



ROMANIA

FINANCIAL SECTOR ASSESSMENT PROGRAM

June 2018

TECHNICAL NOTE—MACROPRUDENTIAL POLICY FRAMEWORK AND TOOLS

This Technical Note on Macprudential Policy Framework and Tools on Romania was prepared by a staff team of the International Monetary Fund. It is based on the information available at the time it was completed on May 18, 2018.

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Prepared By
**Monetary and Capital Markets
Department, IMF**

This Technical Note was prepared in the context of a joint IMF-World Bank Financial Sector Assessment Program (FSAP) mission to Romania during October 31–November 21, 2017, and January 11–23, 2018 led by Erlend Nier, IMF and Laurent Gonnet, World Bank, and overseen by the Monetary and Capital Markets Department, IMF, and the Finance, Competitiveness and Innovation Global Practice, World Bank. The note contains the technical analysis and detailed information underpinning the FSAP assessment's findings and recommendations. Further information on the FSAP program can be found at <http://www.imf.org/external/np/fsap/fssa.aspx>.

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Glossary

ASF	Financial Supervisory Authority
BPs	Basis Points
CCyB	Countercyclical Capital Buffer
CRD IV	Capital Requirements Directive IV
CRR	Capital Requirement Regulation
DSTI	Debt-Service-to-Income
EBA	European Banking Authority
ESRB	European Systemic Risk Board
EU	European Union
FDI	Foreign Direct Investment
FSAP	Financial Sector Assessment Program
FX	Foreign Exchange
GFC	Global Financial Crisis
LCR	Liquidity Coverage Ratio
LEL	Large Exposure Limit
LTV	Loan to Value
MoPF	Ministry of Public Finance
NBFL	Nonbank Financial Lender
NBR	National Bank of Romania
NCMO	National Committee for Macroprudential Oversight
NPL	Nonperforming Loan
NSFR	Net Stable Funding Ratio
O-SII	Other Systematically Important Institutions
ROA	Return on Asset
ROBOR	Romanian Interbank Offer Rate
ROE	Return on Equity
RON	Romanian leu
RW	Risk Weights
RWA	Risk Weighted Assets
SME	Small-to-Medium-Enterprise
SRB	Systemic Risk Buffer
TCSR	Technical Committee on Systemic Risk
TCFCM	Technical Committee on Financial Crisis Management

EXECUTIVE SUMMARY¹

The National Bank of Romania (NBR) has a long experience in implementing macroprudential policy measures and as a result, a relatively sophisticated systemic risk monitoring framework.

The NBR monitors several indicators to assess the build-up of systemic risk, many of which are derived from the nation-wide credit register and related data sources, and constructs summary indicators to facilitate overall risk assessment. The NBR also has various economic models to assess macro-financial developments and the effects of various shocks, and to assess policy actions. The NBR also subjects banks to regular solvency and liquidity stress tests. Nevertheless, data and information gaps remain, for instance, due to extensive NPL exposures being sold to asset management companies, which do not have to report to the credit registry.

The institutional framework for macroprudential policymaking has recently been revised and contains a clear mandate and well-defined objectives, but NBR's role seems constrained.

A new National Committee for Macroprudential Oversight (NCMO) was established in April 2017. By law, the NCMO is the national macroprudential authority with a clear legal mandate to set macroprudential policies. It is chaired by the Governor of the NBR and its Secretariat also resides within the NBR. However, after a long parliamentary process, the number of NBR representatives in the nine-member NCMO was reduced from the proposed five members to three, giving the NBR the same number of representatives as the ASF and the Ministry of Public Finance (MoPF).

The institutional arrangements seem to guarantee adequate powers to ensure NCMO's ability to act.

The NCMO has direct (hard) powers over a wide-range of macroprudential tools; it is empowered to recommend actions to be taken by other financial supervisory authorities or the Government, coupled with a "comply or explain" mechanism, and to issue warnings and opinions. The functioning of the NCMO is still being established. It has only held five meetings and issued ten recommendations, including the required quarterly recommendations on the countercyclical capital buffer. The Technical Commissions on Systemic Risk and Financial Crisis Management (TSCR and TCFCM), respectively, who should support the NCMO's work are still to become operational, but their composition was approved by the NCMO in February 2018.

The NCMO's accountability, transparency, and coordination frameworks need to be strengthened to help counteract the underlying inaction bias.

Generally, macroprudential policymaking is challenged by the so-called policy inaction bias, resulting from the cost of policy actions being sooner and more easily observable than their potential benefits. Given the set-up of the NCMO and concerns regarding the independence of the ASF following the removal of its previous president, overcoming the inaction bias may prove particularly challenging. Strong transparency, accountability, and coordination frameworks can generate stronger commitment towards policy actions.

¹ This Technical Note has been prepared by Thorvardur Tjoervi Olafsson, Monetary and Capital Markets Department, IMF.

Currently, the NBR can propose policy action and be outvoted without the need for the decision to be disclosed or related to a common overall risk assessment. The framework should be strengthened by requiring proposed policy actions and distribution of votes to be publicly disclosed in the summary of meetings. A common assessment of systemic risk should also be developed at each NCMO meeting to foster consensus on the need for policy action.

The macroprudential policy toolkit was recently expanded with the EU Capital Requirements Directive and Regulation (CRD/CRR) framework becoming operational in Romania. In particular, the authorities have implemented, or are phasing-in, a number of capital buffers, as well as the LCR, based on this framework. Longer-standing borrower tools also remain in place, but their scope is narrow: the stressed DSTI limit is currently only applied to consumer loans and maximum LTV ratios on mortgages have been undermined by the Prima Casa program that allows for borrowing at up to 95 percent LTV.

The macroprudential policy toolkit should be strengthened further to address risks identified in the FSAP's risk analysis. A stressed DSTI limit should be applied to all loans (both mortgages and consumer loans) to mitigate risks of excessive credit growth and rise in defaults given households' vulnerabilities to a rise in interest rates or risk premia, as featured in the mission's stress test. The calibration could draw on the joint analysis with the NBR using loan-level information from the Romanian credit register. The Prima Casa program should also be gradually scaled back to mitigate risks of housing sector imbalances and support the effectiveness of the existing LTV limits. The risk analysis also identified that FX liquidity risks can exist within an environment of ample overall liquidity and a revival of FX lending reliant on wholesale funding cannot be excluded. The authorities should therefore enforce a currency-differentiated LCR for significant currencies and monitor a currency-differentiated NSFR.

The Systemic Risk Buffer (SRB) should be calibrated carefully to address risks stemming from the strong sovereign-bank nexus. The Romanian banking system is characterized by exceptionally concentrated and large exposures towards the domestic sovereign. The risk analysis finds that these large and concentrated sovereign exposures pose an important risk for individual banks and the system as a whole. Prudential policy measures should be introduced to mitigate risks from the sovereign-bank nexus, in order to enhance resilience through increased loss absorbing capacity, and to provide disincentives against excessive concentration of risks. At the same time, calibration of buffers should seek to avoid unintended side-effects, such as an excessive reduction of liquidity, a bond market sell-off, or other unwarranted macro-financial dynamics.

The SRB is a particularly well-suited tool to address the sovereign-bank nexus in the European context. It is (i) flexible in implementation and (ii) it is recognized as being suitable to address common exposures and risks which are unaccounted for in the CRR framework. A calibration of the buffer such that it is increasing in the share of domestic sovereign exposures can effectively weaken the nexus by increasing banks' resilience to losses from sovereign exposures and encouraging them to limit excessive concentration of sovereign exposures. Moreover, the costs associated with this approach should be limited by a suitable calibration that allows for sufficient sovereign debt

holdings to safeguard liquidity without any surcharge, applies only a gradual rise in capital surcharges as sovereign exposures increase, but nevertheless sufficient to ensure valuable resilience.

The scope for regulatory arbitrage of macroprudential measures due to direct external borrowing and lending from NBFLs remain a concern. The authorities need to continue their vigilance with regard to regulatory arbitrage. The NBR recently introduced measures to strengthen oversight over the NBFL sector, where lending to SMEs and low-income households was increasing rather rapidly, and should align the sector's provisioning regime with that of the banks. The mission's balance sheet analysis reveals another potential migration of risk. The analysis shows that overall corporate sector leverage has been increasing despite contracting bank credit extension, as corporate external borrowing and reliance on trade credit within the domestic corporate sector has increased substantially. This shift in corporate funding needs to be analyzed further to identify vulnerabilities, risks of regulatory arbitrage, and the need for further policy measures. Debt collecting agencies, specializing in NPL exposure purchases, should also be required to report to the credit registry to close data gaps.

Table 1. Romania: FSAP 2018: Recommendations on Macroprudential Policy Framework

Recommendations	Agency	Time
1. Strengthen the NCMO's accountability, transparency, and coordination frameworks by requiring proposed policy actions and distribution of votes to be publicly disclosed in the summary of meetings. (Paragraph 12)	NBR, MoPF, ASF	NT
2. Develop a common assessment of systemic risk at each NCMO meeting to foster consensus and common ownership of actions. (Paragraph 13)	NBR, MoPF, ASF	NT
3. Apply a stressed DSTI limit to all loans (mortgages and consumer loans) to mitigate risks of excessive credit growth and rise in defaults given households' vulnerability to a rise in interest rates or risk premia. (Paragraph 27)	NBR	NT
4. Scale back the Prima Casa program to mitigate risks of housing sector imbalances and to support the effectiveness of the LTV limits. (Paragraph 28)	MoPF	MT
5. Use the Systemic Risk Buffer (SRB) to address risks stemming from the strong sovereign-bank nexus. (Paragraph 34)	NBR, MoPF, ASF	NT
6. Complement the use of the SRB with other measures to support a diversification of bank holdings away from the domestic sovereign, in particular an expansion of the NBR's collateral framework to include euro area government bonds as eligible collateral, a further review of the government debt management strategy, and measures to enhance the FX swap market. (Paragraph 39)	NBR, MoPF, ASF	MT
7. Enforce a currency-differentiated LCR for significant currencies. (Paragraph 48)	NBR	NT
8. Monitor a currency-differentiated NSFR for significant currencies. (Paragraph 48)	NBR	NT
9. Ensure provisioning requirements for NBFLs tighten in line with the application of IFRS9 to banks to prevent regulatory arbitrage. (Paragraph 56)	MoPF, NBR	NT
10. Require asset management companies to report to the credit registry to improve data quality. (Paragraph 19)		NT

INTRODUCTION

1. **Financial sector resilience in Romania has improved significantly over the last few years and the macroprudential policy framework has been revised.** Improved resilience of the banks, which dominate the financial system, is reflected in increased asset quality, reduced dependence on foreign parent funding, stronger capital buffers, and ample overall liquidity. A relatively long tradition of implementing macroprudential policy exists in Romania, but as in many other countries, the framework has been revised in recent years. In particular, a new National Committee for Macroprudential Oversight (NCMO) was established in April 2017.
2. **Some vulnerabilities are emerging and this note evaluates the capacity of the macroprudential policy framework to address those and the need for further reforms and actions.** The sovereign-bank nexus is strong due to banks' holdings of large and concentrated domestic sovereign bonds, which may result in sizeable valuation losses in case of an increase in interest rates or sovereign risk premia. Mortgage lending growth and house price developments point towards rising vulnerabilities from an increase in interest rate in the housing sector. FX loans have subsided but remain relatively large and many corporate FX borrowers are unhedged. Finally, contagion risk from nonbank financial lenders (NBFLs) to the banking sector may be rising.
3. **This note is structured as follows:** Section II assesses the strengths and weaknesses of the institutional arrangements for macroprudential policymaking and provides recommendations on how to strengthen them further. Section III discusses the existing systemic risk monitoring framework and provides options to enhance it. Section IV maps an assessment of systemic vulnerabilities into recommendations for macroprudential policy actions. Section V concludes.

