FINANCIAL INSTABILITY IN ROMANIA

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Abstract:

The aim of this paper is to empirically study the concept of financial stability in Romania, from both a monetary policy perspective and a financial perspective. In this paper, I also compute an aggregate index of financial stability, for the period 2008-2013, explaining the correlations between several extremely important macroeconomic and sectorial variables and financial stability. The article also debates the aspect of policy instruments that aim to promote, highlighting the undertaken measures and also giving some measures recommendations, pointing out the main pillars: crises management; cross-sectoral challenges; banking sector; securities markets and capital markets; insurance sector; pensions sector; access to financial services.

Keywords: *financial stability, aggregate index of financial stability, policy instruments*

JEL Classification: E42, E44, E52

1. Financial stability

There is financial stability where there is: a) monetary stability; b) the level of employment is close to the natural level; c) confidence in the functioning of financial institutions and markets in the economy; d) absence of changes of relative prices of real or financial assets in the economy, which may undermine a) or b). The first three elements of this definition are undisputable. Regarding a) and b), it seems unlikely to define financial stability in times of rapid inflation, or in a period of low inflation but characterized by high unemployment. In terms of c), it would be strange to argue that there is financial stability in a time when banks are collapsing, or when the normal behaviors of long-term savings and loan have been severely affected. Such circumstances would mean that participants have lost confidence in the financial intermediaries. This would imply that growth has been affected by the unavailability and relatively high cost of financial intermediation. Regarding d) , there are four channels through which changes in asset prices may affect the real economy: through household wealth and consumption changes; by changing shares prices; through the impact on the balance sheets of companies, that can affect corporate expenses; through the impact on capital flows.

From the monetary policy perspective, studying the response of macroeconomic variables to a monetary policy shock through interest rate channel in the period 2003 - 2013, it has been demonstrated the following: i) all variables move in the expected direction under the impact of a monetary policy shock (table 1); ii) there is an improvement in the efficiency of transmission of monetary policy impulses through the interest rate channel, which increases the confidence in the functioning of the institutions and theirs mechanisms, especially regarding to the National Bank of Romania.

From the perspective of financial stability, the following can be highlighted: i) there is an significant inverse statistically relationship between interest rate and asset prices (table 1), which means that the interest rate is an effective tool of the National Bank of Romania in order to prevent the accumulation of speculative bubbles related to asset prices developments; ii) since the capital market is sensitive to unexpected changes in interest rates, a good solution for investors would be to forecast activity, based on the evolution of this indicator, in making investment decisions; iii) there is an significant inverse statistically relationhip between the interest rate and the loan portfolio of the banking system (table 1), which means that the interest rate is an effective tool in order to prevent excessive lending, both individuals' and companies'. In addition, loan portfolio responds,

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with a certain delay, to shocks to monetary policy by increasing interest rates. In Romania, after an unexpected rise in interest rates, loan portfolio significantly has responded after about 10-11 months. A possible explanation could be given by the fact tha, on the short-term, banks compensate the liquidity decrease by selling securities, while the credit supply remains virtually unchanged. But on the long-term, a restrictive monetary policy reduces the granting of new loans from banks.

Table 1. Response of macroeconomic variables to a monetary policy shock in Romania (2003-2012)

Variable	Result obtained by empirical analysis	Expected effect according to economic theory
Industrial production index	-	-
Consumer Price Index	-	-
Loan portfolio	-	-
Asset prices	-	-
Exchange rate euro / ron	-	-

Note: - negative answer, + positive answer

Financial stability is a condition where the financial system is able to withstand shocks without allowing cumulative processes that may affect the allocation of savings to investment opportunities and processing of payments in the economy. This aspect raises the problem of defining the financial system, which consists of all financial intermediaries, organized and informal markets, payments, technical infrastructure that support the financial activity, regulations and supervisory institutions.

