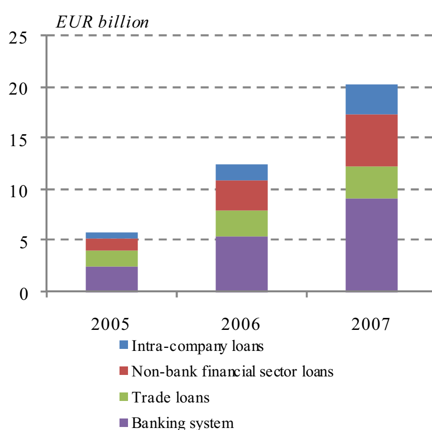


Source: NBR calculations

The companies benefiting by FDI flows during 2003-2006 continued to report results higher than the average economy-wide (profitability and liquidity), which might continue to trigger other similar flows as well. As concern Romania's economy, their contribution was significant, accounting for 37 percent of the turnover (in the first half of 2007). The exposure of these companies to the interest rate risk has increased. Indebtedness went up from 1.14 to 1.26, while the default rate doubled, remaining however at a low level (0.96 percent from 0.38 percent).

4.3.2. Short-term foreign debt

Chart 4.3.4 – STFD structure



Source: NBR

Short-term foreign debt (STFD) widened by 65 percent, amounting to EUR 20.6 billion at 31 December 2007, ranking second in terms of volume across EU8+2 group[65]. Risks are on the upside given that: (i) in the real sector, companies that do not carry out foreign currency income-generating activities account for most of STFD, and (ii) the banking sector finances a large part of its lending activity by resorting to such resources (which may diminish considerably should external liquidity issues persist). The consequences would affect the foreign currency market and the financing of companies' credit lines (for further details see Section 5.1.2).

The financial system contributed to the sharp dynamics of STFD. *The banking sector* continued to have a significant contribution to the STFD

[65] 2007 Q3, according to SDDS data, World Bank

build-up (more than 43 percent of the STFD stock – Chart 4.3.4) amid the backdrop of a sustained growth rate (up 62 percent in 2007, versus 57 percent in the non-bank sector). Likewise*, leasing companies* resorted largely to financing via STFD (net inflows doubled versus 2005). Nevertheless, the volumes are still contained: net inflows over the past three years amount to EUR 455 million (namely 6 percent of total assets of this sector, December 2007). Concentration is also high: the top four leasing companies account for 66 percent of the net flows taken in 2007 by non-bank financial companies.

Developments recorded by the *non-financial companies sector* in 2007 show that (i) net inflows of STFD into companies ran at EUR 966 million, on a slight decrease versus 2006. The high volatility and the large risk premia in the second half of the previous year on the international financial markets alleviated the spectacular increases in STFD in the third quarter, manifest as well in the previous years, and (ii) resources continued to be significantly channeled towards the non-tradables sector.

Companies with foreign trade activity hold a significant share of total STFD flows of the non-financial sector (39 percent of total inflows, 35 percent of total outflows and 23 percent of the total stock respectively). Should domestic currency depreciate, the risk affects the net importing companies that (i) trade in products on the domestic market as well and (ii) for which the resilience of demand/selling price is above par (they cannot fully transfer the effects of a depreciation farther to the client). The exposure of these companies to the foreign currency risk via STFD might be small from a systemic viewpoint, given that their STFD stock accounts for less than 50 percent of the net result at mid-2007.

Companies without foreign trade activity account for approximately 80 percent of the increase in non-financial companies' STFD in 2007. The STFD-related foreign currency risk facing these companies is significant due to the high indebtedness in foreign currency. The real-estate segment is an important segment of companies with STFD and without foreign trade activity (53 percent of this category and 22 percent of STFD economy-wide respectively). The foreign currency exposure of these companies is high (252 percent of shareholders' equity and 48 percent of total assets, at an exchange rate of 3.7 RON/EUR). However, these companies could have a *de facto* protection against the foreign currency risk, since their balance-sheet items and income flows are denominated in foreign currency. In addition, given the high return on real-estate investment, these companies could adequately face a depreciation shock.

CHAPTER 5. COMPANIES AND HOUSEHOLDS

5.1. Risks arising from non-financial companies

Risks generated by companies were on the upside. The economic and financial performance sticks to levels allowing proper adjustment in the event of a moderate shock. In turn, companies may induce systemic risks via the indirect channel in case of exchange rate, liquidity or interest rate shocks. Bank debt servicing capacity diminished slightly, while the financial deepening process posted mixed developments.

5.1.1. Companies' resilience to a systemic shock

5.1.1.1. Economic and financial performance

(A) Return on equity (ROE) remained somewhat constant at aggregate level (14.6 percent in June 2007), yet posted mixed developments in terms of structure:

(1) companies producing non-tradables[66] (holding the largest share of domestic and foreign loans, they have an increasing role in generating gross value added, but they could have a lower capacity of coping with an exchange rate shock) posted a slightly declining ROE, although its value was still above the profitability in the tradables sector;

(2) companies with bank loans further posted lower profitability than those without loans (14 percent versus 16 percent, as of June 2007), yet the gap is narrowing;

(3) companies in the trade and services sector (accounting for 47 percent of bank loans as of December 2007) witnessed a shrinking ROE, albeit still considerably higher (20 percent in June 2007) than the average economy-wide; profitability in industry was relatively constant at 12 percent; companies in agriculture and construction posted the lowest (3 percent) and the highest ROE (23 percent) respectively as of June 2007.

(B) Corporate **liquidity** deteriorated. Companies' net debtor position was further on the upside, against the backdrop of a faster rise in loans than in bank deposits, which should be closely monitored in light of the liquidity issues worldwide. The quick and current ratios[67] of companies with loans remained virtually unchanged (0.15 and 1.14 respectively in June 2007 from 0.16 and 1.16 in the same year-ago period).

(C) The leverage effect (i.e. the debt-to-capital ratio) remained almost constant at 1.83 in June 2007 compared to 1.81 in June 2006. The most indebted sectors were construction, trade, services and agriculture (leverage around 3). Any problems generated by higher financing costs could be amplified in these sectors. The direct effect on the banking sector could be of a lower magnitude because, across the economy, companies borrowing from banks have a lower leverage than those without such indebtedness (1.67 versus 3.33 as of June 2007).

(D) The number of *newly established* **companies** in 2007 further exceeded by far the number of bankruptcies. The bankruptcy process does not entail any systemic risks. Of the companies undergoing bankruptcy: (i) merely 5 percent reported debts to banks, (ii) the debts accounted only for a small share of total bank debts (i.e. 0.4 percent as of December 2007), yet (iii) most of the amounts either due or outstanding (59 percent and 54 percent respectively, December 2007) are not

[66] For definition, see also footnote 1 in Chapter 4 – Domestic Macroeconomic Risks.

[67] Quick ratio = short-term cash / debts; current ratio = current assets/current liabilities.

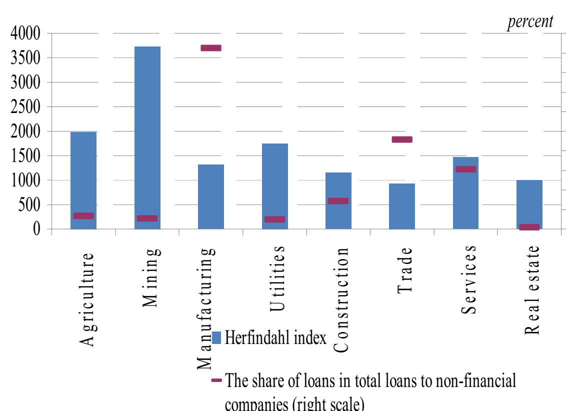
guaranteed, so that the likelihood of a full recovery by banks is rather low. There is a large *number of inactive companies*, reflecting also the higher costs of winding-up a company by comparison with maintaining it inactive (only 580,000 companies out of a total of 1.55 million duly registered with the Trade Register reported their financial statements).

