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May 2017

FINANCIAL SYSTEM STABILITY ASSESSMENT—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR BULGARIA

In the context of the Financial System Stability Assessment, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its May 22, 2017 consideration of the FSSA.
- The **Financial System Stability Assessment** (FSSA) for Bulgaria**,** prepared by a staff team of the IMF for the Executive Board's consideration on May 22, 2017. This report is based on the work of an IMF Financial Sector Assessment Program (FSAP) missions to Bulgaria in October 2016 and January 2017. The FSSA report was completed on May 5, 2017.
- A **Statement by the Executive Director** for Bulgaria

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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COMMUNICATIONS DEPARTMENT

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IMF Executive Board Approves Bulgaria's 2017 Financial System Stability Assessment

On May 22, 2017, the Executive Board of the International Monetary Fund (IMF) discussed the Financial System Stability Assessment of Bulgaria.[1]

Bulgaria's financial system has been resilient to shocks in recent years, though it was shaken in 2014 by the collapse of the system's fourth largest bank due to fraud and insider abuse. The failure raised questions about the viability of other banks, some of which experienced deposit outflows, and raised concerns about the supervision by the Bulgarian National Bank (BNB). To restore credibility, the authorities—in addition to requesting this Financial Sector Assessment (FSAP)—conducted an asset quality review (AQR) for banks and nonbanks, and initiated reforms to BNB supervision and introduced a new bank resolution function.

The financial system stabilized following the 2014 bank collapse, reflecting the initial reforms, and the overall significant capital and liquidity buffers. Nevertheless, risks remain, including for some banks that showed weakness in the authorities' AQR and stress test, and for the system because of high nonperforming loans (NPLs). The Currency Board Arrangement (CBA) has contributed to economic stability, though it constrains the BNB's ability to provide liquidity support in times of financial stress.

Progress has been made to strengthen supervision since the 2015 Basel Core Principles (BCP) assessment, but more work and resources are needed. The AQR exercise provided a deep assessment of bank impairment practices, loan data quality, and collateral valuation processes.

[1] The Financial Sector Assessment Program (FSAP), established in 1999, is a comprehensive and in-depth assessment of a country's financial sector. FSAPs assess the stability of the overall financial system and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in the FSAPs.

While the financial safety net and crisis management arrangements are based on sound foundations, they face important challenges. The authorities have introduced a comprehensive resolution toolkit, designated by the BNB as the resolution authority for banks, and established mechanisms to fund resolution measures. However, the financial safety net components still are underdeveloped. Among the concerns are that resolution planning for larger domestically owned banks is incomplete, and, in the practical sense, an emergency liquidity assistance facility would not be available if needed.

A more targeted strategy is needed to address high NPLs, which in Bulgaria's banks stood at 13.7 percent of total loans as of June 2016[2]—against an EU-weighted average of 5.5 percent. Certain accounting, collateral valuation, and risk management practices have contributed to disincentives for NPL reduction. Banks will also need to build provisions in preparation for the implementation of the forthcoming expected credit loss provisioning standards beginning next year[3].

Executive Board Assessment[4]

Executive Directors agreed with the main findings and recommendations of the Financial System Stability Assessment. They commended the authorities for the positive steps taken to rebuild credibility in the banking system after the collapse in 2014 of the then fourth-largest bank, which revealed weaknesses in supervision and crisis management tools. Directors encouraged the authorities to continue to press ahead with efforts aimed at strengthening financial sector resilience.

Directors welcomed the authorities' plans to address weaknesses identified by the Asset Quality Review and stress test exercise completed in 2016. They noted that while the banking system overall shows resilience—as confirmed by the Financial Sector Assessment Program's stress test—the exercise revealed capital weaknesses in some domestically owned banks. Directors encouraged the authorities to stay the course and prioritize the restructuring and capitalization plans for these banks. They also emphasized the importance of strengthening supervision and addressing governance concerns with particular attention to related-party exposures and credit concentration.

Directors commended the improvements in banking oversight since the 2015 Basel Core Principles assessment, but noted that shortcomings remain. They called on the authorities to extend the Bulgarian National Bank's macro-prudential mandate to address the

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[2] This number is based on the European Banking Authority's measure.