In addition, a stable financial system is able to effectively allocate resources and absorb shocks, preventing disruptive effects on the real economy and on other financial systems. Also, the system itself should not be a source of shocks, so that money can adequately perform thier functions of means of payment and unit of account, while the financial system can adequately perform its role of mobilizing savings, to diversify risks and to allocate resources. Financial stability is an essential condition for economic growth, since most transactions are done in the real economy through the financial system (figures 1-5). The importance of financial stability is probably the most visible during peeriods of instability. For example, banks may be reluctant to finance profitable projects, asset prices may excessively deviate from their intrinsec values, and payments may not be effective be done in time.

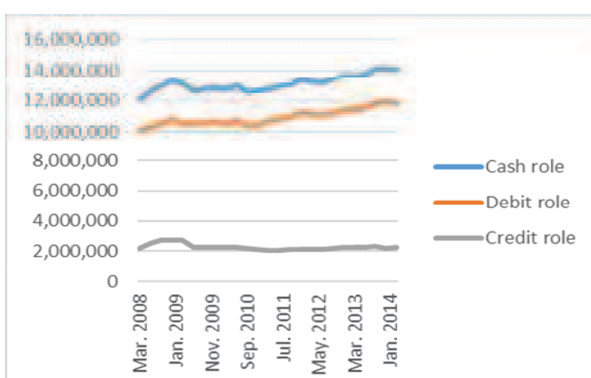

Figure 1. Number of valid cards in circulation, with function of: cash, debit and credit (number of units)

Source: National Bank of Romania

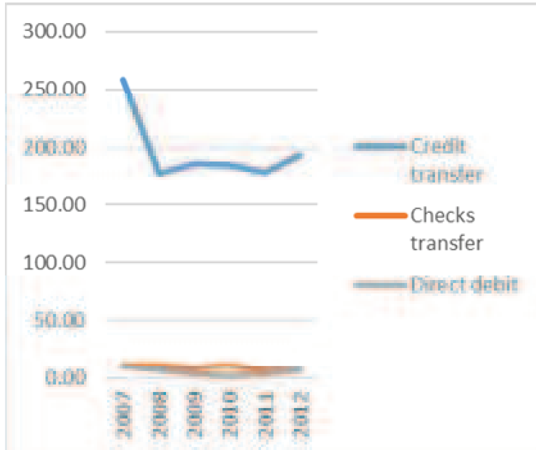

Figure 2. Number of transactions with payment instructions (million)
Source: National Bank of Romania

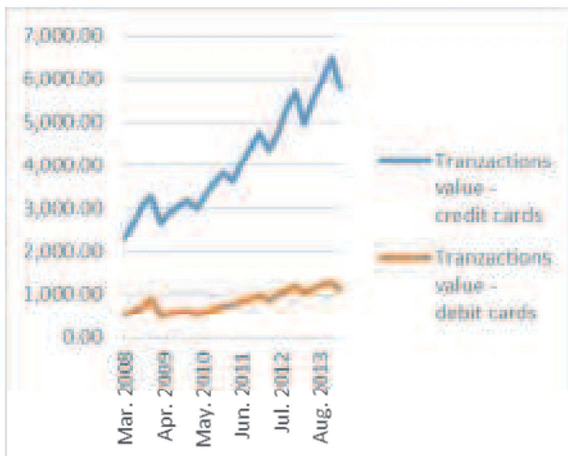

Figure 3. Tranzactions values (credit cards and debit cards)
Source: National Bank of Romania

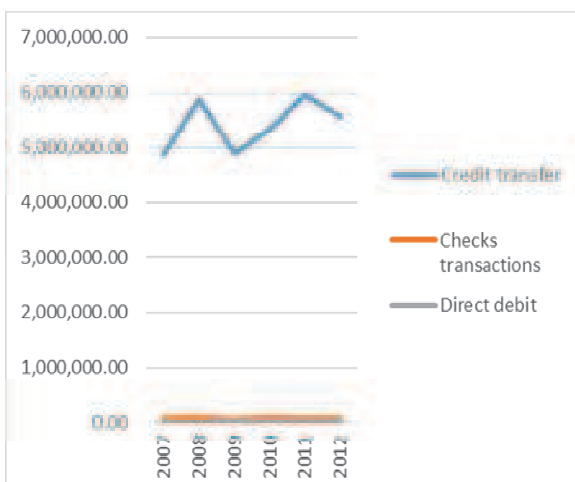

Figure 4. Transaction value with checks, direct debit and other payment instruments (million)
Source: National Bank of Romania