5.1.1.2. Bank debt servicing risk

(A) Debt servicing capacity improved slightly at aggregate level. Earnings before interest and taxes (EBIT) rose at a faster pace than debt service, with the ratio between the two indicators increasing year-on-year from 1.17 to 1.27 in June 2007. In terms of *structure*, companies operating in the energy, transport, communication and warehousing sectors fared well, unlike agriculture. The real estate sector (developers' segment in particular) posted a significant worsening of the debt servicing capacity. The explanation could lie with changes occurring in both determinants: (i) EBIT shrank due to the transfer of part of the profit to countries with lower taxes and to the larger number of new projects (incurring numerous expenses during the initial stages) and (ii) the debt service also rose as a result of wide-scale resort to bullet loans (with principal payment at the end).

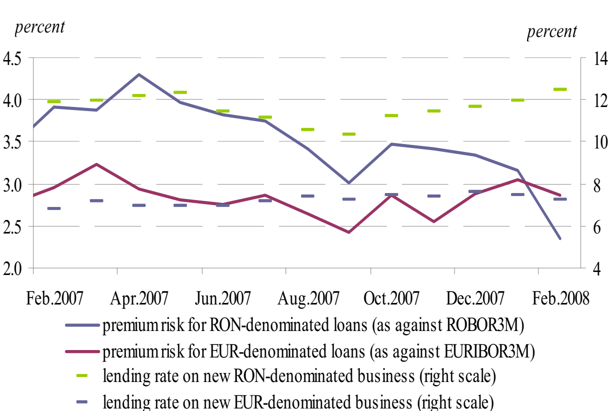
(B) Concentration of bank loans to companies dwindled in 2007, with the Herfindahl index dropping to 1,100 in December 2007 from 1,300 a year earlier. The concentration risk is extremely high in agriculture and mining (Chart 5.1.1). On the other hand, the share of loans extended to sectors with a high degree of concentration in total loans is somewhat subdued, so that a shock originating in any of these sectors would not generate any major systemic effects.

Chart 5.1.1 – Institutional concentration of bank loans at aggregate and sectoral levels (December 2007)



Source: NBR calculations, MEF

Chart 5.1.2 – Premium risk for non-financial companies in relation to new business



Source: NBR calculations

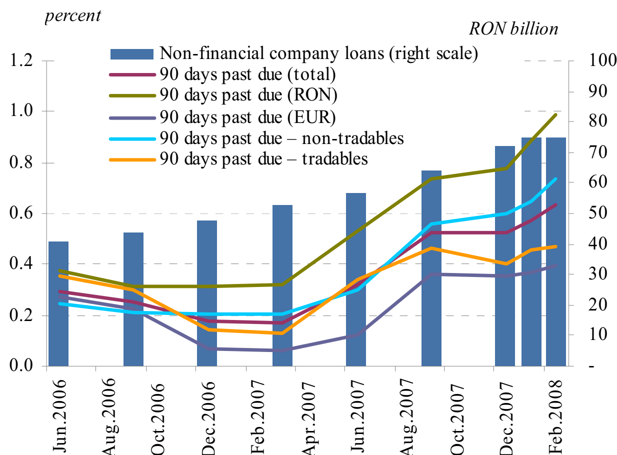
(C) The **risk premium** in relation to corporate loans shrank (Chart 5.1.2). This financing seems not to have been affected by external liquidity constraints so far. The explanation for these developments could lie with heightened competition among credit institutions (also mirrored by the lower degree of concentration) and the increase in non-interest related income.

(D) Bank arrears and debt risk entered an upward path.

D1. Bank arrears are still at a benign level (with a 0.6 percent share of arrears overdue by more than 90 days, as of February 2008), yet their dynamics require monitoring (Chart 5.1.3). In terms of structure, (i) the rate of arrears on forex loans is lower than that on RON-denominated ones, but the changing developments in the RON/EUR exchange rate might trigger a trend reversal and (ii) the rate of arrears on loans taken by companies in the non-tradables sector is higher than that on loans

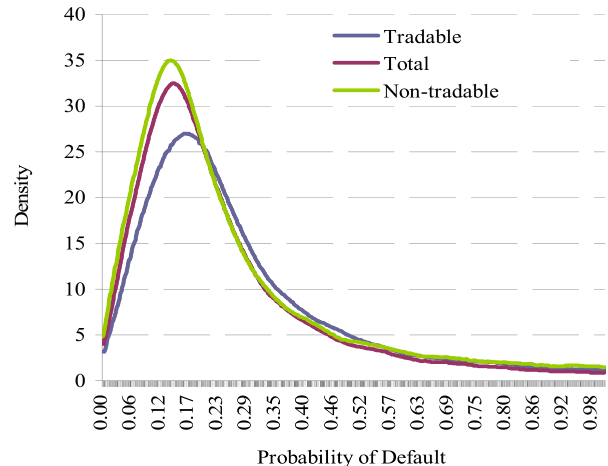
taken by companies in the tradables sector. This gap could widen in the event of an external shock, because companies in the non-tradables sectors take predominantly forex loans (from both domestic and foreign sources), yet their capacity of obtaining foreign currency flows in adverse conditions could be impaired.

Chart 5.1.3 – Arrears past due for more than 90 days in relation to corporate loans



Source: NBR calculations

Chart 5.1.4 – Probability of Default



Source: NBR calculations, MEF

D2. Payment default risk during June 2007 – June 2008 rose against December 2006 – December 2007, as a result of worsening default determinants[68], reflecting the likely increasing vulnerability of the real sector. The higher payment default risk was underpinned by the extended deadline for collecting receivables and the increased interest-related cost amid dwindling profitability. Companies in the tradables sector run a higher risk of default compared to the rest of the economy (Chart 5.1.4).

The share of **debt at risk (DaR)**[69] in total loans trends upwards. Bank loans are concentrated in companies with a credit risk above the economy-wide average. At a *sectoral level*, trade and industry account for 15 percent and 19 percent respectively of total debt at risk compared to the actual level of attracted bank resources (32 percent and 33 percent respectively). This hints at a concentration of bank loans in companies with a below-average credit risk. Developments were completely different in the services sector, with debt at risk standing at 29 percent at a volume of attracted loans making up 16 percent of total bank resources. The real estate sector has a significant contribution to the debt at risk of companies in the services sector, accounting for 16 percent of total, given a volume of loans of 4 percent of total corporate credit.

In an extreme scenario assuming the failure to recover the collateral against which corporate debt to banks is guaranteed, the debt at risk for June 2007 – June 2008 would stand at RON 4.2 billion, while the level of provisions would be four times lower. Bridging this gap would erode the profitability (and solvency) of banks. Such a scenario materializing would pose challenges to financial stability, thus calling for a careful monitoring of provision and solvency dynamics.

[68] Half-year financial results usually underestimate end-of-year results, so that credit risk might be slightly overestimated.

[69] Debt risk is calculated by multiplying the probability of default by the amount due to the bank and it represents the expected loss in the lending activity.

5.1.1.3. Shock transmission channels[70]

(A) A **foreign exchange rate shock** could have moderate implications on financial stability.

The companies' *exposure to currency risk* remained somewhat constant, yet at a high level (about 25 percent of their own funds). In terms of structure, (i) the trade and services sector has the largest exposure (136 percent of equity)[71]; (ii) the real estate sector posts an exposure of 68 percent, but the impact of a currency shock could be lower because most transactions are conducted in euro and the parties to the transactions are usually nonresidents; (iii) companies with forex loans taken from domestic banks have a currency exposure of 51 percent of capitalization.

Debt service for EUR-denominated loans advanced 30 percent in 2007, with the exchange rate effect (RON depreciation) making up 8 percentage points.