INSTITUTIONAL FRAMEWORK-

4. **Strong institutional arrangements for macroprudential policymaking are essential to ensure that macroprudential policy can work effectively.** A strong institutional framework should generate the *willingness to act* and thereby overcome the underlying policy inaction bias that results from the cost of policy actions being sooner and more easily observable than their potential benefits. The institutional arrangement also needs to foster the *ability to act* when systemic risk is building up. Finally, the framework needs to promote *effective cooperation and coordination* between institutions with a financial stability mandate. This section evaluates the current institutional arrangement against these three key principles, which are set out in [the Staff Guidance Note on Macroprudential Policy](#).

A. Principle 1: Willingness to Act

5. **The institutional framework for macroprudential policymaking has recently been revised and contains a clear mandate and well-defined objectives.** As discussed above, the NCMO was established in April 2017. By law, the NCMO is the national macroprudential authority

with a clear legal mandate to set macroprudential policies. The legal clarity with regard to the mandate and objectives plays an important role in fostering the NCMO's willingness to act.

6. NBR's role in the NCMO seems constrained, however, which may compound the challenge of overcoming the underlying policy inaction bias. The parliamentary process to set up the NCMO took roughly three years, mainly due to disputes regarding the power of the NBR. Ultimately, the number of NBR representatives in the nine-member NCMO was reduced from the proposed five members to three, giving the NBR the same number of representatives as the Financial Supervisory Authority (ASF) and the Ministry of Public Finance. NBR's position is strengthened, though, by having the NBR Governor chairing the NCMO and its Secretariat residing within the central bank. Nevertheless, the distribution of voting power may entail risks resulting from the NCMO being insufficiently shielded from political interference, in particular in light of concerns regarding the independence of the ASF following the removal of its previous president.² This could undermine the NCMO's capacity to overcome the underlying inaction bias.

B. Principle 2: Ability to Act

7. The institutional arrangements seem to guarantee adequate powers to ensure NCMO's ability to act. The NCMO has direct (hard) powers over a wide-range of macroprudential tools and a number of them are currently being used (Table 2).³ The NCMO is also empowered to recommend actions to be taken by other supervisory authorities or the Government, coupled with a "comply or explain" mechanism, and to issue warnings and opinions.

8. The effectiveness of the institutional framework should benefit from the NCMO having such a wide range of powers. Having explicit hard powers is important as it can avoid delay and other frictions in implementation that may arise due to coordination and cooperation challenges. But it is also important to have broad (semi-hard) powers to recommend actions, coupled with a 'comply or explain' mechanism, as they can be used to influence a wide range of regulatory actions in a transparent manner. Finally, the (soft) power to issue opinions can be used to affect policies outside the regulatory perimeter, if needed.

² The first two Presidents of ASF had to leave before the regular end of their tenure. In February 2014, the ASF President was jailed on accusations of corruption and resigned. The second President was dismissed in May 2017 on the basis that he had lost his good reputation, which is a legal criterion for dismissal but one that is unspecified in the law. Doubts about the independence of the ASF among market participants seem widespread.

³ The NBR has a long experience in implementing macroprudential policies. See Neagu, F., L. Tatarici, and I. Mihai, (2015), "[Implementing Loan-To-Value and Debt-Service-To-Income Measures: A Decade of Romanian Experience](#)", National Bank of Romania *Occasional Papers*, No. 15; and Dimova, D., P. Kongsamut, and J. Vandenbussche, (2016), "[Macroprudential Policies in Southeastern Europe](#)", *IMF Working Paper*, No. WP/16/29.

Table 2. Romania: List of Macprudential Measures in Use

Measures	Current Calibration	Date of Last Change
Maximum LTV on domestic currency-denominated mortgages.	Eighty-five percent for domestic currency-denominated mortgages, except for Prima Casa mortgages.	October 2011
Maximum LTV on FX mortgages.	Eighty percent for FX loans to hedged borrowers, 75 percent for EUR-denominated mortgages to unhedged borrowers, and 60 percent in other currencies to unhedged borrowers.	October 2011
Stressed DSTI on consumer loans.	Credit institutions are responsible for testing borrowers' resilience throughout the duration of the credit, and the maximum indebtedness level should be determined by taking into consideration the interest rate risk, the currency risk, and the risk of a reduction in income.	October 2011
Other restrictions on consumer loans.	Maturity restricted to five years. Value of goods purchased for consumer credit in FX capped at 133 percent of the credit amount.	October 2011
Higher risk weights on commercial real estate exposures.	100 percent risk weights on commercial real estate exposures.	January 2014
Other systemically important institutions (OSII) buffer.	One percent of total risk exposure for nine credit institutions identified as having systemic importance.	January 2018
Capital Conservation Buffer.	1.875 percent of total exposure and set to gradually rise to 2.5 percent in 2019.	January 2018
Liquidity Coverage Ratio.	100 percent.	January 2018
Liquidity Ratios.	The ratio between effective liquid assets and necessary liquidity assets based on liabilities for different maturity bands going up to 1 year.	January 2012

Source: NBR.

C. Principle 3: Effective Coordination and Cooperation

9. The functioning of the NCMO is still being established. As of April 2018, it has only held five meetings and issued ten recommendations, including the required quarterly recommendations on the countercyclical capital buffer (CCyB). As a result of changes in government, the representatives of the MoPF in the NCMO have also changed frequently. The Technical Commissions on Systemic Risk and Financial Crisis Management (TCSR and TCFCM), respectively, which should support the NCMO's work are still to become operational. The accountability framework, which includes the publication of a policy strategy, summary of meetings, issued recommendations and warnings, and an annual report, is also still being developed.

10. The NCMO does not reach a common assessment of systemic risks at its meetings, despite such an assessment being one of its main purpose by law. The NCMO has relatively strong powers to gather data and there do not appear to be strong legal impediments for sharing information between the NBR and the ASF. However, the TCSR is not assumed to prepare an assessment of systemic risk ahead of NCMO meetings and the NCMO does not strive to reach a consensus on key risks at its meetings. This entails risks of overseeing vulnerabilities, may weaken common ownership of policy decisions, and leaves an important communication tool, in the form of a clear view of systemic risks in the summary of meetings, unutilized.

D. Recommendations

11. The newly established institutional arrangement is broadly in line with IMF guidance for effective macroprudential policy, but there is room for improvement. As discussed above, given the set-up of the NCMO and concerns regarding the independence of the ASF, overcoming the inaction bias may prove particularly challenging.

12. The NCMO's accountability, transparency, and coordination frameworks need to be strengthened to help counteract the underlying inaction bias. Strong transparency, accountability, and coordination frameworks can help generate stronger commitment towards policy actions. Currently, the NBR can propose policy action based on its risk assessment and be outvoted without any of this being disclosed. The framework should therefore be strengthened by requiring proposed policy actions and distribution of votes to be publicly disclosed in the summary of meetings.⁴

13. A common assessment of systemic risk should also be developed at each NCMO meeting to foster consensus and common ownership of actions. An assessment of systemic risks needs to be the starting point for a debate over the appropriate policy action. The TCSR, chaired by the NBR, should be responsible for preparing a draft assessment of key risks in the financial system, which the NCMO would discuss and reach an agreement on, thereby preparing the basis for a debate over the appropriate policy actions. A summary of the NCMO's assessment of systemic risk

⁴ The framework could allow for exemptions, which should be voted on unanimously by the NCMO, for cases in which public disclosure are likely to have detrimental effects on financial stability.

should be published in the summary of meetings, in order to create a clear relation between the assessment and policy actions, as well as fostering understanding among market participants and the public of risk assessment and macroprudential policymaking.

SYSTEMIC RISK MONITORING

- 14. Macroprudential policy cannot rely on rules, but must be based on continuous assessment of evolving risks.** This entails guided discretion where key indicators are used to generate signals of when policy action might be required, but the decision is based on judgement that takes into account all relevant information. Such judgment requires access to data and qualitative information, as well as the analytical capacity to assess systemic risks, in order to effectively map risk assessment into policy recommendation and action.
- 15. The NBR has a long experience in implementing macroprudential policy measures and as a result, a relatively sophisticated systemic risk monitoring framework.** The NBR monitors several indicators to assess the build-up of systemic risk, many of which are derived from the nationwide credit register and related data sources, and constructs summary indicators to facilitate overall risk assessment. The biannual *Financial Stability Report* is the main communication tool and provides an in-depth risk assessment, in particular for the banking system, prepared by the Financial Stability Department. The NBR has various economic models to assess macro-financial developments and the effects of various shocks, and to assess policy actions. The NBR also subjects banks to regular solvency and liquidity stress tests.
- 16. The ASF monitors risks in financial markets, the insurance sector, and among pension funds and asset managers.** The ASF, which was founded in 2013 by merging three sectoral agencies, has less experience in systemic risk monitoring but has been enhancing its capacity. The ASF regularly publishes reports on key developments in the aforementioned sectors and has a dedicated unit to assess risks in the sectors.
- 17. The TCSR holds the potential to ensure a comprehensive systemic risk assessment based on the work of the NBR and the ASF.** Strong systemic risk monitoring capacity should provide a robust foundation for macroprudential policymaking. However, there is room to enhance coordination of the systemic risk monitoring efforts of the NBR and the ASF. As discussed above, the TCSR has not been activated yet but it could facilitate such coordination and thereby a comprehensive assessment for the financial system as a whole. The composition of the seven members TCSR was decided at NCMO's meeting in February 2018. It is chaired by the Director of the Financial Stability Department at the NBR, with the NBR having three members and the ASF and MoPF two members each.
- 18. Data quality is generally relatively good, but data and information gaps nevertheless remain.** The credit register provides the NBR with detailed loan-level information which facilitates systemic risk monitoring and economic research into financial stability issues. Information on house prices has improved, but the series are still relatively short, and data on commercial real estate

prices, transactions volumes, and exposures is scarce. Another important remaining data gap arises from the extensive NPL exposures that have been sold to foreign-owned asset management companies, which do not have to report to the credit registry.