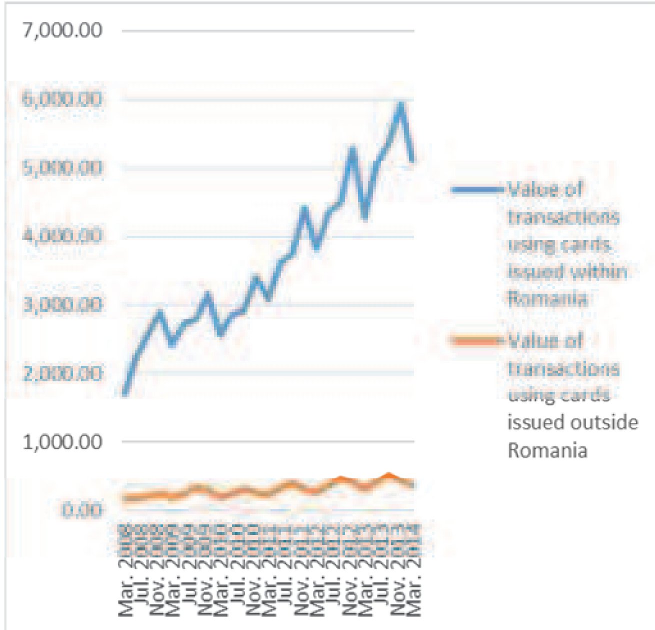

Figure 5. Value of POS transactions in the country with cards issued in the country and abroad (million)
Source: National Bank of Romania

2. Aggregate index of financial stability in Romania

The aggregate index of the financial stability is composed by four sub-indices, which they also are computed from other individual indicators. The four composite indices are: the financial development index (which includes the ratio between the financial market capitalization and gross domestic product, the share of total credit in the gross domestic product, the banking reform index, the interest rate liberalization index), the financial vulnerability index (comprising inflation, the share of budget deficit share in the gross domestic product, the ratio between the current account deficit anf the gross domestic product, the excessive appreciation/depreciation of the real effective exchange rate, the share of government credit in the total credit, the ratio between total loans and total deposits, the ratio between deposits and M2, the ratio between the reserves/deposits and cash/M2), the financial soundness index (comprising the ratio between the non-performing loans and total loans, the share of equity in total assets, the ratio between the necessary liquidity and effective liquidity, the overall risk); the world economic climate index (which includes the business climate index, world inflation, the global economic growth rate). In order to calculate the composite indices, there it assigned the same weigh to each individual indicators (0,5289). The formulas of composite indices and of aggregate financial instability index are as follows:

$$FDI = \frac{\sum_{j=1}^{4} I_{dj}}{4}; \quad (1)$$

$$FSI = \frac{\sum_{j=1}^{4} I_{sj}}{4}; \quad (2)$$

$$FVI = \frac{\sum_{j=1}^{8} I_{vj}}{8}; \quad (3)$$

$$WECI = \frac{\sum_{j=1}^{3} I_{wj}}{3} \quad (4)$$

$$AFSI = 0{,}2 * FDI + 0{,}4 * FVI + 0{,}25 * FSI + 0{,}15 * WECI \quad (5)$$

The evolution of the aggregate index and of the composite index is shown in figure 6 (regression results in table 2). Financial soundness index decreases significantly before the crisis, since banks assume additional risks during periods of economic growth.