Forex-denominated credit lines cannot be used as a protection margin in the event of an exchange rate shock because they are used by companies primarily for investment financing. The degree of use of these credit lines is extremely high, nearing 100 percent. Investment financing through credit lines seems to be a more profitable method, since it does not imply any principal repayment. However, there is the risk of credit institutions not renewing credit lines upon maturity (the debtor's worsening financial standing or the emergence of liquidity issues within the banking sector), thus putting additional pressure on companies' liquidity. Unfavorable exchange rate developments in such circumstances would only add to the already existing imbalances.

The year 2007 saw increased resort to credit lines, especially at the shorter-end of the maturity spectrum, reflecting an increasing financing need (over the long run). Companies with a 100 percent use of credit lines have enhanced financial performance and repayment capacity.

The impact of a weaker RON[72] goes both ways, as indicated by Chart 5.1.5. The first 100 companies most severely hit by a RON depreciation by 20 percent (mainly importers) cumulated losses worth RON 6.7 billion, whereas the first 100 companies benefiting the most from RON depreciation by 20 percent (mainly exporters) cumulated gains worth RON 7.1 billion.

A depreciation of the domestic currency would have two major consequences on credit risk: (i) in terms of dynamics, a higher likelihood of default among foreign trade companies and (ii) in terms of structure, a decline in the bank loans concentration index.

A depreciation of the RON by 20 percent or 30 percent would entail a fall in the operating results of foreign trade companies by RON 170 million (i.e. 0.05 percent of GDP) or by RON 3.4 billion (0.99 percent of GDP) respectively. In addition, companies with bank loans also generate a direct loss (first round effect) of 0.22 percent, namely 0.87 percent of GDP (valid assessment as of June 2007).

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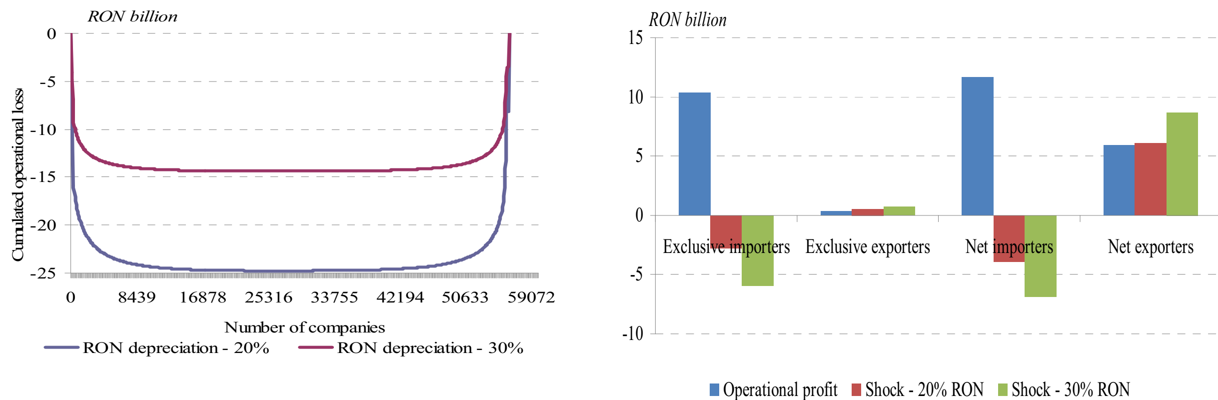
[70] The shocks described in this section assess the impact on financial stability via the indirect channel alone, namely through the real economy.

[71] These exposures have been calculated based on the exchange rate on 30 June 2007 (RON 3.13 / EUR 1). A weaker RON meant a higher value of currency exposure. On the other hand, certain company assets might be denominated in foreign currency, thus diminishing the net value of currency exposure.

[72] The exchange rate shock took into consideration only the impact on foreign trade companies.

Chart 5.1.5 – Impact of exchange rate shocks on corporate profitability



Source: NBR calculations, MEF

Source: NBR calculations, MEF

The impact by category of foreign trade companies is as follows:

a) Companies whose sole business activity consists of **imports** would incur losses in their operating results[73] worth RON 2.84 (5.96) billion given a depreciation of the RON by 20 percent (30 percent). These companies account for almost 30 percent of the bank resources provided to the real sector, generating 26 percent of the total value added in the economy and using 19.6 percent of the total workforce. These companies' impact on financial stability is significant via both channels (direct and indirect).

b) Companies whose sole business activity consists of **exports** would record additional benefits worth RON 490 (735) million given a depreciation of the RON by 20 percent (30 percent). These companies' influence on the foreign trade activity is rather low (as they generate exports making up 2.83 percent of total), yet they have a major contribution to rebalancing the operational losses incurred by the other companies as a result of a weaker RON.

c) **Net importers** would lose RON 3.94 (6.84) billion in the event of a weaker domestic currency by 20 percent (30 percent). The systemic importance of these companies is high: (i) they take 20 percent of total bank loans, (ii) they account for 13 percent of the total workforce, and (iii) they generate 27 percent of the total value added. These companies can bring about systemic implications in case of RON depreciation.

d) **Net exporters** would boost their operational revenues by RON 6.1 (8.6) billion given a depreciation of the RON by 20 percent (30 percent).

(B) A **liquidity shock** could entail major consequences in terms of financial stability.

Companies are significantly exposed in case of a severe liquidity shock. This shock would most likely come from outside the country if the domestic banks' short-term external financing facilities were no longer renewed. If Romanian banks are unable to cover the liquidity shortage thus created, they will either diminish or no longer renew some credit lines extended to companies. These credit lines maturing by end-2008 amount to RON 16 billion, 55 percent of them being denominated in foreign currency.

[73] Companies whose sole business object consists of imports reported operational profits worth RON 10.3 billion in 2006.

B1. The extreme scenario assumes that all short-term external deposits are no longer renewed upon maturity[74]. Liquidity needs would amount to RON 25 billion. This would send ripple effects to the real sector, because excess reserves and the amounts that could be obtained via refinancing from the central bank (depending on the eligible collateral) cannot cover the liquidity needs.

Companies should repay credit lines worth a total of RON 6.8 billion. The cash and cash equivalents of companies having resorted to this type of financing only amount to RON 2.2 billion, thus the remaining RON 4.6 billion will turn into arrears. Companies will be affected insofar as they lose cash and cash equivalents and part of the assets set up as collateral. Companies that might be unable to fully repay credit lines from their cash assets are of economic importance: they generate 9 percent of the total value added and employ 13 percent of the total workforce.

The impact on the banking sector via the indirect channel could be significant. Banks' resource shortage would be only short-lived, because most credit lines to companies are collateralized. However, forced sale of collateral cannot be performed over the short run. Thus, credit risk could be contained, yet the liquidity risk would imply even greater challenges. Most guarantees received consist of real estate mortgages and other collateral from clients. Only 2.6 percent of credit lines are not collateralized. In a sectoral breakdown, the highest arrears would be generated by companies operating in such sectors as trade, food industry, construction, and manufacture of chemicals and chemical products.

B2. The alternative scenarios consist of nonresidents' failure to renew 25 percent, 50 percent or 75 percent of the short-term external bank deposits. The likely effects are summarized in Table 5.1.1.

Table 5.1.1 – Possible effects generated by companies on banks in the event of an external liquidity shock (RON billion)

External funds outflow scenario	Aggregate arrears	Total arrears, *ceteris paribus*	Initial resource shortage	Total shortage, indirect effect included
25%	0.12	0.12	-	0.12
50%	0.74	0.72	0.23	0.97
75%	2.32	2.25	0.58	2.91
100%	4.63	4.48	1.36	5.99

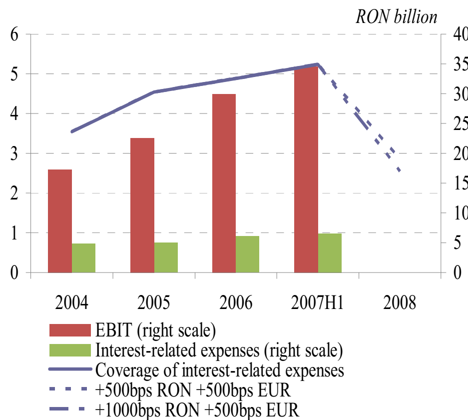
- Aggregate arrears show the actual level of arrears given nonresidents' simultaneous exit from all banks under review.
- Total arrears, *ceteris paribus*, show the cumulated level of arrears in relation to nonresidents' exit from each separate bank. The differences between aggregate arrears and those calculated on a *ceteris paribus* basis could mark a systemic effect: a company holding credit lines with several banks could abide by its repayment obligations with certain banks, but might be unable to repay credit lines with all banks.