19. The authorities should require asset management companies to report to the credit registry to improve data quality. Sold NPLs may be subsequently restructured to maximize recovery values without information on the revised principal or payment profile being passed on to the credit registry, resulting in total indebtedness and debt service burden being misreported in the credit registry. Requiring asset management companies to report to the credit registry would ensure better quality of the information on which prudential policy decisions are based, and can be achieved by amending the primary legislation in this regard.

SYSTEMIC RISKS AND MACROPRUDENTIAL TOOLS

20. This section aims to map an assessment of systemic vulnerabilities into recommendations for the macroprudential policy toolkit. Systemic vulnerabilities are assessed based on developments in multiple signaling indicators, following an approach suggested in [the Staff Guidance Note on Macroprudential Policy](#), and are informed by the results of the FSAP's risk analysis (see Technical Note on the Risk Analysis). Recommendations are provided for the macroprudential policy toolkit, which was recently expanded through the EU Capital Requirements Directive and Regulation (CRD/CRR) becoming operational in Romania.

A. Broad-Based Vulnerabilities

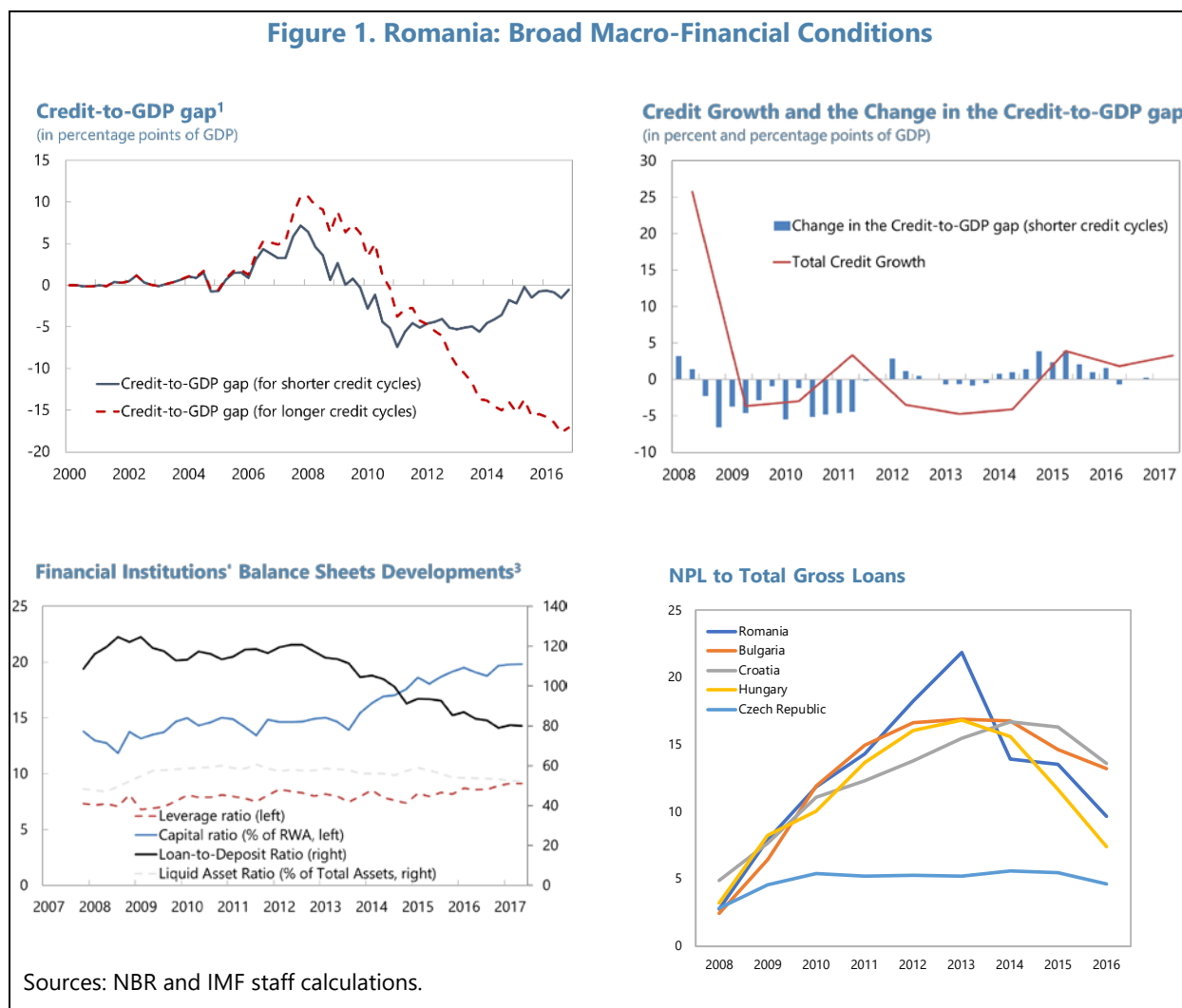
21. Credit developments are not signaling broad-based risks at the current juncture. The credit-to-GDP gap has been in negative territory for several years. The gap for shorter credit cycles (a measure preferred by the NBR) has been gradually closing, although it remains well below the lower 2 percent threshold indicating the need to start increasing buffers if supported by other surveillance information. This reflects that credit growth has recently been picking up after a prolonged contraction, especially due to increased mortgage lending. Moreover, in contrast to the period during the run-up to the global financial crisis (GFC) when credit was expanding fast on the back of parent and wholesale funding, it is now first and foremost funded by local deposits. Capital ratios are also higher, making the banking system more resilient to losses (Figure 1).

22. Accordingly, the Countercyclical Capital Buffer (CCyB) rate has been kept at zero percent. The NCMO assesses the calibration of the CCyB on a quarterly basis and has kept it at zero percent as overall credit developments have stayed below thresholds signaling excessive credit growth. The NCMO has, however, as part of its CCyB assessment recommended the NBR to monitor developments in household indebtedness.

23. Asset quality has improved as supervisory measures have facilitated a reduction in nonperforming loans (NPLs). Poor asset quality was a major source of risks in the period following the GFC, as many loans, especially those denominated in FX, were defaulting. NPLs peaked at

21.9 percent of total loans in 2013, but have since been brought down. An action plan implemented by the NBR and supported by the IMF, resulted in roughly €4 billion in NPLs being removed from banks' balance sheets, and in December 2017 NPLs had declined to 6.4 percent of total loans. Hence, asset quality has improved. Furthermore, the provisioning ratio (including general provisions) is high at around 65 percent. Existing supervisory measures, including setting bank-specific reduction targets, should be kept in place until the share of NPLs reaches an appropriately low level.

Figure 1. Romania: Broad Macro-Financial Conditions



B. Vulnerabilities from Housing and Household Sector

24. Mortgage lending growth and house price developments point towards rising vulnerabilities in the housing sector (Figure 2). Mortgage lending has been supported by the government's Prima Casa guarantee program. Under this program, which has been in place, and renewed annually since 2009, the State guarantees 50 percent of the mortgage, and loan terms are favorable: the down payment is 5 percent of the property value (compared to 15–25 percent for other mortgage loans), and the interest rate is capped at ROBOR plus 2.5 percent, and has been relatively low for several years as a result of low policy rates. This program accounts for the majority of mortgages extended by banks. As a result, housing loans increased from 21 percent of loans to households to more than 58 percent between 2008 and 2016.

25. Mortgage lending growth has supported house prices and the lending is at variable rates. House price growth has accelerated and registered an annual growth rate of 6.2 percent as of September 2017. However, prices are still well below their historical peaks (Figure 2) and a house price correction seems therefore unlikely. On the other hand, the large majority of mortgage contracts, both inside and outside Prima Casa, are at variable rates, which may result in loan performance and default rates deteriorating if interest rates increase.

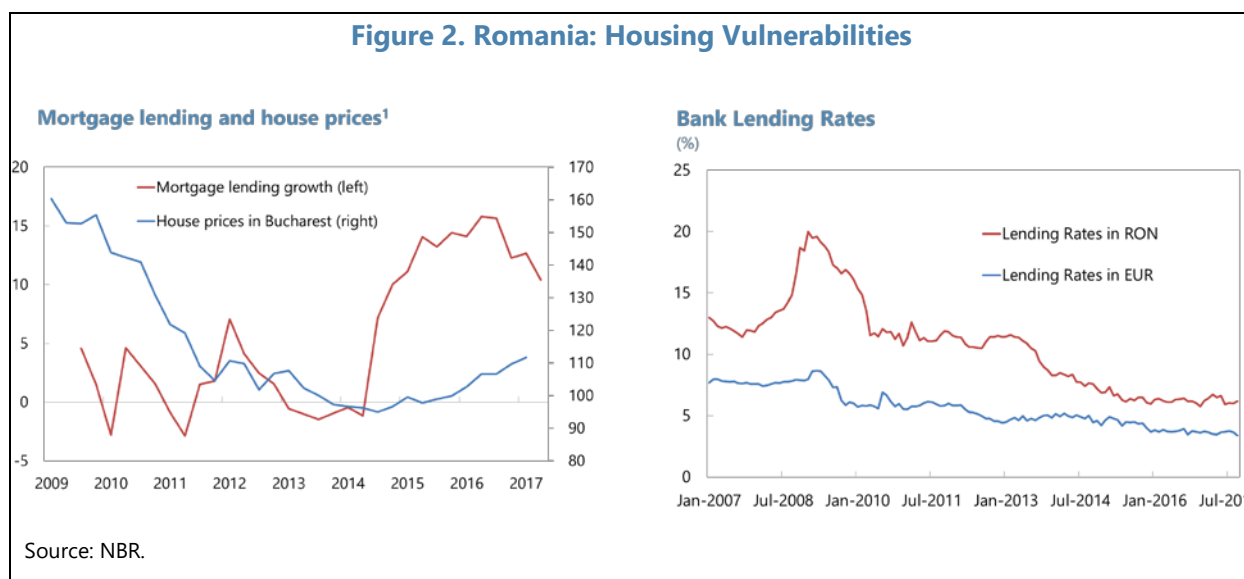
26. The risks of credit losses stemming from the mortgage sector are reflected in the FSAP's risk analysis. In a scenario in which interest rates rise while output contracts sharply, real estate mortgage losses account for a majority of the overall credit losses in the solvency stress test, followed by losses from loans to small-to-medium-sized enterprises which are backed by real estate (see Technical Note on the Risk Analysis). This points to significant risks from real estate lending, which macroprudential policy should aim to address.