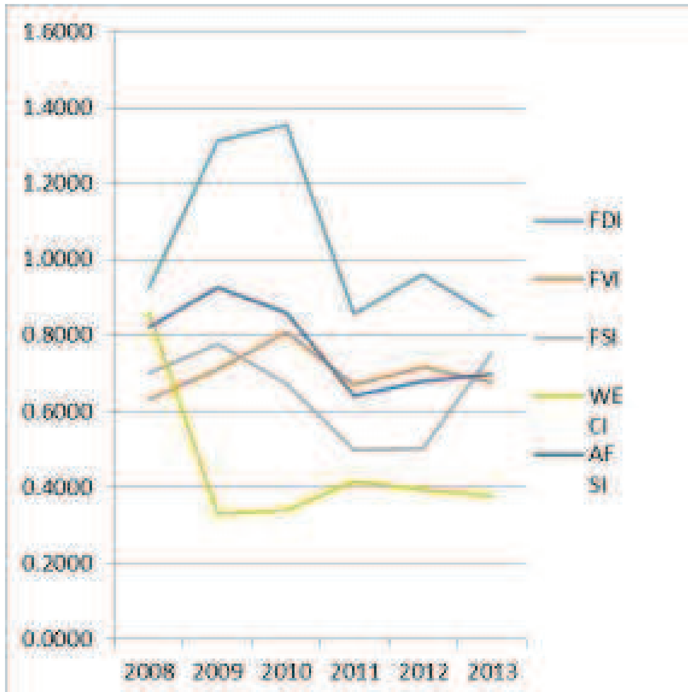

Figure 6. The evolution if the aggregate index of financial stability and of its components (2008-2013)

Source: author's calculations

Note: FDI- Financial Development Index; FVI – Financial Development Index; FSI- Financial Soundness Index; WECI – World Economic Climate Index; AFSI – Agreggate Financial Stability Index

Table 1. Regression results (dependent variable: AFSI)

a) independent variables: AFSI sub-indexes

Variable	Correlation	Standard Error	T-stat
FDI	0.817902	0.234973	1.185112664
FVI	0.309659	0.100991	2.184404763
FSI	0.976251	0.14192	0.021103188
WECI	-0.00051	0.238283	4.881022022

b) independent variables: other variables

Variable	Correlation	Standard Error	T-stat
Market capitalization / GDP	0.2066634982	0.3469508629	0.0001175510
Total credit (RON)/GDP	0.6690762716	0.3436153271	0.0002985149
Interest rate spread	0.7381626142	0.7972353769	0.9754423118
Banking reform and interest rate liberalization	-0.6591704938	1.3095305577	0.0001395142
Inflation rate	0.4236625445	0.3924161408	0.0001508386
The general government deficit (% of GDP)	-0.4047300514	0.5502297262	0.0006657913
Current account deficit (% of GDP)	0.1794803293	0.3923356419	0.0000783885
Excessive depreciation / appreciation of the REER	0.5892132255	0.4842113218	0.0118416472
Non-government loans / total loans	0.2146442639	0.2219293431	0.0019197648
Loans / deposits	-0.3741209633	0.2170474541	0.0014204914

Variable	Correlation	Standard Error	T-stat
Depozite/M2 (percentage change)	-0.0468386324	0.4410493342	0.0000158134
(Reserves / Deposits) / (Banknotes and Coins / M2)	0.2510428430	1.8444289302	0.0000253592
Non-performing loans / Total loans	-0.7296287128	0.3644281022	0.0000557783
Equity ratio (equity / assets)	0.6542710300	0.3703745080	0.0100959140
Liquidity (Actual liquidity / required liquidity)	-0.2344685068	0.6552406293	0.0164420802
The overall risk rate	0.6794288411	0.1975967664	0.0020298392
Economic climate index	-0.2332079711	0.1660314523	0.0136164374
World Inflation	-0.2401818802	0.3895179523	0.0001233297

Source: author's calculations

The financial development index does not issue signals regarding the probability of financial instability episodes. The index negative evolution has occured after the financial crisis, when the banking sector was undergoing a reform process. An index decrease is seen after the second half of 2007, when the interest rate spread has increased.