[3] Beginning January 1, 2018, EU banks will be subject to the new International Financial Reporting Standard 9 (IFRS 9) for determining loan loss provisions.

[4] At the conclusion of the discussion, the Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summing up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.html.

high level of nonperforming loans (NPLs) in a comprehensive manner through a combination of measures, including strengthened loan-loss provisions, higher NPL write-offs, improved collateral valuations, enhanced disclosure practices, and strengthened data collection. Directors also underscored the need to strengthen supervision and address weaknesses in the non-bank sector.

Directors urged the authorities to fully develop all components of the financial safety net and crisis management arrangements. They saw merit in developing a framework to provide for lender of last resort liquidity assistance to address constraints stemming from the currency board arrangement and European Union state aid procedures.

Directors noted the progress in enhancing anti-money laundering (AML) supervision of the banking sector and encouraged the authorities to build on these efforts and implement a risk-based approach to AML supervision in line with the Financial Action Task Force standard.

INTERNATIONAL MONETARY FUND

BULGARIA

FINANCIAL SYSTEM STABILITY ASSESSMENT

May 5, 2017

Approved By
James Morsink and Philip Gerson

Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) missions that visited Bulgaria in October 2016 and January 2017. The report will be discussed at the Board as a stand-alone Financial System Stability Assessment (FSSA).

- The IMF-WB FSAP team was led by Michael Moore (IMF) and Ilias Skamnelos (WB), and included Nolvia N. Saca-Saca (IMF deputy mission chief), Atilla Arda, Ivan Guerra, Tumer Kapan, Mindaugas Leika, Yi Wu (all IMF staff); Gerald Edwards and Joaquin Gutierrez Garcia (IMF external experts); and Cevdet Cagdas Unal (WB deputy mission chief), Karlis Bauze, Pierre Laurent Chatain, Pamela Lintner, and Jean Michel Lobet (all WB staff), as well as Anthony Randle (WB external expert). The mission met with Governor Dimitar Radev, Deputy Governors Dimitar Kostov, Kalin Hristov, and Nina Stoyanova; and other senior Bulgarian National Bank (BNB) staff. The mission also met with the caretaker government Finance Minister Kiril Ananiev; the previous Finance Minister Vladislav Goranov, and Deputy Finance Minister Marinela Petrova; and Chairperson Karina Karaivanova of the Financial Supervision Commission (FSC).

- This report was prepared by Michael Moore and Nolvia N. Saca, with contributions from other FSAP mission members. It draws on several associated technical notes related to (i) risk assessment and stress testing; (ii) a macroprudential strategy for nonperforming loans; (iii) assessment of the safety net (including the currency board arrangement); and (iv) a stock take on banking supervision post the 2015 Basel Core Principles assessment. A parallel FSAP report—the Financial Sector Assessment—was prepared by the World Bank team. The World Bank report and associated technical notes additionally review the regimes for nonbank financial institutions and bank corporate governance.

- FSAPs assess the stability of the overall financial system and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in the FSAPs.

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Glossary

AMC	Asset Management Company
AQR	Asset Quality Review
BCP	Basel Core Principles
BDIF	Bulgarian Deposit Insurance Fund
BNB	Bulgarian National Bank
BRF	The bank resolution fund managed by the BDIF
BRRD	Bank Recovery and Resolution Directive
BSD	BNB Bank Supervision Department
CAEL & CAMELOS	BNB Supervisory Risk Rating System
CBA	Currency Board Arrangement
CET1	Basel Capital Measure – Common Equity Tier 1
DIF	The deposit insurance fund managed by the BDIF
DGS	Deputy Governor for Supervision
EBA	European Banking Authority
ELA	Emergency Liquidity Assistance
ESRB	European Systemic Risk Board
EWS	Early Warning System
FATF	Financial Action Task Force
FSAC	Financial Stability Advisory Committee
FSAP	Financial Sector Assessment Program
FSC	Financial Supervision Commission
GC	Governing Council
GDP	Gross Domestic Product
IADI	International Association of Deposit Insurers
IAS	International Accounting Standards of the IASB
IFRS	International Financial Reporting Standards
LLR	Loan Loss Reserve (also called loan loss allowance)
LTD	Loan-to-Deposit Ratio
MCM	Monetary and Capital Markets Department (IMF)
MOF	Ministry of Finance
MOU	Memorandum of Understanding
NPLs	Nonperforming Loans (used interchangeably with distressed assets)
RRP	Recovery and Resolution Plan
RAM	Risk Assessment Matrix
SB	Supervisory Board
SREP	Supervisory Review and Evaluation Process
ST	Stress Test
STeM	Stress Test Matrix
TN	Technical Note
WEO	IMF World Economic Outlook

EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS

1. **Bulgaria's financial stability was shaken in 2014 by the collapse of the system's fourth largest bank due to fraud and insider abuse**. The failure raised questions about the viability of other banks, which subsequently experienced deposit outflows, and raised concerns about the supervision by the Bulgarian National Bank (BNB). To restore credibility, the authorities—in addition to requesting this Financial Sector Assessment (FSAP)—conducted an asset quality review (AQR) for banks and nonbanks, and initiated reforms to BNB supervision and introduced a new bank resolution function. Following the 2014 bank collapse, the financial system stabilized, reflecting the significant capital and liquidity buffers and the presence of large foreign-owned institutions. Nevertheless, risks remain, including for some banks that showed weakness in the authorities' AQR and stress test, and for the system because of high nonperforming loans (NPLs). The Currency Board Arrangement (CBA) has contributed to stability, though it constrains the BNB's ability to provide lender-of-last-resort liquidity in times of financial stress.

2. **The authorities' AQR/stress test exercise in 2016 identified capital needs in three banks, while the rest of the system showed substantial capital buffers**. The exercise provided a deep assessment of banks' balance sheets, particularly impairment levels, loan data quality, and valuation practices. From the AQR/stress test, the capital shortfall for the three banks amounted to about 0.3 percent of GDP. The FSAP stress test showed more pronounced effects though broadly in line with that of the authorities. Key differences in approaches were that: (i) the FSAP excluded interest income from nonperforming exposures in both the baseline and adverse scenarios, while the BNB approach—in line with the EBA methodology—only excluded interest income in the adverse scenario; and (ii) the FSAP simulated three years of GDP decline in its adverse scenario—compared with the BNB's adverse scenario of two years of GDP decline and a return to growth in the third year.

3. **It is important that the three banks undertake credible recapitalization plans, and that recovery and resolution planning is prioritized accordingly**. Sourcing equity from new bona fide investors would help improve credibility and address governance concerns. The BNB should act promptly if the banks do not meet their commitments under the BNB orders. In addition, the prioritized recovery and resolution planning for these banks should be part of broader contingency planning that encompasses financing, liquidity support, and legal and operational considerations related to solutions under the recently adopted Resolution Act transposing the EU Bank Recovery and Resolution Directive (BRRD).

4. **Some progress has been made to strengthen supervision since the 2015 Basel Core Principles (BCP) assessment, but more work and resources are needed**. A new BNB governance model includes better risk reporting to the BNB Governing Council (GC). Strategic decisions remain to be made by the GC in three areas: (i) there needs to be a set of prudential policy objectives; (ii) a framework is needed to assess the delivery against the policy objectives; and (iii) formal policies and frameworks need to set out the conditions under which the GC and the Deputy Governor for Supervision (DGS) will escalate supervisory action and early intervention measures. The Bank Supervision Department (BSD) needs staffing and systems to meet operational objectives that

include onsite inspections and offsite monitoring; follow up with key AQR findings (e.g., scrutinizing the treatment of NPLs, risk concentrations, and related-party risks); and demands stemming from forthcoming rule changes (e.g., the implementation of IFRS 9 in 2018). Risk indicators need objective benchmarks and the BNB's rating schemes (i.e., the CAEL and CAMELOS) need recalibration to better reflect risk profiles. The BNB should formalize the Supervisory Review and Evaluation Process (SREP), which sets out explicit Pillar 2 capital requirements per the EU obligations. The BNB is targeting 2017 for the adoption of new banking supervision process and inspection manuals.