27. The macroprudential policy toolkit should be expanded and made more effective to mitigate risks in the housing sector. In September 2017, about 25 percent of debtors had a debt-service-to-income (DSTI) level in excess of 55 percent (see NBR's [December 2017 Financial Stability Report](#)). A stressed maximum DSTI ratio is currently only applied to consumer loans (Table 2).⁵ Clear maximum DSTI limits should be applied to mortgages as well, including Prima Casa loans, to mitigate risks of excessive credit growth and rise in defaults given households' vulnerabilities to a rise in interest rates or risk premia. The calibration could draw on the joint analysis with the NBR using loan-level information from the Romanian credit register (see Technical Note on Calibrating a Limit on the DSTI Ratio).

28. The Prima Casa program should also be gradually scaled back. The effectiveness of the existing macroprudential tools on mortgages are undermined by the Prima Casa program, which allows for LTV ratios of up to 95 percent. The authorities have started to scale back the program and

⁵ Banks are obliged to perform a stress test on borrowers, who are applying for consumer loans, based on specific assumptions from the NBU. Banks are allowed to set their own limits, but they can be rejected by the NBU.

a strategic review is planned in 2019.⁶ It is important that the authorities continue to unwind the program in order to mitigate risks of housing sector imbalances and to support the effectiveness of the existing LTV limits.



C. Vulnerabilities from Sovereign Exposures

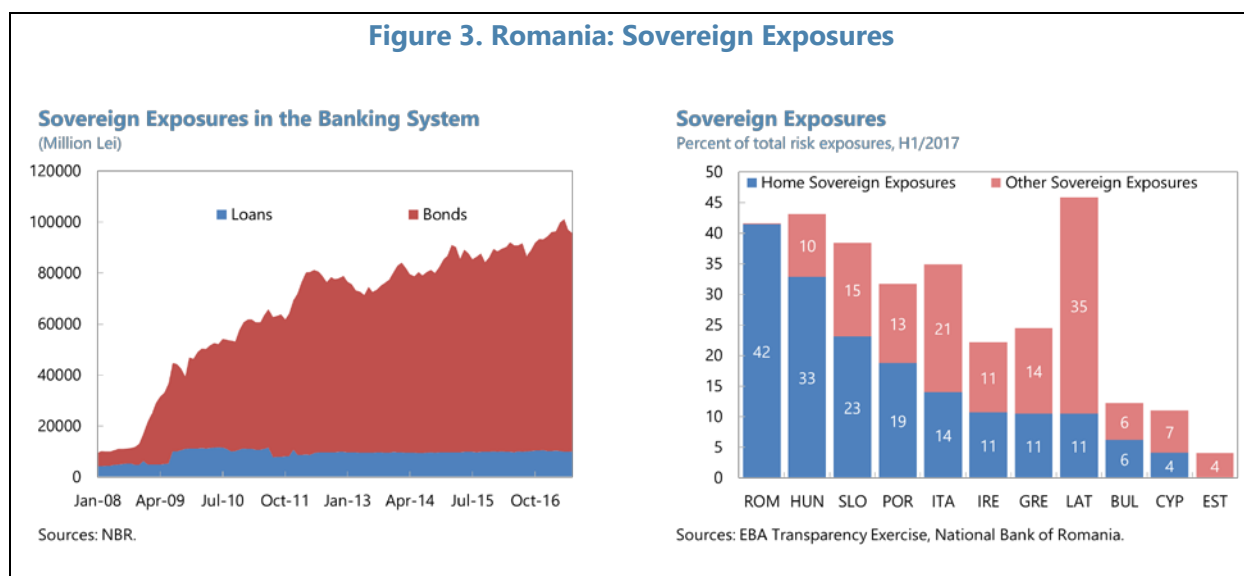
29. The exposure of banks towards sovereign risk is increasing, creating potential adverse bank-sovereign feedback loops. As of December 2016, the sovereign debt exposure of banks was around 20 percent of assets, increasing from below 5 percent in 2008, and making the Romanian banking system one of the most exposed in the EU. Moreover, the increase has been rapid and steady in the past seven years. In an environment of rising rates, since the duration of domestic sovereign debt held by banks (primarily in their trading book) is long relative to banks' funding, banks are heavily exposed to interest rate risk (Figure 3).⁷ The government guarantees issued in the context of the Prima Casa loan program further reinforce the indirect exposure of the banking sector to the sovereign.

30. The banks' sovereign exposures are exceptionally concentrated towards the domestic sovereign. In addition to being large and having increased relatively rapidly, sovereign exposures in the Romanian banking sector are exceptional as they are solely towards the domestic sovereign,

⁶ The authorities' strategy for the Prima Casa program for the period 2017–2021 envisages a decrease of the state guarantee ceiling from RON 2.5 billion in 2017 to RON 2 billion in 2018–2020 and to RON 1.5 billion in 2021. There have also been other changes made in 2018, for instance, on how the guarantee ceiling is allocated to incentivize banks to use their own mortgage products rather than the Prima Casa mortgages.

⁷ The weighted average remaining maturity of Romanian sovereign debt is 3.2 years for domestically issued debt and 8.4 years for Eurobonds, which entails 5.4 years for sovereign bonds as a whole.

while other EU countries hold a more diversified portfolio of sovereign debt. This holds for both euro- and non-euro area members (Figure 3).⁸



31. The FSAP’s risk analysis reveals sizable losses resulting from sovereign exposures in the adverse scenario, with a total drop of 300bps in capital over the 3-year horizon. In line with the FSAP’s Risk Assessment Matrix, an increase in sovereign spreads and domestic interest rates play an important role in the stress test. As a result, banks suffer from declining valuations in their market-to-market trading book as sovereign yields rise significantly with trading gains of 0.6 percent of risk weighted assets (RWA) in 2017 turning to a market loss of 3.6 percent in 2018 (see Technical Note on the Risk Analysis) for the system as a whole. Moreover, the analysis finds that the impacts are even larger and comparable in magnitude for some banks to the credit losses sustained under the assumption of a severe economic recession.

32. The sovereign-bank nexus can be powerful despite relatively low government debt. While at roughly 36.8 percent of GDP at year-end 2017, the stock of Romania’s public debt is still relatively low compared to other EU countries, internal and external vulnerabilities can still pose financial stability risks. Romania faced rollover challenges in 1999 and 2009, despite having debt at a considerable lower than the current level, and has more recently seen yields rise and demand at auction to be insufficient to place issues at the desired yields, with government debt having tripled since 2008. The NBR’s own analysis using two different empirical approaches point towards a debt level between 40 and 45 percent of GDP as thresholds for a material increase in the likelihood of economic recession and detrimental impact on the government’s debt refinancing capacity (Special

⁸ The comparison with euro area countries is relevant despite their holdings of euro-denominated sovereign bonds from other member countries as the euro area debt crisis was a clear example of sovereign risk premia being different across countries having the same currency.

Feature in the [2015 Financial Stability Report](#)). Moreover, the procyclicality of fiscal policy entail risks for debt dynamics, by leading to tighter monetary policy and thereby higher interest rates. A rapid rise in sovereign risk premia and enhanced interest rate volatility may therefore materialize and give rise to challenges for financial stability in Romania, despite relatively low debt levels.⁹

33. Prudential policy measures should be introduced to mitigate risks from the sovereign-bank nexus. The policy response should aim to ensure resilience through increased loss absorbing capacity and provide disincentives against excessive concentration of risks, while at the same time, avoiding unintended side-effects, such as an excessive reduction of liquidity, bond market sell-offs, or other unwarranted macro-financial dynamics.¹⁰

34. The Systemic Risk Buffer (SRB) is a particularly well-suited tool to address the sovereign-bank nexus in the European context. It is flexible in implementation and recognized as being suitable to address common exposures and risks which are unaccounted for in the CRR framework.¹¹ It can effectively weaken the nexus by increasing banks' resilience to losses from sovereign exposures and encourage them to limit excessive concentration of sovereign exposures. It can also be relaxed to mitigate risks of detrimental procyclical dynamics. The costs associated with this approach can also be limited by a careful calibration that is appropriately gradual.¹²

35. A gradual and marginal SRB calibration is appropriate to avoid unintended side-effects. Figure 4 provides an example of a SRB calibration that aims to limit side effects while ensuring resilience for banks with concentrated exposures. The calibration applies a positive SRB only for exposure shares beyond a threshold, recognizing that banks hold some domestic government bonds to fulfill liquidity requirements. It then foresees a gradual and marginal rise in capital surcharges as sovereign exposures increase relative to RWA. However, as marginal rates rise through the buckets, it arrives at a sufficient surcharge (of around 3 percent) to ensure valuable resilience for banks whose exposure share is high. This example of a calibration wants to rather err

⁹ All the three main credit rating agencies lowered Romania to speculative grade following the GFC and it was not until May 2014 that they had all upgraded the country back to investment grade. However, Romania remains in the lowest quartile of European Union member countries in terms of credit rating and credit default swaps (CDS) spreads.

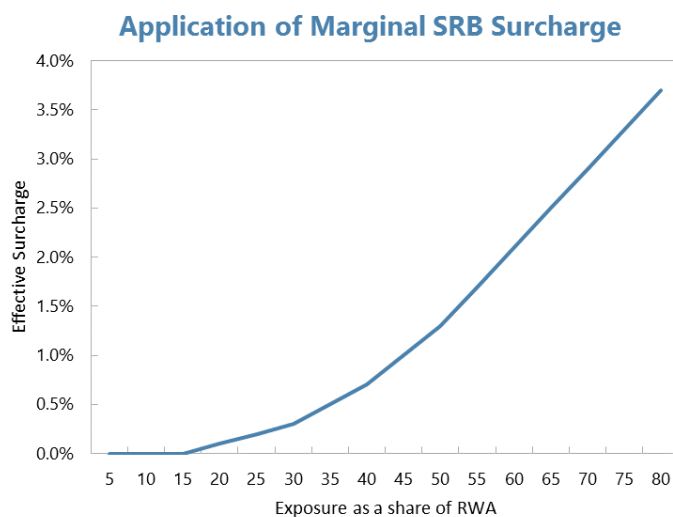
¹⁰ The discussion on the prudential treatment of sovereign exposures and the need to mitigate risks from the sovereign-bank nexus has intensified recently, see e.g., [Véron \(2017\)](#) and the [Basel Committee on Banking Supervision \(2017\)](#).

¹¹ The CRD has specific maximization rules for how the SRB and the O-SII buffers can be applied. In most cases the highest buffer applies and the two cannot be added on top of each other. However, when the SRB applies only to domestic exposures, as is the case here, both buffers can apply and be added on top of each other (see Table 4.6 in the [ESRB Handbook on Operationalising Macro-prudential Policy in the Banking Sector](#)). The ESRB Handbook provides further information on the SRB, in particular Chapters 4,

¹² In its December 2017 meeting, the NCMO [recommended](#) the use of the SRB to facilitate a continued reduction of NPLs. However, while NPLs have continued to decrease with the share falling below eight percent as banks are subjected to NPL targets in the supervision process, the high concentration of sovereign exposures is by and large left unattended. A potential option is to utilize the SRB to ensure some further progress in lowering NPLs before applying the SRB to mitigate risks from the concentrated sovereign exposures.

on the side of caution in its approach to limit unintended side-effects, while at the same time ensuring enhanced resilience towards losses stemming from sovereign exposures.