Source: NBR calculations

(C) An **interest rate shock** could have a moderate impact on financial stability.

[74] This could most likely occur if: (i) the ECB discontinues its policy of "frontloading" liquidity (as seen since the onset of money market tensions) or (ii) the international environment deteriorates considerably, discouraging banks to supply liquidity to other entities (although members of the same group) until markets paint a brighter picture. On the other hand, CEE subsidiaries have a major share in the earnings of European banks. Hence, parent banks are likely to limit the financing of their daughter companies only if the liquidity shortage on external markets is extremely severe.

Chart 5.1.6 – Coverage of interest-related expenses for companies with domestic bank financing



Source: NBR calculations

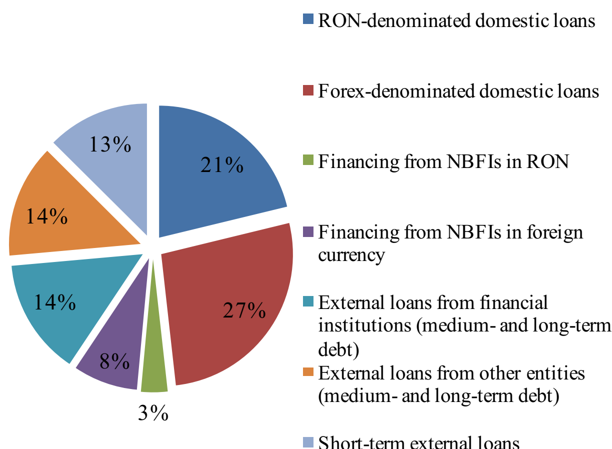
Interest rate coverage followed an upward path for companies with both domestic and external financing (Chart 5.1.6). In the event of an interest rate shock, the systemic impact at aggregate level would be moderate. A simultaneous increase by 500 bps in the interest rate on domestic and external financing denominated in RON and EUR would bring about a RON 5.5 billion decrease in the gross operating results of companies with loans. Similarly, an increase by 1,000 bps for RON and merely 500 bps for EUR would be tantamount to a RON 6.98 billion decline in the gross operating results. The two scenarios erode 16 percent and 21 percent respectively of earnings before taxes.

5.1.2. Financial resources allocation efficiency

Financial resources allocation posted broadly positive developments: (A) the role of credit is on the rise, although Romanian banks are no longer the main supplier of such financial resources to companies, and (B) both payment incidents (as share in GDP) and arrears are on the wane.

(A) Financing from specialized institutions grew across all sectors of the economy amid the lower share of arrears and equity.

Chart 5.1.7 – The structure of domestic and external financing, in RON and foreign currency, of non-financial companies, December 2007



Source: NBR calculations

Financial resources allocation in the economy might pose certain challenges. Companies' net debtor position expanded during 2007. By adding the external loans taken by companies, the gap between corporate deposits and corporate loans widens to 81 percent of the domestic deposits volume. The net position of companies with loans is much higher, because over 40 percent of deposits with banks belong to companies that have not taken any loans.

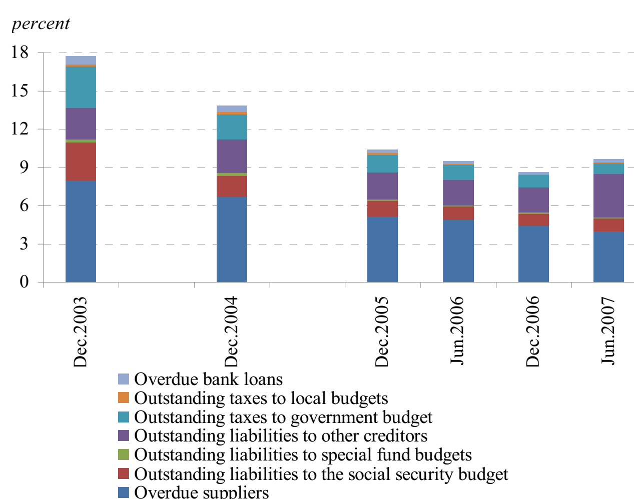
As of 2007, the domestic banking sector no longer holds the majority share in the supply of financial resources to companies. Romanian banks are still in the lead, with 48 percent, while external financing consolidated its second position (41 percent). In fact, external financing could play an even greater role given banks' policies of outsourcing credit. Non-bank financial institutions make up 11 percent of the companies' borrowing needs (Chart 5.1.7). On the one hand, this diversification of financing sources is

beneficial in case of a shock. On the other hand, the overly high exposure (above 75 percent) to foreign currency financing raises concerns in the event of an external shock.

The volume of bank loans to companies rose mainly on account of the larger number of companies resorting to bank resources, rather than the increasing indebtedness of firms. Nevertheless, the share of bank loans in corporate liabilities remained modest (about 8 percent in June 2007), while the number of companies borrowing from banks reached almost 15 percent (June 2007).

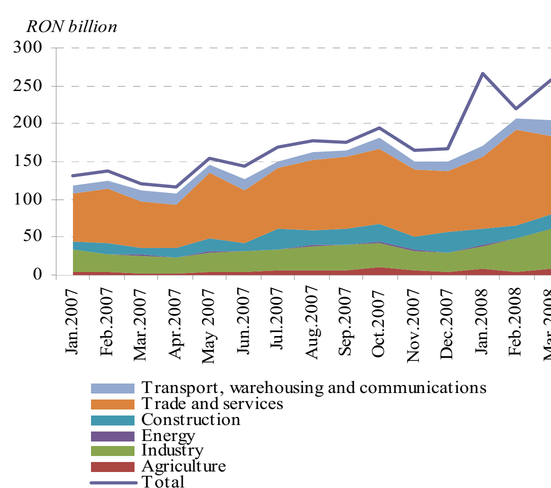
(B) Commercial credit was further the main driver of domestic companies' debts. The share of arrears trended downwards across most components. The volume of arrears followed an upward path on the back of outstanding liabilities in relation to other creditors (Chart 5.1.8). However, if we were to remove the impact exerted by a state-owned company (accounting for over 60 percent of total outstanding liabilities to other creditors), the volume of arrears would pursue a sharp downward path. Thus, arrears do not necessarily paint a bleak picture (despite a slight increase in their share in companies' aggregate balance sheet) because the result is not due to a general effect, but rather to a single company.

Chart 5.1.8 – Arrears structure and developments



Source: NBR calculations, MEF

Chart 5.1.9 – Payment incidents



Source: NBR calculations, MEF

Both the number of debt instrument payment refusals and the amounts refused at payment were on the rise by 41 percent and 113 percent respectively (March 2007 – March 2008), as indicated in Chart 5.1.9. The value of these incidents saw their share in GDP diminish against 2006, reaching 0.46 percent at year-end. Corporations make up less than 0.5 percent of total payment refusals, with trade and services holding the largest share.