5. While the financial safety net and crisis management arrangements are based on sound foundations, they face crucial challenges. The authorities have introduced a comprehensive resolution toolkit, designated the BNB as the resolution authority for banks, and established mechanisms to fund resolution measures. However, none of the financial safety net's components is fully developed. The early intervention framework (EIF) lacks quantitative escalation policies and procedures, and does not ensure a smooth transition from early intervention into resolution. For all practical purposes, there is no emergency liquidity assistance (ELA) facility due to lack of funds and because of policy choices that impede effective liquidity assistance. The deposit insurance fund is insufficient to cover payouts to the depositors of the smallest mid-sized bank, unless the BDIF would take on an additional sizeable loan and/or collect extraordinary premiums. The bank resolution fund just recently started collecting premiums and is not operational, For none of the 13 majority domestically owned banks has a recovery and resolution plan (RRP) been finalized.

6. The BNB is experienced in the application of macroprudential measures. Given the CBA, the BNB has in the past deployed macroprudential policies aimed at curbing rapid credit growth, including exhorting banks to be more conservative in lending and to maintain higher capital buffers. The mandate for macroprudential supervision is embedded in the Banking Act, stating that the BNB is to maintain stability through the prevention or reduction of systemic risks affecting banks. This mandate supports the introduction of measures whose objective is to reduce systemic risk during periods of economic upturn, and which would slow down a buildup of negative externalities from high NPLs and indebtedness in future economic downturns.

7. A more targeted strategy is needed to address high NPLs. Certain accounting, collateral valuation, and risk management practices have contributed to disincentives for NPL reduction. This comes at a time when banks will need to build provisions in preparation for the implementation of IFRS 9's expected credit loss-provisioning rules beginning next year. Across Europe, estimates of the impact from IFRS 9 are that loan loss allowances may need to increase by 18-33 percent from current levels. Toward an objective to reduce the overhang of high NPLs, the FSAP promotes the extension of the BNB's macroprudential mandate to introduce supervisory review approaches to exhort more robust provisioning, NPL accounting write-offs, and improved collateral valuation practices. The BNB should work with other national authorities, the banking industry, and investors to improve the market for NPLs and collateral enforcement.

Table 1. Bulgaria: Key FSSA Recommendations	
Recommendation	**Time**[1]
Banking Sector Stability	
Analyze and stress test largest exposures separately, also considering potential cash flows from collateral in case of default (BNB, ¶10).	NT
Financial Sector Oversight and Regulation	
Ensure adequate staffing and resources of all financial oversight authorities and arrange significant training and capacity building for staff. (MoF, BNB, BDIF, FSC, ¶25-26, ¶32, ¶36, ¶50).	NT
Strengthen the legal and operational framework for legal protection for current and former staff of all financial oversight authorities. (MoF, BNB, FSC, BDIF, ¶32, ¶50).	NT
Banking Sector Supervision and Regulation	
Adopt a multi-year Action Plan with detailed activities to continue strengthening BSD (BNB, ¶21).	NT
Implement a comprehensive supervisory strategy for the target banks under the AQR (BNB, ¶28).	I
Introduce regulation (based on Article 45) on related parties setting criteria to typify circumvention (e.g., including the inability to identify ultimate beneficial owner, *inter-alia*) (BNB, ¶25).	I
Based on 2017 inspections, enforce remedies to concentration and related party risks (BNB, ¶28).	NT
Implement a risk-based approach to AML/CFT supervision in line with the FATF standards (¶39).	NT
Macroprudential Policy Framework	
Strengthen public disclosure of macroprudential policy, including the objectives and reasoning for policies and how they are supposed to work, and ex-post assessment of effectiveness (BNB, ¶37).	NT
Nonperforming Loans Strategy for Banks	
Implement a comprehensive strategy for NPL reduction, including the use of supervisory review tools. The strategy should enforce (i) robust provisioning in 2017 (under IAS 39) and in 2018 (under IFRS 9), building on BCBS efforts and related supervisory guidance; (ii) oblige write-offs of NPLs where collection is unlikely; (iii) issue supervisory guidance setting out minimum collateral valuation practices; and (iv) enhance supervisory reporting and disclosure BNB ¶41 to ¶45.	I
Financial Safety Net	
Prioritize RRP for (1) the banks for which the 2016 AQR and stress test indicated capital shortfalls, and (2) the majority domestically owned D-SIBs. (BNB, ES¶3; ¶50).	I
Ensure a smooth and decisive transition from early intervention into resolution. (BNB, ¶50).	NT
Consistent with the CBA, define joint BNB-MoF strategies for liquidity assistance to banks, supported by a comprehensive toolkit. (BNB, MoF, ¶50).	I
Under the oversight of the FSAC with an expanded mandate and membership, strengthen the crisis management framework. (FSAC, MoF, BNB, FSC, BDIF, ¶50).	NT