Figure 4. Romania: An Example of a Calibration of the SRB¹



Calibration of the SRB

Exposure to Sovereign as a Share of RWA (percent)

SRB add-on	< 15	15-30	30-40	40-50	> 50
	0 percent	2 percent	4 percent	6 percent	8 percent

1. The figure shows the effective SRB surcharge resulting from the marginal calibration provided in the table. For instance, a bank with sovereign exposures of 45 percent of RWA would face a 1 percent SRB surcharge (calculated as $0 \cdot 15 + 0.02 \cdot 15 + 0.04 \cdot 10 + 0.06 \cdot 5 = 1.0$ as different marginal surcharges are applied across the intervals).

Source: IMF staff calculations.

36. Such a calibration of the SRB can have desirable side-effects. In addition to limiting potential unintended side-effects, such a gradual and marginal calibration of the SRB can have a range of desirable consequences.

- First, it provides an incentive for intra-financial system trade of sovereign bond holdings, where banks that have a high exposure and therefore face a higher buffer rate have incentives to trade with banks whose exposure is smaller and therefore face a lower buffer rate. The resulting more even distribution of sovereign holdings would lower the system-wide capital surcharges from the SRB due to the nonlinearity in the proposed schedule. The availability of such opportunities for trade would also limit the potential for a broad-based bond market sell-off, as intra-financial system trade can effectively reduce the SRB.
- Second, to the extent that banks will sell parts of the sovereign holdings, or reduce the share of new issues purchased, a useful side effect from a debt management perspective is that

the investor base could become more diversified and include a higher share of other domestic institutional investors as well foreign investors.¹³ This could be useful since these types of investors have a bigger appetite for long-durations, allowing the government to lengthen the maturity of its debt and reduce rollover risks.

- Finally, the SRB reduces the distortion resulting from the zero-risk weight (RW) on sovereign bonds, which provides incentives to expand sovereign portfolios at the expense of lending to the real economy. An SRB would go some way to level this distortion and could at the margin serve to support credit growth to the non-financial private sector.

37. An impact assessment on applying the SRB suggest only limited effects on sovereign bond yields, as well as on banks' profitability and liquidity. Annex 1 provides an analysis of the impact of introducing the calibrated SRB scheme on sovereign bond yields and banks' profitability and liquidity. The results show that in the extreme case that the increase in banks' funding cost resulting from the capital surcharge would be fully passed on to the ultimate borrower (i.e. the sovereign), bond yields are likely to increase by only up to around 30 basis points (bps). As explained in the Annex, this is likely to be an upper bound, as various mitigating factors are likely to result in a lower increase in yields. In the opposite extreme case, that banks would have to fully absorb the increase in funding costs resulting from the SRB, the impact on their profitability would be very limited. The effects from introducing the SRB on banks' liquidity are found to be small. Finally, the Annex also provides an example of how the SRB could be gradually phased-in over a period of three years, if further caution is considered warranted.

38. Notification to European counterparts is needed. Before setting or adjusting the SRB, the national authorities must notify the European Commission, the European Systemic Risk Board (ESRB), the European Banking Authority (EBA), and the authorities of other Member States concerned, with at least one-month notice. The notification needs to justify why none of the other measures in the CRD/CRR are sufficiently effective to address the identified systemic risk. This is relatively straightforward as sovereign exposures are generally exempted from EU prudential norms. This notification is sufficient up to a SRB level of 3 percent (5 percent) on entities which are (not) subsidiaries of parent banks from other Member States, while European Commission's approval is needed at higher levels.

¹³ Foreign investors hold approximately 17 percent of domestic sovereign bonds, so there is still room to increase the share of foreign investment in the domestic government bond market.

Box 1. Other Potential Approaches to Address the Sovereign-Bank Nexus than the SRB

In principle, there are various different prudential policy responses to mitigate risks from the sovereign-bank nexus, but most of them are non-feasible within the European regulatory framework:

Higher Risk Weights

Applying higher RWs might *a priori* appear to be a straightforward way to correct regulatory distortions associated with a zero RW. However, the use of positive RWs to weaken the sovereign-bank nexus can also foster unintended procyclicality by increasing capital requirements during periods of sovereign distress and encouraging sovereign debt sell-offs and/or reduction in credit supply in such periods ([Véron, 2017](#)). More importantly, within the European context, this approach is legally all but impossible. The [CRD](#) and [CRR](#) framework includes only three ways to implement higher RWs: (i) on mortgage exposures of banks using the standardized approach ([Article 124\(2\)](#) of the CRR); (ii) as a temporary measure on property-related exposures across a wider group of institutions or on intra-financial exposures ([Article 458](#) of the CRR); and (iii) as a Pillar 2 measure ([Article 103](#) of the CRD). Furthermore, the CRR explicitly states that exposures to Member States' central governments and central banks, which are denominated and funded in domestic currency, shall be assigned a zero RW ([Article 114](#) of the CRR).

Large Exposure Limits (LELs)

LELs restrict banks' exposures to a particular sector and/or asset class, and they can in principle be applied to sovereign exposures. LELs are quantitative restrictions, which directly limit the size of exposures at the assigned limit. This entails larger implementation risks for LELs as they can induce an excessively strong reduction in banks' sovereign bond holdings and thereby actually cause the risks stemming from the nexus to materialize.

More importantly, legal restrictions severely limit their potential use. The CRD/CRR framework includes a general LEL at 25 percent of bank's eligible capital (or EUR 150 million, whichever is higher). However, a number of exposures are exempted, including the zero-RW sovereign exposures. Furthermore, although the framework allows national authorities some leeway in adjusting the framework ([Articles 400](#) and [458](#) of the CRR), including through removing some exemptions, the exemption on zero-RW sovereign holdings cannot be removed.

Liquidity Requirements

In principle, liquidity measures can be used to facilitate a reduction in banks' sovereign exposures. This could be done, for example, through haircuts on domestic sovereign bond holdings beyond a certain level in fulfilling quantitative liquidity requirements. However, this approach fails to ensure banks holding of additional capital to absorb losses during periods of sovereign distress, which could amplify the decline in credit during such periods, and the measure could, if miscalibrated, even undermine the safeguarding of adequate liquidity. Finally, there are also legal challenges to relying on this approach in the European context. For instance, [the European Commission's Regulation on the Liquidity Coverage Ratio](#), a key liquidity requirement in the regulatory framework, explicitly states that the aforementioned zero-RW government bonds shall be given level 1 status, which haircuts cannot be applied to.

Box 1. Other Potential Approaches to Address the Sovereign-Bank Nexus than the SRB (concluded)

Pillar 2 Measures

Pillar 2 provides a broad set of measures to address, in a relatively flexible manner, (firm-specific) systemic risks, which are not sufficiently covered by Pillar 1. They can therefore be used to address risk associated with excessive sovereign exposures, e.g., via increased capital requirements, exposure limits, enhanced risk management, or liquidity requirements. In the European context, the legal challenges of this approach are not as extensive as in the case of Pillar 1 RWs or LELs, but the lack of transparency involves disadvantages and risks.

The CRD/CRR framework allows Pillar 2 to be used for macroprudential purposes and to target individual institutions or a group of institutions with a similar risk profile. In particular, Pillar 2 measures can be used to impose capital requirements on certain portfolios of banks, which are considered to be the root of systemic risk. However, the risk is required to be identified through the Supervisory Review and Evaluation Process (SREP) or supervisory stress tests for each bank.

An important drawback of applying Pillar 2 measures is that they generally lack transparency as they are usually not disclosed. This is a disadvantage from the point of view of applying them for macroprudential purposes. Nondisclosure could also entail implementation risks, as the government's strong interest in funding their expenditures at low cost could encourage lax implementation of the measures. Another implementation risk is for the reallocation in banks' bond portfolios to be less orderly compared to when a transparent calibration of the SBR is used (paragraph 36).

39. The SRB should preferably be complemented with other measures. In particular, an expansion of the NBR's collateral framework to include euro area government bonds (potentially with minimum credit ratings) as eligible collaterals can be very useful to further support a diversification of banks bond holdings away from the domestic sovereign. Further reforms to the government's debt management strategy could be useful in limiting the impact of introducing the SRB on government bond yields. Measures to enhance the FX swap market could also be considered to help banks manage potentially larger FX risks from reallocating parts of their portfolios towards foreign bonds. This could help also more generally with limiting risks stemming from currency mismatches in the non-financial private sector.

D. Vulnerabilities from the Corporate Sector

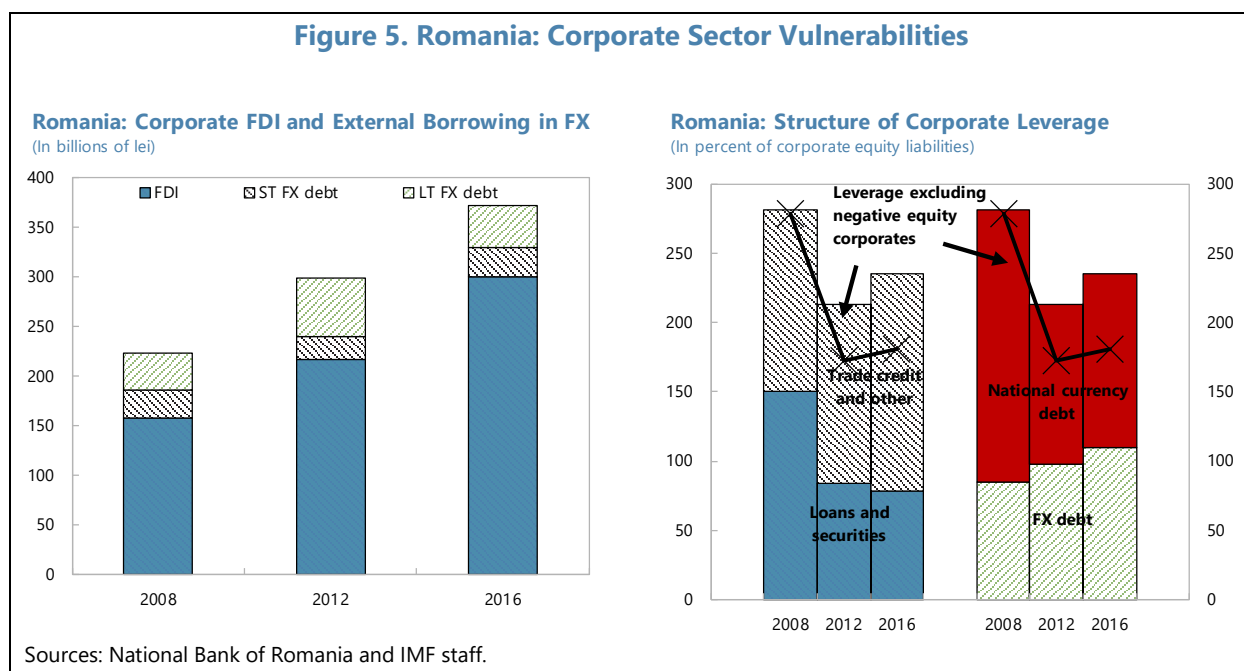
40. The banks' exposure to the corporate sector has decreased, while corporate leverage has remained high, and even increased recently. Bank credit to the corporate sector has been declining as banks have deleveraged, sold NPLs, and shifted their loan portfolio towards mortgages. Hence, systemic risk due to excessive bank exposures to corporates is limited and does not require policy action. However, corporates are increasingly relying on external borrowing and domestic funding through trade credit (Figure 5). As a result, corporate leverage increased between 2012 and 2016 despite the decline in bank credit. Although most of the increase in external funding is linked to equity and debt in the context of foreign direct investments (FDI) external portfolio debt in the

form of FX loans remains significant. A significant contribution to the elevated corporate leverage comes from the common practice of corporate funding through “shareholders’ loans”. This instrument is preferred over equity for tax minimization and for owners to be able to extract a fixed amount of income from the corporate through interest (Annex 2: Balance Sheet Analysis in the FSSA).