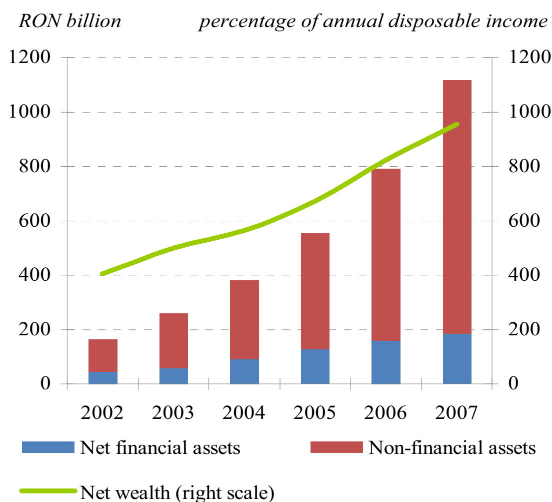
5.2. Household sector risks

The risks on financial stability stemming from the household sector increased in 2007, but they remained at sustainable levels. The debt service burden stayed on a sharp uptrend, unsecured loans expanded, the foreign currency position turned negative and the household sector became a net debtor to the banking sector. The overdue payments ratio went up (but remained at low levels), and the number of late payers witnessed similar developments. The factors offsetting the aforesaid developments were the positive dynamics of income, higher financial asset liquidity of household loans and the lower loan concentration rate.

5.2.1. Household balance sheet

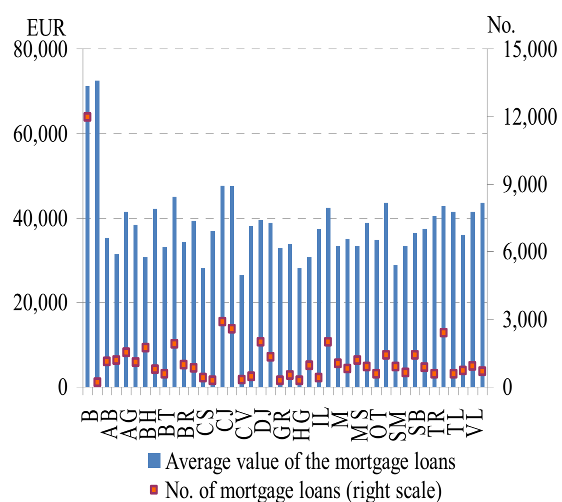
(A) Households' net wealth continued rising in 2007 as well. Non-financial assets[75] prevailed (Chart 5.2.1), however this rise was attributed again mostly to higher prices. There is a slight likelihood of a sharp correction in residential real estate prices over the short term given the persisting imbalance between demand and supply. Thus, *supply*, albeit on the rise, lagged behind demand, although (i) the number of completed dwellings rose by 20 percent, (ii) the number of building permits stepped up 31 percent, (iii) investments in new buildings further saw a positive dynamics, and (iv) the respondents participating in construction sector surveys retained their optimistic opinions. *Demand* remained robust, but household affordability of a dwelling worsened, as the dynamics of residential real estate prices outpaced that of income (the estimated real estate value was almost eight times higher than the annual disposable income).

Chart 5.2.1 – Net wealth of the household sector



Source: NBR calculations, NIS, NSC, ISC

Chart 5.2.2 – County distribution of average value and the number of mortgage loans granted in 2007



Source: NBR calculations (loans worth more than RON 20,000)

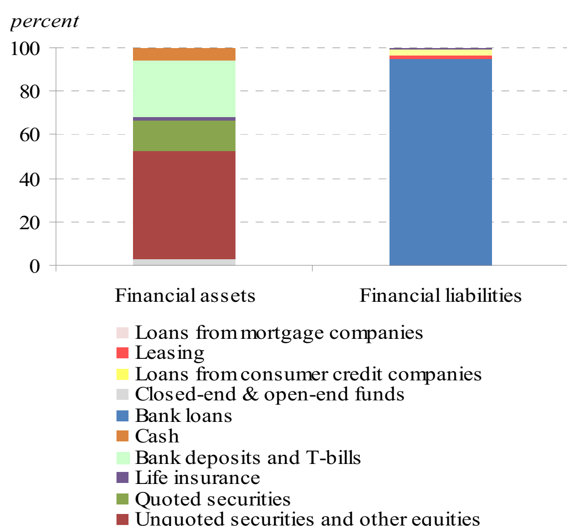
Households' real estate wealth is asymmetrically distributed towards Bucharest, accounting for 18 percent of the stock of urban dwellings compared to 5 percent at most in other counties. In terms of prices, the capital city reported in 2007[76] an increase of more than 50 percent in the average value per square meter of a standard dwelling. Nevertheless, the risk of a shock consisting in the steep drop of real estate wealth in Bucharest is low, as the purchasing power is significantly higher and the number of people living or working here remains high.

[75] Non-financial assets comprise buildings alone. Their value was revised from the previous Reports. The newly implemented method no longer refers to the updating of future rent flows, but only to the data reported by the Chambers of Notaries Public on the standard 3-room flat and the price per sq m of rural dwellings. The new estimate is a weighted average between the average price of a standard urban house and the average price per sq m of rural dwellings in each county, on the one hand, and the number of urban or rural dwellings in that county, on the other. This is a more prudent approach, according to which the value of household real estate wealth dropped 23 percent in 2006 compared to the former methodology.

[76] The EUR-denominated price charged for a standard 3-room, 72 sq m flat with no special improvements, according to data supplied by the Chambers of Notaries Public in Bucharest.

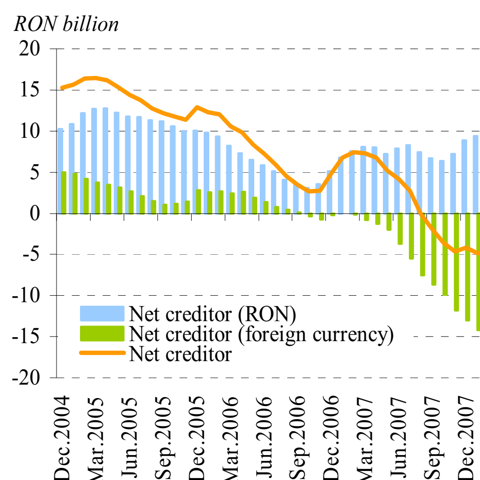
Mortgage loans had a similar distribution of households' real estate wealth: the average value of a mortgage loan in 2007 was nearly twice as high in Bucharest-Ilfov region than in the other counties. In terms of number, mortgage loans were largely granted in Bucharest (Chart 5.2.2). The annual number of mortgage loans (about 54,000 in 2007) is more than 9 times lower than the number of real estate deals. On the other hand, the value of mortgage loans expanded on a yearly basis, following to some extent the pattern of residential real estate prices (the average EUR-denominated value of a mortgage loan rose by 55 percent against 2006).

Chart 5.2.3 – Structure of financial assets and liabilities



Source: NBR calculations, NIS, NSC, ISC

Chart 5.2.4 – Households' net creditor position to the banking sector



Source: NBR calculations

(B) Households' financial assets posted a slowed growth rate than household financial liabilities (31 percent versus 82 percent). The liquidity of assets is on the rise, which should reduce the likelihood of overdue payments. Unquoted securities prevail further (Chart 5.2.4), but households took a keener interest in liquid financial assets such as cash, bank deposits, T-bills and other stocks. Quoted securities portfolio and holdings in investment funds are less liquid[77] (market value of regularly traded and quoted stocks accounts for only 42 percent of the total value of quoted securities and holdings in investment funds). Market risk related to financial assets is contained. Although capital market volatility was rather considerable, households' holdings of heavily traded stocks are most likely concentrated with a small number of investors belonging to a higher income bracket which mitigates some of the market risks.

(C) Households' financial liabilities consist almost solely in exposures to the domestic banking sector (95 percent – Chart 5.2.3). In December 2007, non-bank financial institutions posed no systemic risk, as the level of indebtedness to consumer credit companies accounts for 2.4 percent of financial liabilities, whereas the share of indebtedness to leasing and mortgage companies was 1.6 percent and about 1 percent respectively. Indebtedness to foreign financial institutions in turn remains low at 0.27 percent of household loans granted by the Romanian banking sector.

[77] There are many companies included in mass privatization programs and households hold small packages of shares in such companies. The companies are listed on the domestic capital market but are seldom subject to trading so that their level of liquidity is low.