[1] Immediately (I) is within one year, near term (NT) is 1–3 years.

MACROFINANCIAL SETTING

A. Macroeconomic Developments

1. The financial system has been resilient to shocks in recent years. It weathered the global and Euro-area financial crises and, most recently, the failure of a large domestically owned bank in 2014, as well as spillovers on Bulgarian banks from the Greek crisis in 2015. Macroeconomic conditions have been improving. The GDP grew by 3.6 percent in 2015 and 3.4 percent in 2016; unemployment has gradually declined, although it remains high; and the current account has turned into (a sizable) surplus in 2016. The fiscal balance improved significantly in 2016, and public debt is still among the lowest in Europe, despite increases in recent years. Nonfinancial corporate sector debt remains high compared to regional peers, although a significant share consists of intra-company debt. The Currency Board Arrangement (CBA) has generally anchored macroeconomic stability, though in times of financial system stress, the CBA has added to liquidity risk, but this has proved manageable.

2. Before the global financial crisis (GFC), Bulgaria experienced a credit boom and strong economic performance. Credit expanded very rapidly during 2001–2008, fueled by capital inflows and current account deficit, building up systemic risk stemming from excessive leverage and correlated risk exposure in some sectors. This expansion contributed to asset-price bubbles in the real estate and construction sector, as well as other corporate sectors' asset classes, creating incentives for banks to take excessive risks and build up financial imbalances.

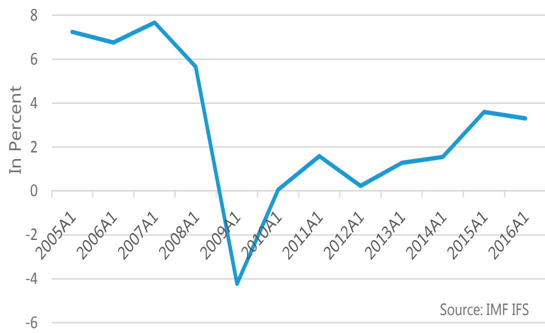
3. Credit stalled and has remained subdued since 2009. Lending to the corporate sector stagnated, although the flow of loans more recently has been gaining strength, particularly in household lending (Figure 1). The NPLs level stood at nearly 20 percent in June 2016, per the BNB's definition.[2] High NPLs have a negative impact on both financial intermediation and on the real economy. It may limit investment and consumption and constrain recovery of asset prices (IMF, 2015). Moreover, banks are reluctant to lend to debtors, especially to sectors that are burdened by high levels of indebtedness.

[2] The BNB definition is more conservative than that of the EBA. For example, the EBA Risk Dashboard showed Bulgaria's NPL ratio to be 13.7 percent.

Figure 1. Bulgaria: Macroeconomic Developments

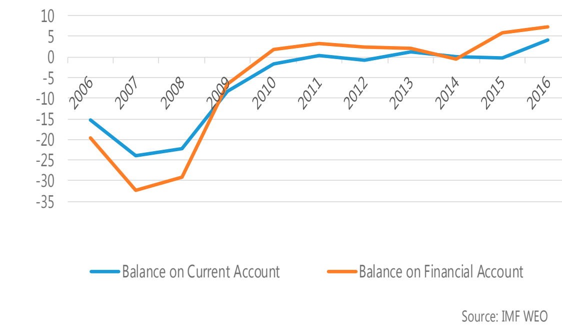
The economic recovery appears underway

Economic Growth
In Percent



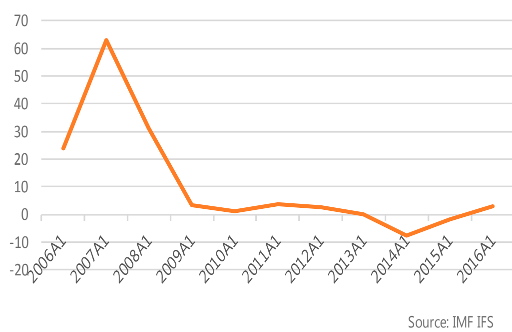
...as early signs of recovery are apparent and external imbalances are diminishing