41. More than 40 percent of firms have negative equity, pointing towards inefficiencies in the insolvency framework. A high and persistent share of firms being technically insolvent seems to be a structural characteristic of the Romanian economy, although the share did increase following the GFC and about 30 percent of these companies were established over the last five years. Most of the entities are engaged in trade (38 percent), services and utilities (37 percent) and construction and real estate (12.6 percent – see [NBR’s December 2017 Financial Stability Report](#)). This indicates that the insolvency procedure does not result in the liquidation of technically insolvent firms, or at least that the process is very time consuming. This may result in banks being more reluctant to extend credit, as well as resource misallocations due to ‘zombie’ firms gambling for resurrection and undermining sound firms. Part of the rise in trade credit could reflect claims on firms with negative equity with limited capacity to service their obligations.

42. The NCMO has set up a working group to assess the financial position of the corporate sector and develop measures to reign in the high share of technically insolvent firms. Clearly, this work extends beyond the traditional macroprudential perimeter, but the analysis could nevertheless produce valuable information which may guide macroprudential policy actions going forward. In particular, the analysis could provide further insight into the changing composition of funding across the corporate sector.

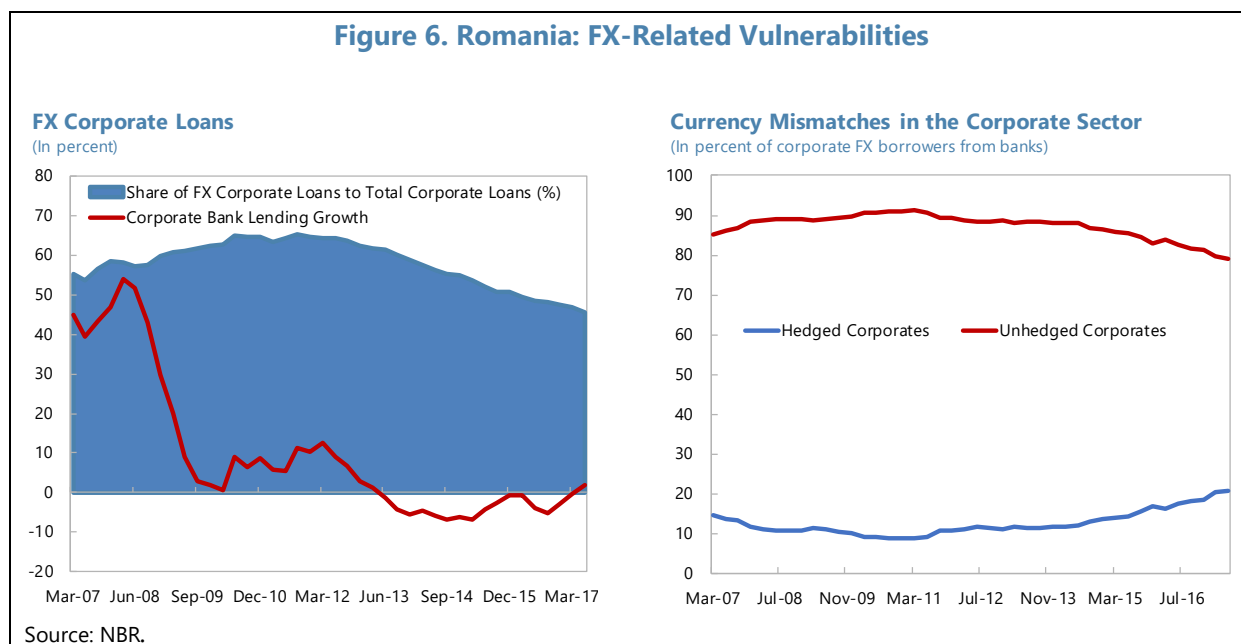
Figure 5. Romania: Corporate Sector Vulnerabilities



E. Foreign Exchange-Related Vulnerabilities

43. FX loans were a major source of the high NPL exposures following the GFC, but FX lending has contracted since then. The Prima Case mortgages, which have played a key role in fueling credit growth, are domestic currency RON-denominated and banks have decreased their exposures to SMEs, which previously borrowed extensively in FX. As a result, FX loans have contracted and were 44 and 42 percent of the stock of total corporate and household loans, respectively in 2017.

44. Nevertheless, FX credit vulnerabilities remain a concern. This reflects that currency mismatches among FX borrowers are common as a large share of the lending is unhedged (Figure 6). As a result, NPLs continue to be higher for loans in FX than in domestic currency (12.3 percent compared to 3.3 percent in December 2016). Furthermore, FX bank lending may pick up again in the future, if domestic rates keep on rising relative to euro area rates and if the lending by non-bank financial lenders (NBFLs) to the corporate sector, which is predominantly in FX (84 percent), continues to grow. While currency mismatches are extensive in the corporate sector, they are limited on the banks' balance sheets as the NBR has in place a strict net open position limit and households' deposits in FX have recently been increasing.



45. FX vulnerabilities continue to justify macroprudential policy action. The household borrower limits (LTV and DSTI, that are enforced differently) are tighter for FX lending (Table 2) and the limits apply at loan issuance. In the case of DSTI a stressed scenario is used in setting the limit, which includes a sizable depreciation that is absent in the case of domestic currency lending. Prudential liquidity tools should also be implemented to limit the banks' exposure to FX liquidity risks and their capacity to fund FX loans using wholesale funding, as discussed below. Furthermore,

the NBR should continue to enhance its supervision over the NBFL sector, which remains vulnerable to a currency depreciation as evident in the FSAP's risk analysis.

F. Vulnerabilities from Funding and Liquidity

46. FX liquidity risks can exist in an environment of otherwise ample banking sector liquidity. The Romanian banking system is characterized by abundant aggregate liquidity, a byproduct of the sizable sovereign exposures. The banks' funding structure appears relatively homogenous across main currencies. At the aggregate level, the funding structure in the two main currencies (RON and EUR) is very similar with retail deposits representing the largest source of funding (as evident in the decline in the loan-to-deposit ratio in Figure 1). Secured funding is almost non-existent. However, as evident in the risk analysis, pockets of vulnerabilities become apparent when liquidity is analyzed in a currency-differentiated manner. This reflects that a number of banks tend to meet their aggregate liquidity coverage ratio (LCR) in RON, or in some cases in euro, but not both. As a result, some of the banks assessed in the risk analysis fall short of the 100 percent LCR in euro, and a few in RON.

47. A revival in FX lending funded by increased reliance on wholesale funding cannot be ruled out. The banks' funding pattern have become more stable, as discussed above, as evident in the risk analysis finding that almost all the banks meet the 100 percent net stable funding ratio (NSFR), both in RON and euro. However, experience shows that this can change rapidly and needs to be monitored closely and if needed, resulting risks should be mitigated by a policy response.

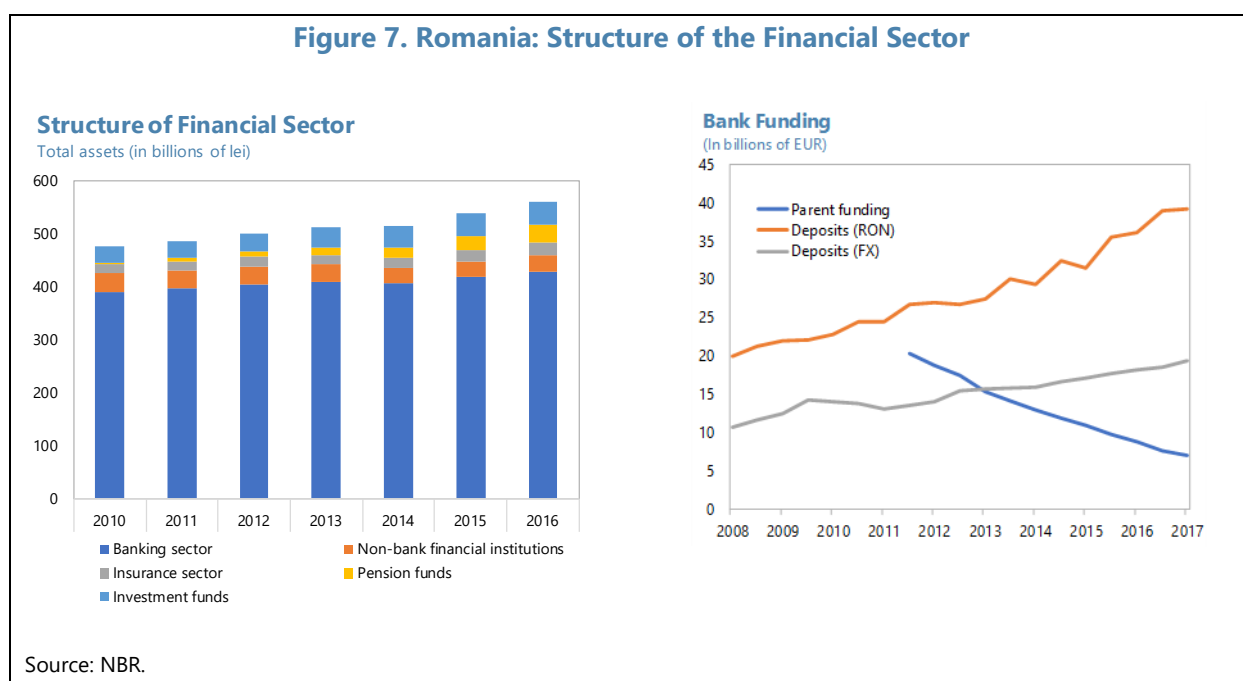
48. The authorities should enforce a currency-differentiated LCR for significant currencies and monitor a currency-differentiated NSFR. A currency-differentiated LCR would strengthen the banks' resilience towards liquidity shocks by forcing them to hold high quality liquid assets (HQLA) in all significant currencies to withstand loss of short-term funding. Such a currency-differentiated LCR could be introduced either as a Pillar 2 measure, or as a Pillar 1 measure following the process in Article 458 CRR. Monitoring a currency-differentiated NSFR would allow the authorities to assess the extent to which maturity mismatches in all significant currencies become excessive, e.g., due to overreliance on wholesale funding. In case of risks of financial instability resulting from excessive FX credit growth, the currency-differentiated NSFR could be enforced and if that is insufficient a temporary increase in FX reserve requirements could also be considered to complement appropriate macroeconomic policy adjustment and financial regulations, provided that the risks are stemming from a capital inflow surge.