(D) Net financial position[78] of households improved, but its dynamics slackened to 17.6 percent in 2007 from 23 percent in 2006. Special mention deserves the following two risks:

– Household **foreign currency risks** increased significantly in 2007 (Chart 5.2.4). For the first time, foreign currency-denominated financial liabilities outran foreign currency-denominated financial assets. The major culprit for this deterioration was bank forex credit. Foreign currency risk arises in the case of a significant depreciation of the RON because structurally households are unhedged borrowers. The risk could be greater, owing to the likely asymmetry of foreign currency-denominated assets and liabilities held by households.

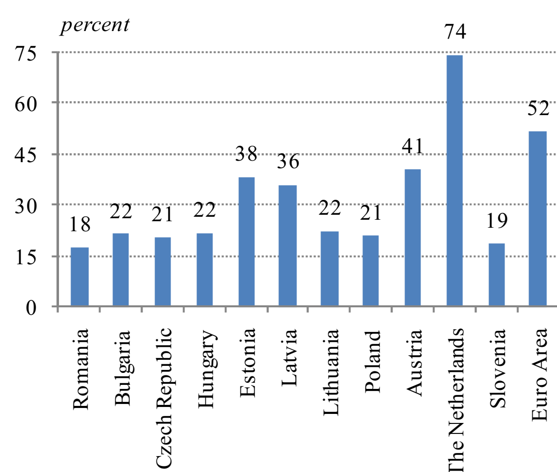
The position as net debtor of the household sector to the banking sector emerged in the second half of 2007 (Chart 5.2.4). The deterioration was due to the foreign currency position. The only region maintaining its net creditor position and showing even an upward trend was Bucureşti-Ilfov. In all the other regions of the country, the household sector was a net debtor to the banking sector, the largest deterioration being recorded by South-West Oltenia region (where the unemployment rate was above average). The risk implied by the behavior of households to live on debt could affect banks as well, taking into account the narrowing access to alternative financing sources (domestic and foreign interbank markets).

5.2.2. Household indebtedness

(A) Risks generated by household indebtedness dynamics and structure increased.

A1. Indebtedness grew in 2007. *Loans to households as share of GDP* in the reported period was 17.7 percent. Nevertheless, Romania still ranked last among the countries under review (Chart 5.2.5), showing the still existing expansion potential of loans to households. The significant household financing dynamics was attributed to the strategies of domestic credit institutions focusing on the retail sector in 2007 as well. *The share of household loans in total loans granted to the private sector* exceeded 48 percent, to reach rapidly values similar to those in the developed EU countries, however, against the background of worsening debt to financial assets ratio which stood at 29 percent (December 2007) and could rise further, while in the euro area it remained broadly unchanged over the last five years (30 percent).

Chart 5.2.5 – Household loans (as share of GDP)



Source: ECB, NBR calculations

A2. Household debt service burden to disposable income calls for cautiousness.

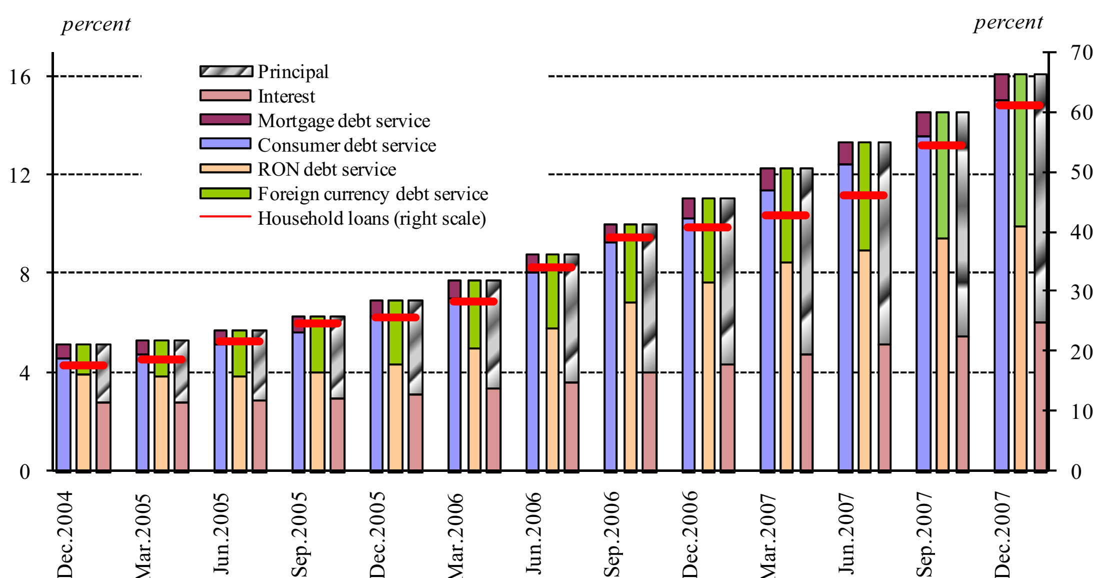
By *volume*, the rise was brisk (Chart 5.2.6), leading to higher risks for households. In 2007, incomes went up 21 percent, while debt service burden rose by 76 percent, amid households' significant degree of optimism regarding their financial position in the next 12 months and the outlook for unemployment (which hit record lows in 2007, Chart 5.2.7). Credit demand could be further fuelled by this optimism.

By *structure*, debt service burden poses the following risks:

[78] Net financial position is the difference between financial assets and financial liabilities

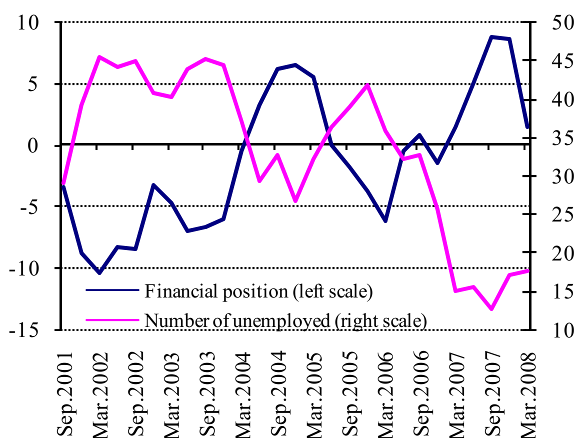
a) By purpose. Consumer loans as share of debt service burden stays at a very high level (93 percent). Consumer loans made up the largest share in loans to households (76.2 percent in February 2008), were granted for increasingly longer maturities and outpaced the growth rate of loans collateralized by mortgages in 2007. Nevertheless, the value of assets financed by consumer loans depreciates (physically and morally) much faster than debt amortization. Thus, households earmark the largest share of the debt service burden for medium to long-term purposes, which in the long run will not boost net wealth, posing the risk for households to default on their debt. This risk will have a greater impact on households, should the dynamics of disposable income not be maintained.

Chart 5.2.6 – Household debt service and household loans as a share of the annual disposable income



Source: NBR calculations

Chart 5.2.7 – Household expectations regarding their financial position and unemployment in the next 12 months



Source: European Commission (3-month moving average of balance of answers)

b) By currency. Foreign currency-denominated loans grew significantly, including against RON-denominated loans (142 percent versus 44 percent, February 2007 – February 2008). This dynamics fed through to debt service. The depreciation of the domestic currency in the second half of 2007 strengthened the impact, inducing additional currency risks. Starting with 2007 Q4 foreign exchange loans prevailed (54.6 percent, February 2008). By structure, the weight of CHF and JPY-denominated loans rose at a fast pace (to 9.8 percent of total household loans in February 2008 from 2.1 percent in the same year ago period). The dynamics of loans in exotic currencies could be justified by the initial

lower cost, but the downside to these loans is the higher exchange rate volatility.[79] The risks of foreign exchange-denominated loans are all the more higher as not all sections of the population understand completely the related challenges.

c) By component. The weight of interest in debt service burden saw a slightly downward trend in 2007, against the background of lower interest rates. Though in the second half of 2007, new loans at fixed interest rates increased significantly, such rates were for at most 5 years and often had a promotional nature. The interest rate risk was still high, as most of the new business had variable interest rates[80].