Current and Financial Account Balance
In Percent of GDP



Credit to the private sector has turned positive

Credit to the private sector
Percent change

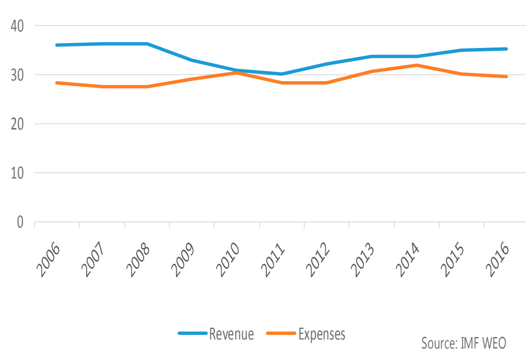


...as new private lending shows nascent recovery.

New Loans
Annual percent changes

The fiscal balance improved significantly in 2016

General Government Operations
In Percent of GDP



B. Financial System Structure and Developments

4. Bulgaria's financial system is bank dominated, with an important presence of subsidiaries and branches of foreign banks (see Annex I). Financial system assets amount to 115 percent of GDP and the banking sector assets amount to 101 percent of GDP. There are 27 banks, of which 13 are subsidiaries and 5 are branches of foreign banks. Foreign-bank presence accounts for 77 percent of total bank assets as of June 2016. There are nine domestically owned banks, with a combined bank asset share of 23.3 percent (including the third largest bank). Included among the nine banks are one state-owned bank and one municipality-owned bank that together represent just 3 percent of total bank assets. The top five banks represent 59 percent of total bank assets. The banking system is deposit funded (83 percent of liabilities) and assets are dominated by lending, with about half of loans denominated in foreign currency (predominantly in euros).

5. Some banks experienced liquidity outflows following the 2014 collapse of a systemic bank, which was taken into conservatorship and later closed by the BNB. As liquidity pressures threatened to spread, the authorities announced urgent measures to regain stability. Liquidity assistance was provided by the government with the EC's approval, as the BNB's capacity to provide lender-of-last-resort liquidity was constrained by the CBA (Box 1). Though the program was available to all banks, the only user of liquidity support was the largest domestically-owned bank and, at the time, the third largest in the system), which lost 10 percent of its deposits in a single day. For the bank that failed in November 2014, depositors were subsequently reimbursed by the Bulgaria Deposit Insurance Fund (BDIF), which needed to draw on official support.

6. System-wide banking sector soundness indicators have improved since 2014, but vulnerabilities remain (see Figures 2 and 3). Tier 1 and total capital adequacy ratios were high at 21.2 percent and 22.7 percent, respectively, as of June 2016. The liquid asset ratio has increased to 31 percent at June 2016 from 26 percent in 2014 in terms of assets. Overall, banks remain profitable with Return on Assets (RoA) reaching 1.8 percent in Q2 2016. There was a sharp but unevenly distributed increase in banks' profits in the first half of 2016, driven by reduced operational and provisioning expenses and an increase in non-recurring items. Despite the positive aggregate figures, the banking sector remains relative heterogeneous with some banks performing poorly than the average. Results of the AQRs in the banking sector, as well as in the pension and insurance sectors, point to pockets of vulnerabilities, particularly in related-party and connected lending of some banks, particularly those that are domestically owned, which warrant supervisory intrusiveness.