The financial vulnerability index has improved after the financial crisis, when the ratio between loans and deposits started to improve. This index is the first one that indicates a period of financial instability, being highly correlated with the business cycle.

However, the financial stability aggregate index captures all the financial turmoils that the financial system and the economy are facing, highlighting not only the economic crisis that began in 2008, but also the financial imbalances that have affected the financial system's stability in the second half of 2007.

Year 2008 is also characterized by financial instability. Although starting with the year 2009 the level of financial instability decreases, during 2010 there is a slight upward trend, due to the uncertainty regarding a possible extension and deepening of the economic crisis within the eurozone, but also due to the domestic economic and financial vulnerabilities and political instability.

3. The national context. Banking system and financial stability - Evaluation of transition in terms of the financial sector

Regarding the context of structural reforms and evaluation of transition, Romania has been successful in maintaining strong and sustained progresses on structural reforms in the last decade, becoming a member of the European Union in January 2007. Most economic activities belong to the private sector, the banking sector is relatively well-capitalized, and there have been undertaken competitive and institutional reforms in various sectors. However, Romania continues to face a number of challenges in the financial sector, while the transition gaps between financing micro-enterprises and small and medium enterprises and private equity remains significant.

Table 3 provides an overall assessment of the challenges of transition for the financial sector, based on the analyses conducted by the Transition Report of the European Bank for Reconstruction and Development. There are two scores: one for the market structure, and one for the institutions that are supporting the market. Scores range from negligible, low, medium and high. A negligible score implies minor challenges, an advanced financial sector that is able to move forward to a functional market economy, while a high score implies that the remaining challenges are major, and that the size of the financial sector is in an early stage of reform.

Table 3. Structure of the financial sector in Romania (2013)

Financial institutions sector	Market structure	Institutions that support market
Banking	Small	Medium
Micro -enterprises, small and medium enterprises	Medium	Small
Insurance and financial services	Small	Small
Private equity	Medium	Small
Capital markets	Medium	Small

Source: European Bank for Construction and Development

Sectorial transition indicators (table 4) reflect the opinion of the European Bank for Construction and Development regarding the progress undertaken in the transition period in the financial sector, and also the size of the gap transition and the future challenges. The scores of the indicators score is between 1 and 4+, and are based on an assessment of the size of the challenges on two components: market structure and market supporting institutions and policies. Based on the scoring analyse's results, the transitional gaps for the market structure and institutions can be classified as "negligible" (with a score of 4+), "small" (with a score between 3 and 4+), "medium" (with a score between 2+ and 3+) or "high" (with a score between 1 and 2+).

Table 4. Sectoral transition indicators 2007-2013: global scores

	Financial institutions				
Year	**Banking reform and interest rate liberalization**		**Securities and non - bank institutions markets**		
2007	3+		3-		
2008	3+		3		
2009	3+		3		
2010	3+		3		
	Banking	Insurance and other financial services	Small and medium enterprises financing	Private equity	Capital markets
2011	3	3+	3-	2+	3
2012	3	3+	3-	3-	3
2013	3	3+	3	3-	3

Source: European Bank for Construction and Development

4. Trends in the banking sector in Romania

The main trends in the banking sector in Romania, both in the short and medium term, are the following: 1) *repositioning and orientation towards the niche segments*, considering the following aspects: i) the Romanian banking system includes small banks considered to be "universal" banks, which are confronting with pressures on profitability, being forced to rethink their market approach; ii) some banks have begun to reposition and guide themselves in 2009 and 2010, and this trend will continue; 2) *consolidating activities*, taking into account the following aspects: i) further strengthening of the banking market is possible; ii) there are public statements about specific intentions of sale / purchase; 3) *increased competition for "good" customers,* considering the following aspects: this kind of competition will increase on both lending segment (especially in the segment of credit refinancing and mortgage loans) and on deposits segment (because credit growth is strongly correlated with the ability of banks to create deposits) ; 4) *increasing the penetration degree of cards*, taking into account the following aspects: i) the cards penetration degree is low compared with the levels from the European Union and Central and Eastern Europe; ii) banks have developed and enhanced their product portfolio and their card marketing campaigns, which will be maintain on the short and medium term; 5) *optimizing the network of subsidiaries / branches, by reviewing the organizational model*, taking into account the following aspects: i) although banks have taken measures in order to reduce costs, profitability pressures implies a constant and rigorous cost control for the future periods as well; ii) some banks will review their organizational model of branches, in order to prepare themselves for future growth; 6) *focus on co-financing of european funds*, taking into account the following aspects: i) some banks already involved into projects of co-financing from European funds; ii) due to the current low rate of absorption, and due to the exsiting potential, banks will increase their focus on this segment.