(B) The concentration risk maintained its downtrend (except for loans by geographical spread), on the back of bank competition. The Herfindahl index calculated at institutional level was around 1,200 in 2007[81]. Such a performance mitigates household risks in the overall banking sector.

(C) The overdue payments ratio deteriorated to 0.59 percent (February 2008), as depicted in Chart 5.2.8. Although the level is still low, the *volume* rose substantially (130 percent February 2007-February 2008), exceeding the growth rate of household loans. *The number of individuals with payments overdue* for more than 30 days increased by 19 percent in the second half of 2007, and the number of individuals with overdue payments on loans worth more than RON 20,000 each doubled in 2007. Unsecured loans were the main source for most of late payments (Chart 5.2.8) and insurance companies bore an important part of the losses.

(D) The collateralization policy posted mixed developments. Unsecured credits of more than RON 20,000 rose sizably (8 times in 2007 over the previous year), due to banks' lower risk aversion, amid competition for market share. Unsecured loans (Chart 5.2.9) took various forms (consumer loans, credit cards, overdrafts, etc.), recorded most of the overdue payments and implied the highest risks (Chart 5.2.9). Insurance companies secure less collateral for loans worth more than RON 20,000 each (13 percent in December 2007 from 26 percent in December 2006).

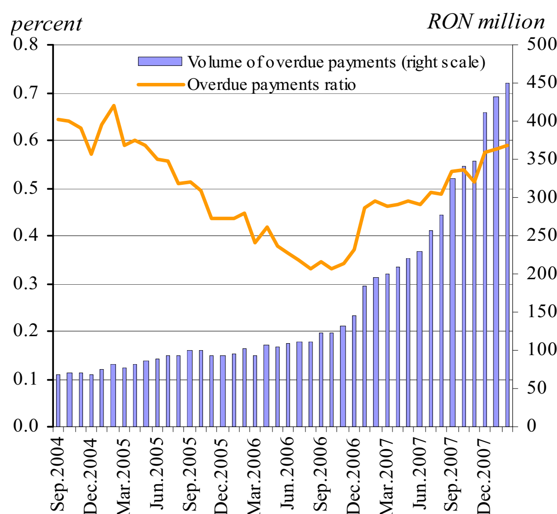
Mortgage loans worth more than RON 20,000 expanded (from 33.6 percent to 42 percent of household loans, December 2006-December 2007), as set out in Chart 5.2.9. This development resulted mainly from mortgage consumer loans, which accounted for 22 percent of loans to households. Such loans had no clear purpose, being used to cover consumer needs, down-payments and/or housing or land purchases.

[79] The exchange rate change coefficients (computed as the ratio of standard change to the average exchange rate) CHF/RON and JPY/RON are higher than the specific EUR/RON coefficient (using the daily exchange rate for the period 3 January 2005-4 March 2008). Moreover, in times of stress, CHF becomes a safe haven for investors, which might lead to an even more important appreciation of the CHF versus all the other currencies.

[80] 56.9 percent of the new RON-denominated loans and 62.4 percent of the new EUR-denominated loans had variable interest rates (January 2008).

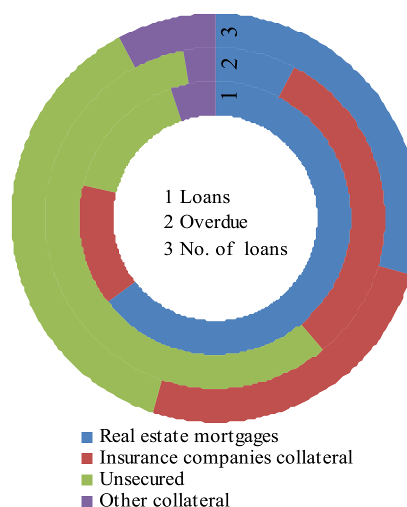
[81] The empirical warning threshold is 1,800.

Chart 5.2.8 - Overdue payments on household loans



Source: NBR

Chart 5.2.9 – Household loans collateral (December 2007)



Source: NBR calculations

The developments in lending conditions and standards should call for more attention in credit risk management, in the context of financial market turmoil. Banks consider that: (i) lending standards[82] will remain virtually unchanged in 2008 Q1 (ii) demand for credit cards will increase (including unsecured credits), and (iii) lending standards for real estate purchases eased to some extent in 2007 Q4. The highest share of loan-to-value (LTV) in current loans ranged from 61 percent to 75 percent, and the indebtedness rate from 33 percent to 45 percent. Nevertheless, mortgage loans granted in 2007 Q4 recorded an increasing LTV (70-75 percent) and a higher indebtedness rate (33-55 percent).

[82] According to the NBR bank lending survey addressing a panel of credit institutions accounting for 84 percent of total household loans

ANNEX

Recent developments in payment infrastructure

The good behavior of payment systems during the ongoing turbulence does not rule out the need for some regular financial stability analyses (stress-tests), substantiated by the rise in interoperability and interdependencies between systems, contagion channels for operational and/or liquidity risks of certain infrastructures.

Financial system stability hinges upon the smooth functioning of payment and settlement systems, which in turn is conditional on financial market liquidity. The global financial system is currently going through a phase of major structural changes[83] due partly to higher credit risk, which has an impact on payment systems and financial stability. To ensure liquidity is critical for performing current transactions and this becomes difficult to achieve in abnormal circumstances, when market operators choose to disrupt credit lines and/or increase their resort to margin calls in order to protect themselves against counterparty risk.

Payment systems are not only a potential source for systemic turbulence[84]. They may turn into channels for the transmission of financial shocks and problems from the initial sources to other segments of the financial system. A deeper and more marked worsening of liquidity conditions led central banks to act both by providing additional liquidity and broadening the set of eligible collateral (for ensuring intraday and overnight liquidity). Against this backdrop, central banks and supervisory authorities are responsible for assessing compliance with existing standards by the securities settlement systems, central counterparties and systemically important payment systems, in terms of their adequate implementation, as a risk management measure. From this perspective, the National Bank of Romania started preparing a regulatory framework for assessing each payment and settlement system[85], depending on its importance for financial stability and national economy.

The process of financial integration at European level carried on in 2007, both through the successful launch of TARGET2 (in November 2007) and by supporting private initiatives, such as the Single Euro Payments Area (SEPA project – to conduct cross-border transactions in euro) and Short-term European Paper (STEP).

TARGET2 system, by introducing a single technical platform[86] with harmonized processes and procedures and ensuring that there is no difference between conducting domestic and cross-border transactions by all European banks, played a key role in the advanced integration of money markets and repo market. The new TARGET2 functionalities allow banks with multinational operations to consolidate their internal processes, i.e. treasury and back office functions, and to continue the integration of liquidity management in euro. At the same time, users of the system have a shared access to all information available online and to liquidity control measures. In the case of Romania, delivering on the commitment to have in place a TARGET2 component implies the completion of

[83] Gertrude Tumpel-Gugerell (2007), "Payments and monetary and financial stability"

[84] Maxwell J. Fry et al. (1999), "Payment systems in global perspectives"

[85] In Romania, the systems in operation are as follows: (i) ReGIS, a real-time gross settlement payment system; (ii) SENT, a system ensuring the clearing of funds; (iii) SaFIR, a securities settlement system; (iv) RoClear, a securities settlement and clearing system; (v) a derivatives settlement and clearing system in Sibiu; (vi) a derivatives settlement and clearing system in Bucharest

[86] operated by the Banca d'Italia, the Banque de France and the Deutsche Bundesbank, and ensuring gross settlement of every bank operation conducted in the euro area

the project once the euro is introduced (in 2014, according to the estimates of the National Bank of Romania).