7. The AQR/stress test completed in August 2016 confirms that the system is overall well capitalized, though three banks had capital shortfalls.[3] The three banks represented 12 percent of total banking system assets. The AQR exercise provided a deep assessment of bank impairment practices, loan data quality, and valuation processes. It resulted in adjustments to banks' corporate portfolios due to reclassification of EUR1.9 billion of exposure as nonperforming loans and adjustments to loan-loss provisions. Corrections and capital shortfalls most affected three

[3] See BNB press release August 13, 2016.

domestically-owned banks (one is systemic). The systemically important bank needed to build capital of around EUR105 million. The capital shortfalls for two smaller domestic banks, amounted to EUR19 million. The smallest of the three banks has already raised capital through the conversion of debt into equity. For the two others, including one systemic bank, bank owners and managers are working to implement recovery plans, including the raising of additional capital, subject to formal BNB oversight. The authorities aimed to have the banks achieve the capital targets by mid-2017.

Box. 1. Systemic Liquidity Management

The BNB's ability to provide liquidity to the system is limited by the CBA. The legal framework prohibits it from intervening in the money markets and extending credit to banks, except upon emergence of a liquidity risk that may affect the stability of the banking system. The BNB may extend liquidity assistance only to solvent banks, in lev, with a maturity of no longer than three months; and up to the amount of the BNB's excess international reserves. The assistance must be fully collateralized by highly liquid assets (e.g., gold, certain foreign currency, domestic and prime-rated government securities). Meanwhile, banks, particularly the domestic ones, also face constraints in managing liquidity, given that the secondary market for government securities is small, and money and interbank markets are shallow.

Given these limitations, the BNB has taken conservative measures to mitigate systemic liquidity risks. The main tool to manage liquidity is the minimum reserve requirement (RR). The BNB has the mandate to set (i) the required level (currently it includes differentiated RR: 10 percent of the funds attracted in lev; 5 percent for funds in foreign currency); (ii) the remuneration on the excess of the RR; and (iii) the consequences of failing to meet the requirements. In addition, relative to the euro area, the BNB requires banks to have higher minimum liquid asset ratios based on expected maturities of assets and liabilities per specified time bands. The BNB can also set minimum liquidity and reserve requirements for individual banks. The BNB has adopted Basel liquidity requirement (LCR) of 70 percent for 2016, 80 percent for 2017, and 100 percent for 2018.

The BNB's measures resulted in an environment of excess liquidity. The liquid asset ratio has increased to 31 percent at June 2016, higher than the current required ratio of 20 percent; and to 50 percent in terms of short-term liabilities. Moreover, the level of foreign deposits held at the BNB have reached high levels, given that banks face limited opportunities for investment domestically and lower returns for investment abroad (e.g., particularly increasingly negative ECB's interest rate).

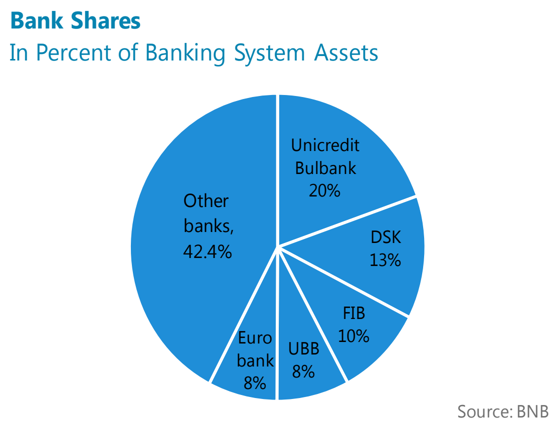
C. Nonbank Financial Institutions Context

8. **The Nonbank Financial Institution sector is relatively small**. The insurance industry is small and dominated by subsidiaries of foreign firms. The capital markets remain relatively underdeveloped. Market capitalization of the Bulgarian Stock Exchange was around 10 percent of GDP at end-2015. The pension system is a traditional three-pillar system. The pension system assets amounted to 9.4 percent of GDP at end-2015. The Financial Supervision Commission (FSC) is the supervisor for nonbanks, and in 2016 it undertook a balance sheet review and stress test exercise for the insurance and pension sectors. The results that were published February 3, 2017 noted capital needs for 13 insurance entities that would not meet minimum capital requirements at end-June 2016; and found that the investments of the pension funds complied with the law and were properly