G. Structural Vulnerabilities

49. Concentration is moderate in Romania's financial system, which is dominated by (mainly foreign) banks. The banking system, consisting of 37 banks of which 29 are foreign-owned, holds around 80 percent of financial sector assets (Figure 7, left panel). Total bank asset only amount to about 56 percent of GDP, with the five largest banks accounting for about 60 and 57 percent of total deposits and loans, respectively.

50. Banks' resilience has improved through reduced dependence on parent funding from abroad. The share of deposits from the domestic private sector has increased from about 48 percent of banks' total liabilities in 2011 to about 60 percent in 2016, reflecting a sharp reduction in parent funding that has declined to about EUR 7 billion, a third of the level in 2011 (Figure 7, right panel).

51. Interconnectedness in the financial system as a whole has been increasing. Banks are exposed on the credit side to other domestic financial institutions and increasingly on the funding side to investment and pension funds, in particular as these funds have increased their bank equity holdings. Despite increasing interconnectedness, this development is welcome as it achieves a diversification of the investor base in bank equity (Annex 2: Balance Sheet Analysis in the FSSA).



52. Nine banks are assessed to be systematically important and therefore subjected to a one percent O-SII-buffer. The NBR began in January 2015 to assess which credit institutions should be identified as institutions significant for the financial system in Romania and the EU, based on specific criteria according to guidelines from the EBA. The assessment consists of a two-step procedure using a set of mandatory (step 1) and optional indicators and (step 2) as shown in Table 3. From January 1, 2018 seven foreign- and two domestically-owned credit institutions are assessed to be O-SIIs by the NCMO (Table 4).

53. O-SIIs held over 76 percent of bank assets, and a similar share of non-financial private sector loans and deposits as of March 31, 2017. Furthermore, their share in banks' cross-border assets and liabilities was 84 and 77 percent, respectively. In terms of interconnectedness with other

financial institutions, their share of intra-financial assets and liabilities, was 59 and 75 percent, respectively.

54. The capital conservation buffer is being phased-in. All credit institutions are subject to the capital conservation buffer to improve their capacity to absorb losses that may arise from banking activities. Its phase-in began in January 2016 with equal increments of 0.625 percent each year, resulting in the buffer to reach the uniform 2.5 percent level on January 1, 2019.

Table 3. Romania: Criteria for Assessing Systemic Importance		
Step 1: Criteria and Mandatory Indicators		
Criterion	Indicators	Weight
Size	Total Assets	25 percent
Importance (Substitutability/Financial System Infrastructure)	Value of domestic payment transactions	8.33 percent
	Private sector deposits from depositors in the EU	8.33 percent
	Private sector loans to recipients in the EU.	8.33 percent
Complexity (Cross-border Activity)	Value of OTC derivatives (notional)	8.33 percent
	Cross-border liabilities	8.33 percent
	Cross-border claims	8.33 percent
Interconnectedness	Intra-financial system liabilities	8.33 percent
	Intra-financial system assets	8.33 percent
	Debt securities outstanding	8.33 percent
Step 2: Additional Country-Specific Criterion		
Contribution made by the credit institution to financing the real economy, calculated based on the volume of loans granted to nonfinancial corporations and the substitutability of nonfinancial corporations' lending activity.		
Contribution made by the credit institution to financial intermediation, calculated based on the volume of deposits taken from households and nonfinancial corporations.		
Presence of the credit institution on the interbank market and the assessment of the contagion effect.		
Designating systemically important institutions within ReGIS payment system.		
Vulnerability to contagion in the parent bank-subsidary relationship from the common lender standpoint (the origin country of the capital).		
Source: NBR.		

55. The FSAP’s risk analysis assess potential vulnerabilities of banks to shocks from interbank, NBFLs, and cross-border linkages. The network approach applied to the system of domestic banks and NBFLs finds that, since banks’ exposures to NBFLs are more important than interbank exposures, some NBFLs have a greater systemic impact on the network than banks. Parent banks are particularly vulnerable to distress from the NBFLs they own if reputational effects from the failure of the affiliated NBFL would materialize, resulting in a loss of confidence and depositor run on the parent. Cross-border exposure of the banking sector are still significant, albeit reduced, mainly due to relatively high foreign liabilities.

56. The authorities need to exhibit vigilance towards regulatory arbitrage. The NBR recently introduced measures to strengthen oversight over the NBFL sector, where lending to SMEs and low-income households was increasing rather rapidly and mainly funded by the banking sector, and should align the sector’s provisioning regime with that of the banks.

Credit Institution	Nationality	O-SII Buffer
BCR	Austria	1 percent
BRD	France	1 percent
UniCredit Bank	Italy	1 percent
Raiffeisen Bank	Austria	1 percent
Alpha Bank	Greece	1 percent
Bancpost	Greece	1 percent
Banca Transilvania	Romania	1 percent
CEC Bank	Romania	1 percent
Garanti Bank	Spain	1 percent

Source: NBR

CONCLUSION AND RECOMMENDATIONS

57. The institutional framework for macroprudential policymaking has recently been revised and contains a clear mandate and well-defined objectives. The NCMO was established in April 2017. It is chaired by the NBR Governor and includes representatives from the NBR, the AFS, and the MoPF. Henceforth, the NCMO is the national macroprudential authority in Romania with a clear legal mandate to set macroprudential policies with the objective to contribute to safeguarding financial stability by strengthening the resilience of the financial system and containing the build-up of systemic risk.

58. The institutional arrangement seems to guarantee adequate powers to ensure NCMO’s ability to act, but its willingness to act remains to be more thoroughly tested. The NCMO has direct powers over a wide-range of macroprudential tools, is empowered to recommend actions to

be taken by other supervisory authorities or the Government, and issue warnings, coupled with a 'comply or explain' mechanism. The accountability framework includes the publication of a policy strategy, summary of meetings, issued recommendations and warnings, and an annual report. The functioning of the NCMO is still being established, it has only held five meetings, but nevertheless issued 10 recommendations, including on the CCyB.

59. The NCMO can build on NBR's long experience of macroprudential policy implementation and its relatively sophisticated framework for systemic risk monitoring. The NBR monitors several indicators to assess the build-up of systemic risk, many of which are derived from the nationwide credit registry, and subjects the banks to regular stress tests. However, data and information gaps remain, e.g., due to sold household and corporate NPLs now being off banks' balance sheets. The authorities should require the debt collection companies to report to the credit registry to improve data quality.

60. The macroprudential policy toolkit should be strengthened further to address risks identified in the FSAP's risk analysis. A stressed DSTI limit should be applied to all loans (mortgages and consumer loans) to mitigate risks of excessive credit growth and rise in defaults given households' vulnerabilities to a rise in interest rates or risk premia, as featured in the FSAP's risk analysis. The calibration could draw on the joint analysis with the NBR using loan-level information from the Romanian credit register. The Prima Casa program should also be gradually scaled back to mitigate risks of housing sector imbalances and support the effectiveness of the LTV limits. The risk analysis also identified that FX liquidity risks can exist within an environment of ample overall liquidity and a return of excessive FX credit growth cannot be excluded. The authorities should therefore enforce a currency-differentiated LCR for significant currencies and monitor a currency-differentiated NSFR.

61. The SRB should be calibrated carefully to address risks stemming from the strong sovereign-bank nexus. The Romanian banking system is characterized by exceptionally concentrated and large exposures towards the domestic sovereign. The risk analysis identifies these large and concentrated sovereign exposures as an important risk for individual banks and the system as a whole. Prudential policy measures should be introduced to mitigate risks from the sovereign-bank nexus by ensuring resilience through increased loss absorbing capacity and providing disincentives against excessive concentration of risks. At the same time, its calibration should seek to mitigate the potential for unintended side-effects.

Annex I. Impact of the SRB Scheme on Bond Yields and Bank Profitability¹

This Annex provides an analysis of the likely impact of introducing the SRB for sovereign exposures on sovereign bond yields, and banks' profitability.

Impact on Government Bond Yields

1. **An important question is how the calibrated scheme for the SRB (Figure 4) would impact the sovereign borrowing costs.** The answer would depend on a) the impact of the additional capital requirements on the banks' funding costs, and b) the extent to which banks pass on these costs to the ultimate borrower (i.e., the sovereign).
2. **We assume that banks' funding costs would be affected by the increase in capital requirements.** Modigliani-Miller's equivalence states that variations in a firm's liability structure (composition in terms of debt or equity) do not affect its funding costs. In reality, there are several reasons why Modigliani-Miller may not hold. Almost all jurisdictions apply preferential tax treatment to debt. Deposits also benefit from deposit insurance, which lowers their cost for the bank. Agency considerations have also been highlighted in the literature: debt has a disciplinary impact from a shareholder's point of view and thus raising equity instead of issuing debt can be costly.
3. **The increase in banks' funding costs is assumed to be passed fully into bond prices.** In this exercise it is assumed that (i) a bank's funding costs increase as it raises equity (i.e., Modigliani-Miller does not hold); (ii) the increase in funding costs is fully reflected in the price of bonds, which will have to yield higher returns; and (iii) there is no adjustment in the quantity of bonds issued (or purchased by the banks) and the entire adjustment occurs through prices.
4. **The increase in required bank capital due to the SRB is close to 1 percent of RWA or RON 1.7 billion.** Assets of the largest 12 Romanian banks stood at RON 317 billion as of end-2016. Their exposure to government securities was close to 22 percent of total assets, or roughly RON 69 billion. The calibrated SRB scheme implies an effective increase in common equity Tier 1 (CET1) capital of close to 1 percent of RWA for the 12 banks, or RON 1.7 billion.
5. **As a result, the increase in the banks' cost of funding is RON 174 million.** The increase in cost of funding for the banks consists of the difference between the cost of equity and debt (assumed to be deposits) for the increase in capital of RON 1.7 billion. This can be computed as

$$\Delta \text{Cost of funding} = \Delta \text{Capital} * [\text{Cost of Equity} - \text{Cost of debt} * (1 - t)]$$

where t is the tax rate. To measure the cost of equity vs. debt the latest figures for return on equity (ROE) for Romanian banks (12 percent as of end 2017) and deposit rates (close to 2 percent on average) is used. Considering a tax rate of 16 percent, the annual increase in the cost of funding from switching to equity from deposits amounts to RON 174 million.