TARGET2-Securities (T2S) was implemented following the poor level of integration and interoperability of the securities settlement and clearing infrastructure, seen as major drag on the development of the European capital markets. It will provide a technical infrastructure for the settlement of securities transactions in central bank money via central depositories and for processing securities and cash settlement operations through a single technical platform. Using the T2S platform and enforcing the Code of Conduct for the clearing and settlement systems by central depositories, central counterparties and capital markets will simplify significantly the cross-border securities settlement and clearing operations, leading to a substantial cut in the related costs.

The implementation of the Single Euro Payments Area is aimed at creating a geographic area[87] in which consumers, companies and other economic actors will be able to initiate and receive payments in euro, whether between or within national boundaries, under the same conditions, rights and obligations. SEPA project[88] was launched in January 2008 by sending the first payment orders as SEPA instruments, after undergoing a key implementation phase in 2007. There is currently no PEACH (Pan European Automatic Clearing House) infrastructure, yet a bank may choose one or several (SEPA-compliant) infrastructures for processing its own payments. For consumers, this will lead to stronger competitiveness in this area, lower costs and larger supply. Moreover, SEPA is likely to translate into a concentration (consolidation) of operations in terms of market infrastructures and to the repositioning of credit institutions.

In Romania, not only the banking and financial sector, but also the companies engaged in cross-border business showed an interest in the SEPA project. Starting March 2007, the Romanian Banking Association played a leading role in the unfolding and implementation of the SEPA project. One of its short-term objectives is the completion of the "National Plan for Implementation of and Migration to SEPA". In its capacity as a member of the European Payments Council (EPC), the Romanian Banking Association participates in the EPC working groups responsible for drafting, updating and further developing a harmonized SEPA regulatory framework[89] as well as implementing SEPA payment schemes.

As a direct effect, the Romanian banks that joined SEPA schemes will be able to effect payments in euro initiated by a euro-area bank to its clients and provide, either at national level or in the euro area, credit transfers in euro[90] (SEPA Credit Transfer) and direct debit in euro[91] (SEPA Direct Debit) to companies doing business outside the country and consumers. At present, 18 Romanian banks[92] are enrolled as participants in the SEPA credit transfer scheme. At national level, based on the principles (approved in 2006) that must be fulfilled by payment infrastructures in order to

[87] 31 countries: 27 EU Member States (13 euro area members, 14 non-euro members), Iceland, Liechtenstein, Norway and Switzerland

[88] Single Euro Payments Area, a project backed and monitored by the Eurosystem and the European Central Bank for harmonizing and restructuring the national financial infrastructure and aimed at establishing a single market for payment services, efficient processing infrastructures and cheaper payments by standardizing procedures, information and payment processing technologies (www.ecb.europa.eu; www.europeanpaymentscouncil.eu).

[89] Conformity with the documents of the European Payments Council (EPC) – SEPA Rulebooks, SEPA Card, Cash&CSM Frameworks, SEPA Data Model, and EU regulations: Payment Services Directive, Regulation 2560/2001, UNIFI (ISO20022) XML standards.

[90] Starting with January 2008, according to SEPA Payment Schemes Working Group

[91] Starting with June 2009, according to SEPA Payment Schemes Working Group

[92] European Payment Council, SEPA Credit Transfer Register of Participants, 07/03/2008

process SEPA schemes (PEACH/CSM Framework)[93], the following clearing and settlement options for making payments should be considered: (i) for cross-border payments in euro: correspondent accounts, intra-bank or intra-group agreements, or a multilateral clearing system in euro, as a point of access to STEP2; and (ii) for national payments in euro: correspondent accounts and services provided by a multilateral clearing system in euro, payment infrastructure in line with SEPA standards for a CSM.

As for the card market in the euro area, ever since early 2008 card systems in euro were brought into line with SEPA framework for such payments, whereas the banks that joined SEPA and participate in national card schemes are expected to finalize this process by end-2010[94]. Thus, any cardholder will be able to make payments and withdraw cash in euro across SEPA, in conditions similar to those on national markets. The impact of SEPA on the cards market is significant, the increase of cards use in making payments being accompanied by the development of the national card schemes. There is no national card scheme in Romania and only VISA and MasterCard payment schemes are currently in use. The local cards market[95], albeit on an upward trend, is still way behind its peers in the EU advanced countries – the average per one thousand inhabitants is below the EU-wide average (419 against 1,454) and the average of operations per inhabitant (3.34 against 50.02) is also lower than the average in the European Union.

Free access to technology (e.g. Internet) and the establishment of some kind of real-time interaction between different categories of participants in retail payments enhanced the role of non-bank institutions in payment systems, entailing effects on risk mitigation policies that will not have to be promoted by traditional bank participants alone. Expanding payment services in the internal market on the non-bank institutions (Directive 2007/64/EC) requires the restructuring of this market through the establishment of common standards applicable to both bank and non-bank participants and level-playing field for all payment service providers. Recent analyses in the field of payments[96] point to the important role currently played by non-bank institutions in many European countries and foresee its significant increase in the other countries as a result of: (i) growth in the volume and value of cashless payments, (ii) completion of both SEPA project and industrial restructuring (via service outsourcing), (iii) the fully-fledged state of market segments favoring the use of instruments promoted by non-bank institutions (cards and direct debit) and (iv) opening-up of the market for a novel type of payment service providers, i.e. non-bank institutions referred to as payment institutions. The Directive on payment services in the internal market offers a harmonized legal framework for implementing SEPA. The transposition of the said Directive at national level will have an impact on non-bank financial institutions engaged in lending, similarly to payment institutions, if they are involved in issuing credit cards or providing other payment services for clients as part of their lending activity.

Apart from amending the legislation applicable to these institutions, the competent authorities in charge of licensing and supervising payment institutions[97] and the authorities responsible for

[93] The preparation of technical standards for the interoperability of clearing and settlement mechanisms (CSM) is underway

[94] There is no cut-off date for the migration to SEPA, but the European Commission is fostering completion of this process by 2010 in order to reduce the very large costs of simultaneously keeping in operation two infrastructures and two types of payment instruments

[95] data as of March 2007, according to Roland Berger Strategy Consultants, Romanian Banking Overview 2007

[96] Stuart E. Weiner, Terri Bradford, Fumiko Hayashi, Richard J. Sullivan, Zhu Wang and Simonetta Rosati (2007), “Nonbanks and risks in retail payments”

[97] The NBR is currently invited to become the regulatory, licensing and supervisory authority for payment institutions, and another authority is to be responsible for the regulation and supervision of compliance with the regime of transparency and information supplied to clients as well as with the rights and obligations of payment services users and providers.

managing the provisions and procedures governing consumer protection should be designated. The preparation of draft laws and the related secondary regulations is due to be completed by March 2009.

The impact of globalization on the financial infrastructure in times of stress translates into a rapid contagion as a mere consequence of multiple linkages established between participants, markets and infrastructure. The events on the financial market, the structural changes occurred as a result of the complexity and globalization can have a great impact on financial stability and central bank policy. In this vein, the National Bank of Romania's concerns in the field of payment systems were aimed at: (i) developing methods for assessing the sources of risk and vulnerabilities of payment systems by implementing, in 2008, the simulator of the Bank of Finland, (ii) stepping up efforts to harmonize the regulatory and supervisory framework of the financial infrastructure and taking effective crisis management measures, (iii) establishing cooperation relations with new partners from outside the banking system, acting in the field of payment services which it oversees, etc.

An important role is played by international cooperation in the field of cooperative oversight for risk assessment and upgrading of the supervisory arrangements, as well as access to information and efficient coordination between the authorities in charge of regulation and supervision of financial institutions and the authorities responsible for the oversight of payment systems based on the principles formulated by the Bank for International Settlement in 2005.

At present, the issue of cross-border cooperation in the field of oversight is aimed at VISA and MasterCard payment schemes (with the aim of monitoring their operations), on the one hand, and payment operations performed via correspondent accounts (fostering cooperation between banking oversight and supervision authorities across the EU), on the other, based on the Memorandum of Understanding on cooperation between EU payment systems overseers and banking supervisors in 2001. The National Bank of Romania committed to comply with the provisions of this document on 1 August 2007.