5. The matrix of diagnostic and evaluation of financial stability

The main sources of threats to financial stability, and their nature are presented in table 5.

Table 5. Romania - Risk Assessment Matrix to financial stability in Romania

Nature / Source of main threats	The overall level of concern	
	The probability of a severe threat achievements in the next 1-3 years	**Expected impact on financial stability if the threat occurs**
1. The public reaction / policy reaction against / for reforms	**High** i) Severe problems regarding the stabilization reform, as shown by the street protests against a specific proposal for a bill reform in health and against austerity	**Medium** i) structural reform initiatives could be put on hold, slowing the growth prospects ii) loss of consumer and investors confidence and greater financial market volatility, including pressures on the exchange rate
2. Sharp contraction of capital inflows	**High** i) Large current account deficit may be a potential trigger that may suddenly stop the capital inflows, even before the new outbreaks of financial turmoil in major financial markets ii) SEE region has faced increases in risk premia, while downward pressure on exchange rates iii) the lenders' liquidity problems, in the advanced economies, are able to determine the liquidation of assets in Romania, including: i) loans to bank subsidiaries; ii) direct loans to corporations in Romania iv) firms in major European economies may cut the funding and the foreign direct investment inflows to subsidiaries in Romania	**Severe** i) banks are dependent on external sources of liquidity; a major contraction in sources of funds may determine a new credit crunch in Romania ii) if parent banks are not able to provide capital to Romanian subsidiaries, there is the possibility of a new credit crunch iii) the legal environment's weaknesses and the competition for market share(leading to lower standards of scrutiny in lending) may determine the situation where bank lending may involve default probabilities, deteriorating the economic circumstances and increasing the non-performing loans iv) weaknesses of the bank resolution framework may harshen the process of bank restructure, undermining the confidence in the financial system v) the RON depreciation may lead to adverse consequences for the households and for the firms' balance sheets, increasing the non-performing loans vi) the property market has already weakened by 30%. A contraction in capital inflows may lead to future bankruptcies and unemployment in the construction, increasing the non-performing loans
3. Absorption of European funds fell far below	**High** i) the absorption of the European funds in is below the target objective	**Medium** i) the growth projections rely on the anticipated increase in european funds

Nature / Source of main threats	The overall level of concern	
	The probability of a severe threat achievements in the next 1-3 years	**Expected impact on financial stability if the threat occurs**
expectations		absorption ii) growth may be lower in the medium term if the European funds absorption will be below forecasts iii) the capacity of implementation should be improved
4. Intensification of the eurozone crisis	**Medium** i) Romania has commercial and financial ties with the member countries of the euro area. Exports to Germany, Italy and France are 40% of total exports, and the banking system is owned mostly by the euro area banks ii) foreign exchange denominated loans are about 60% of bank loans, given to the private sector **High** i) expectations regarding the lower external demand may lead to doubts related to the sustainability of Romania's current account deficit	**High** i) further exchange rate depreciation could have a serious impact on bank portfolios **Moderate** i) exporters are dependent on the European markets, so they might be adversely affected ii) FDI inflows to Romania may be adversely affected if investment projects are delayed / cancelled iii) remittance income from the Romanian guest workers may decrease iv) adverse macroeconomic effects are able to reduce the countercyclical monetary and fiscal policy
5. Damaging domestic fiscal and wage policies	**Moderate** i) fiscal authorities face political pressure in order to run expansionary spending policies ii) government has agreed to increase wages far in excess of the productivity gains or the inflation target	**Severe** i) currents fiscal and wage policies may reduce the investor's confidence in Romania, putting downward pressure on the domestic currency
6. Accelerating the process of deleveraging of foreign banks	**Medium** i) the largest nine foreign banks have reduced their exposure to Romania	**High** i) the pressure on the exchange rate; ii) possible deterioration of bank's balance sheets
7. Drying up of financial markets	**Low** i) government's rollover needs are about 4% of the gross domestic product ii) the external liabilities of the banking system totals about 17% of the gross domestic product	**Medium** i) fiscal buffers and foreign exchange reserves cover the most part of the short-term debt ii) there might be necessary to implement restrictive fiscal and financing actions