¹ The Annex has been prepared by Maral Shamloo, Monetary and Capital Markets Department, IMF.

6. The higher funding costs imply an increase in government yields of just over 30bps. It is assumed that the increase in the cost of funding will be fully reflected in increased government bond yields. It is also assumed that the impact on yields is the same for all maturities (i.e. there is a parallel shift in the yield curve). The increase in yields that would be required for banks to want to continue to hold government bonds can then be computed from

$$\Delta \text{Cost of funding} = \Delta \text{yield} * \text{stock of outstanding debt} * (1 - t)$$

Given the assumptions above, bond yields would have to increase by just over 30bps to cover the increase in funding costs.

7. The 30bps increase in government bond yields is likely to be an upper bound:

- **First, an increase in capital levels reduces the riskiness of a bank, likely decreasing the cost of equity relative to the current levels.** Analysts typically use a positive pass-through, with the most common assumption being a halfway adjustment between Modigliani-Miller (no change in the cost of funding) and the baseline assumption used here (no change in the demanded return on equity). Assuming a 50 percent adjustment would cut the increase in yields in the baseline scenario into half, or roughly 15bps.
- **Second, bank debt may be more expensive than deposits, reducing the marginal increase in funding costs from more equity.** In the absence of a good estimate for the cost of bank debt other than deposits, deposit rates have been used here as a conservative estimate for the cost of nonequity funding. In reality, banks also have other types of funding, for instance borrowing from parents, which are more expensive than deposits, thus leading to a smaller increase in the cost of funding.
- **Third, not all the additional capital may need to be raised.** Many banks have significant capital buffers above their regulatory requirements and would be able to absorb the increase due to the SRB surcharge. Thus, the actual capital increase may be smaller than the estimate under the baseline.
- **Fourth, inter-bank trade could lower the aggregate capital requirements given the non-linearity of the SRB scheme.** Since the marginal SRB add-on increases as exposures to sovereign increase as a share of RWA, the system-wide capital requirements depend on the distribution of sovereign holdings among the banks. For instance, if the current stock of sovereign debt was distributed among banks such that all held the same exposure as a share of RWA, the overall capital requirements due to the SRB add-on would decrease to RON 1.2 billion (compared to the RON 1.7 billion in the baseline case) and the SRB rate add-on would decrease to 0.7 percent of RWA (compared to 1.0 percent of RWA in the baseline case).

- **Finally, to the extent that there is room for adjustment in quantities of bank debt holdings the price impact could be further muted.** For instance, other investors in government bonds such as parent banks, pension funds, investors abroad who are not subject to the SRB requirement may decide to increase their holdings given the increase in the yields, reducing the ultimate impact to below 30 bps.

8. The estimates above are consistent with similar studies in the literature. In the aftermath of the GFC a number of studies estimated the impact of higher capital requirements on lending costs. A [Basel Committee on Banking Supervision \(2010\)](#) study assesses the impact on lending rates of a 1 percent increase in capital requirements to be between 9–20bps. [Schanz et al. \(2011\)](#) find that for the UK an increase in the capital ratio by 1 percentage point would imply an increase in lending spreads by about 7.4 basis points. Finally, using data for the United States, [Elliott \(2009\)](#) and [Kashyap, Stein, and Hanson \(2010\)](#) also find the impact on lending rates to be limited.

9. Such an increase in government bond yields should not pose risks to public sector debt sustainability. First, it represents a relatively limited increase in yields. During the first four months of 2018, Romania 10-year government bond yields have fluctuated around 4.5 percent. As such, a 30 bps. increase amounts to only around 1/16 or less than 7 percent of this level. Second, as government debt-to-GDP is relatively low, the impact of such an increase on debt sustainability is likely to be limited. In fact, one of the scenarios considered in the Public Debt Sustainability Analysis in the 2018 Article IV Staff Report for Romania entails a far greater increase in borrowing costs, without any substantial impact being identified on debt sustainability. Moreover, our analysis suggests that a price increase of roughly 30 bps. would make the banking sector indifferent between no SRB surcharge on bonds or holding them at the higher yield. This means that banks' demand for government securities can be secured through an increase of this magnitude, if a change in investor base not desired, or foreseen only to occur with time.

The Impact on Banks' Profitability

10. In this exercise, the impact on banks' profitability from introducing the proposed SRB scheme is assessed. Profitability is measured by the ROE. Note that the extreme assumption underlying the previous exercise was that banks would pass on the entire increase in the cost of funding to the sovereign, such that the ROE remains constant. In this exercise, the opposite extreme assumption is made, i.e., that banks absorb the entire increase in funding costs, which would be reflected in a lower ROE.

11. The bank's return on assets (ROA) is assumed to remain the same. To calculate the impact of the increase in equity on profitability first note that

$$RoA * \left(1 + \frac{debt}{equity}\right) = RoE$$

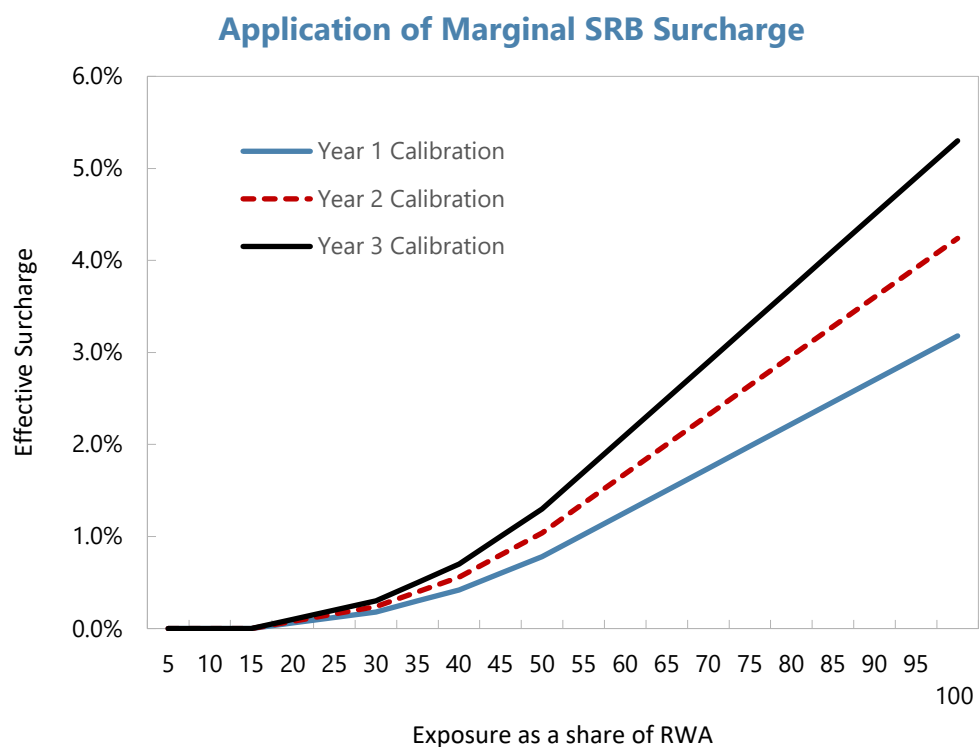
Now assume that the banks do not change their asset structure as a result of the SRB capital surcharge. Therefore, ROA for banks remains the same.

12. The impact of the additional capital requirement on the banking sector's profitability is very small. Assuming an ROE of 12 percent, combined with the current leverage ratio of the banking sector, the ROA for the top 12 banks is approximately 1.3 percent. As a result of the RON 1.7 billion additional raised due to the SRB requirement, the debt to equity ratio would fall from 8.5 to 8.1, implying a reduced ROE of 11.4 percent, only 0.6 percentage points lower compared to the current level. Hence, the impact of introducing the proposed SRB on bank profitability is very limited.

A Phased-in Approach

13. In order to further limit the initial impact on government bonds a more gradual approach to introducing SRB could be adopted. Such an approach may also be useful since, while impacts can be computed and estimated ex ante, the actual impacts will be subject to uncertainty. To account for this, the marginal scheme above could be phased in gradually over a period of three years. Appendix Figure 1 suggests one example of such a phase-in over three years, that would lead to an estimated additional capital of 0.6 percent of RWA (system-wide) in the first year, rising to 0.8 percent in the second year and ultimately to the 1 percent presented in Appendix Figure 1. Using the same logic as above, the initial impact on government bond yields would be thus more muted, on the order of 20 bps in the first year, rising to 25 bps and 30 bps in the second and third year.

Annex Figure 1. Romania: A Phased-in Approach to Calibration of the SRB



Calibration of the SRB (interim scheme)

Exposure to Sovereign as a Share of RWA (percent)					
Marginal SRB add-on	< 15	15–30	30–40	40–50	> 50
Year 1	0 percent	1 percent	2 percent	4 percent	5 percent
Year 2	0 percent	2 percent	3 percent	5 percent	6 percent
Year 3	0 percent	2 percent	4 percent	6 percent	8 percent

Source: IMF staff calculations.

The Impact on Banks' Liquidity Positions

14. A final exercise examines interactions with banks' liquidity requirements, and finds that the effects are small. Currently, sovereign securities form 78 percent of all lei denominated HQLA. Therefore, there could be a worry that imposing an SRB surcharge on banks would increase the cost to banks of meeting the LCR and thereby undermine the liquidity requirements. To assess what capital charges flow from banks wanting to meet their LCR, we calculate for each bank the amount of HQLA needed to reach a 100 percent LCR on a lei basis. We then assume, counterfactually that the only available HQLA is government securities,¹ and compute the capital surcharge for each bank associated with holding that amount. We find that under these assumptions, most banks would not face a positive capital buffer, while the SRB buffer for the aggregate banking sector would amount to just 0.1 percent. Therefore, we deem that the cost associated with meeting the LCR imposed by the SRB is very small.

15. The SRB surcharge could reduce FX liquidity risks by encouraging banks to hold FX denominated HQLA. The banks in Romania have significant FX denominated deposits (32 percent of total deposits). To hedge the currency risk associated with these liabilities, a significant part of the loans, particularly mortgages, are also issued in FX, exposing the banks to credit risk associated with unhedged borrowers. Therefore, to the extent that the SRB surcharge may, at the margin, encourage banks to hold more FX denominated securities, it would also help them manage currency risk in two ways. First, given a certain level of FX denominated savings in the economy, the need to extend loans in FX would be reduced as the banks can use foreign bonds to close their net open position. Furthermore, highly rated foreign bonds help the banks meet HQLA requirements in FX, in line with the team's liquidity recommendation.

¹ This is more conservative than the actual situation, where government bonds are 78 percent of HQLA holdings.