Source: International Monetary Fund

6. Policy instruments for promoting financial stability - Strengthening financial stability. Undertaken measures

The evolution of financial stability is only partially controllable. Policy instruments that can be used to safeguard financial stability in general have also other objectives, such as protecting the interests of deposit holders (the prudential instruments), promoting price stability (monetary policy) or to promote settlement of financial transactions (the case of policies governing the payment and settlement systems).

The previous undertaken measures, in order to strengthen financial stability, during the last three years, involve a diverse spectrum of instruments, as follows: i) differentiated reserve minimum requirements, higher for deposits denominated in foreign currency then those denominated in RON; ii) the limit fo the share of loan collateral (the limit of loan-to-value ratio) is 75%; iii) limiting the ratio between the debt service to net income to 30% for consumer loans and 35% for mortgage loans; in addition, it is established a ceiling of 40%, which applies to credit institutions and to non-bank financial institutions; iv) establishing certain limitations on the aggregate exposures of credit institutions (compared with own funds) to unhedged borrowers; v) setting restrictive coefficients to stress testing for foreign exchange loans (higher coefficients for dollar and Swiss francs denominated loans); vi) increasing capitalization of the credit institutions that have: a high exposure on foreighn exchange denominated loans; a share of loans in the collateral higher then the market average, a loans/deposits ratio higher than the market average; vii) moral suasion, so that Romania has committed to monitor the lending activity of the non-government sector and to take into account, in addition to the existing measures, the possibility of adopting other measures in order to limit the risks determined by the unhedged borrowers.

Other measures include: 1) implementation of the International Financial Reporting Standards by the banking sector, taking account some strategic milestones that aim to provide transit to the new accounting standards and to strengthen the capitalization and liquidity levels; before changing the reference accounting system, the strategic benchmarks are the following: a) before applying IFRS there was a transition period of three years (2009-2011), when credit institutions were required to carry out two sets of financial statements, one according to the European directives and one according to IFRS, b) in 2011 it was updated the reporting framework (the accounting framework, the prudential framework, the statistic framework), in order to introduce the new accounting standards; the National Bank of Rômânieia proposed prudential filters to ensure a prudent policy regarding solvency, provisions, reserves; 2) strengthen the stability of the banking system and deepen the reforms as a result of previous measures, as follows: c) enlargement by the National Bank of Romania of the scope eligible collateral in the refinancing operations (ie bonds issued by international financial institutions and listed at the Bucharest Stock Market, and euro denominated securities issued outside the country); d) a prudential treatment of temporary acquirement of equities (debt-to-equity swaps), that have been obtained after loan restructuring, in order not to weaken the financial position of banks; therefore prudential treatment should ensure the following: i) the involvement of credit institutions, so that these operations would be performed taking into account a prudent decision making process; ii) the shares' value is deducted from the own funds held by credit institutions, in order to avoid any artificial improvement of the prudential indicators; and (iii) earnings from these transactions are not taxed, in order to free up the credit risk provisions; e) monitoring foreign currency loans and implementing measures so that their price would adequately reflect the currency risk; f) decision to not adopt initiatives related to individuals bankruptcy, in order to not undermine the borrowers' discipline; 3) measures related unforeseen situations, in order to avoid systemic risk in the banking sector, through: a) creating mechanisms for identifying systemically important banks that present systemic importance, in order to meet the public interest in terms of financial stability; b) updating corrective policies through harmonization with European standards of solving banking problems (the case of border banking groups), seeking to provide an orderly exit from the banking market of the non-viable institutions, without accesing public funds, in roder to maintain financial stability, c) the external communication framework, in the situations of high risk for financial stability, in order to improve the ability to prevent or to limit the propagation of panic within banks' lenders.

7. Strengthening financial stability. Recommendations of measures

To increase the strength of the financial system and to improve financial stability, there are necesarly some additional measure that should cover the following markets and areas: crises management; cross-sectoral challenges; banking sector; securities markets and capital markets; insurance sector; pensions sector; access to financial services.

Regarding *crisis management* and safety net, the following measures are required: i) strengthening capital positions for some banks and establishing medium-term objectives for raising minimum capital adequacy; ii) strengthening monitoring by the National Bank of Romania, of the bank loan portfolios and of the procedures and the ability to solve the problems relating to loans; iii) accelerating the crisis management planning, communication, simulation exercises implementation, and strengthening the cross-border and cross-sectoral coordination of crisis management; iv) consideration of further measures in order to ensure liquidity, particularly in the case of immediate emergency liquidity assistance; v) review of bank resolution framework in order to facilitate rapid action and optionss for bank restructuring; vi) strengthening deposit insurance funding and accelerating payments.

Regarding *cross-sectoral challenges*, the following measures are necessary: i) aligning the independence and the financial autonomy of non-bank regulation atuthorities with the National Bank of Romania; ii) strengthening the information exchange and cooperation between regulatory authorities and the Ministry of Economy and Finance; iii) issuing coherent methodology for the evaluation of financial assets; iv) continuing efforts to risk-based supervision and increasing communication with market participants.

Regarding the *banking sector*, the following measures are necessary: i) strengthening judicial, accounting and auditing standards, and also the communication and consultation between the National Bank of Romania and the regulated entities; ii) continuing the efforts of implementing the principles-based supervision; iii) development of an effective system of supervision and regulation of credit unions and collateralized mortgage obligations..

Regarding *the securities markets and capital markets*, the following measures are required: i) concentrating on the primary issuance of government securities on one or two points of maturity in order to increase liquidity; ii) modifying the law of capital markets in roder to remove limit of voting rights of the regulated markets' operators; iii) reviewing the contracts of the primary dealers and establishing the rotation policy in order to provide incentives for market-making process; iv) removing all the regulatory barriers that prevent over-the-counter trading of non-government securities; v) establishing a system for reporting transactions for government bonds, and regulating the the bonds that require over-the-counter transactions; vi) reducing the registration fees for securities to a single fee comparable to other European Union member states, and making more efficient the registration procedures, such as occur in the single market of the European Union; vii) the gradual replacement of ex-ante local loans approval by ex-post controls, within a budget monitoring process.

Regarding the *insurance sector*, the following measures are necessary: i) mandatory revision of the insurance law; ii) actuarial reviewing of the funding guarantees and protection; iii) continuing the harmonization with other insurance regulators in the European Union.

Regarding the *pension sector*, the following measures are necessary: i) clarifying the interpretation of the minimum security guarantee and of the weighted average contribution of profitability; ii) reviewing the investment management fees; iii) establishing a uniform methodology for assessment and accountability; iv) reviewing the current fee levels; v) maintaining the contribution rate increase of 0.5 % per year; vi) not implementing inflation guarantees before the moment when the domestic capital market will provide instruments to of protection against the risk of inflation; vii) developing annuity retirement products; viii) implementing multi-funds and outsourcing the asset management.

Regarding the *access to financial services,* there are required the following steps: i) expanding the coverage of the trade register; ii) accelerating the real estate registry reform implementation; iii) consideration for the inter-connection between different databases with information on borrowers.

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