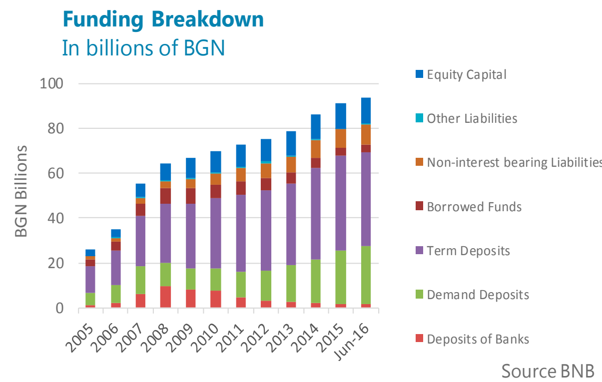
valued. For insurance entities, the aggregate deficiencies were not large compared with the total capital of the insurers.[4]

Figure 2. Bulgaria: The Banking Sector

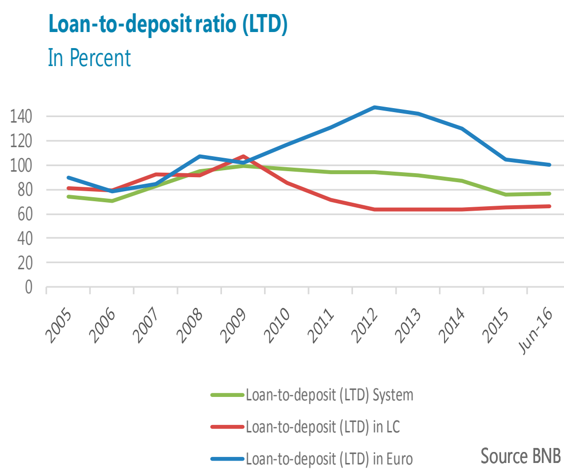
Five banks hold 58 percent of total assets



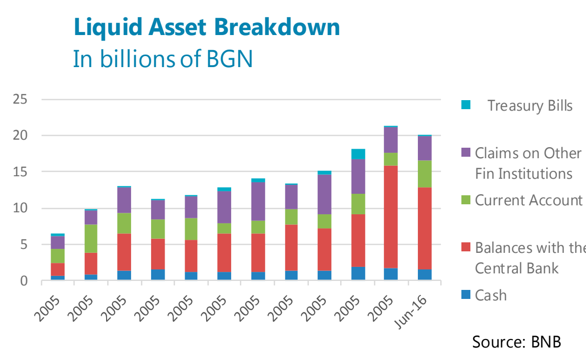
Assets are funded through retail deposits



Deposit funding is most abundant in local currency



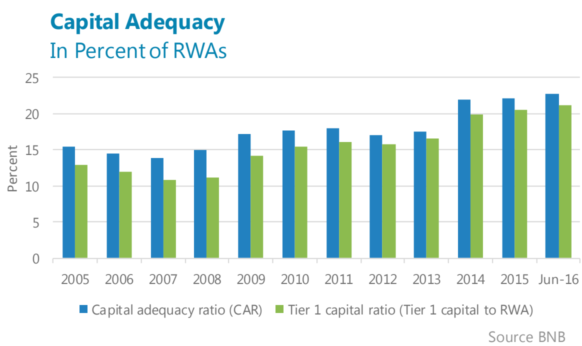
Liquidity is mostly held as cash and balances at the BNB



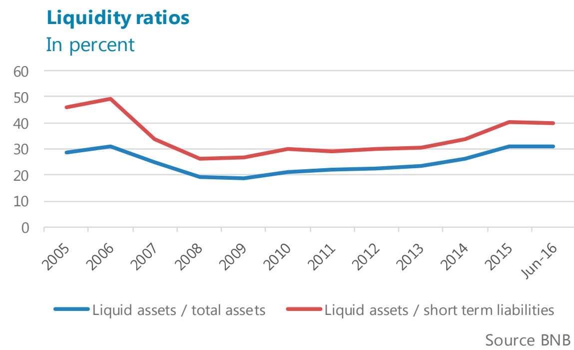
4 For further information on the supervision of the insurance and pensions sectors (including key recommendations), see the World Bank's Financial Stability Assessment (FSA) and associated technical note.

Figure 3. Bulgaria: Banking Sector Soundness Indicators

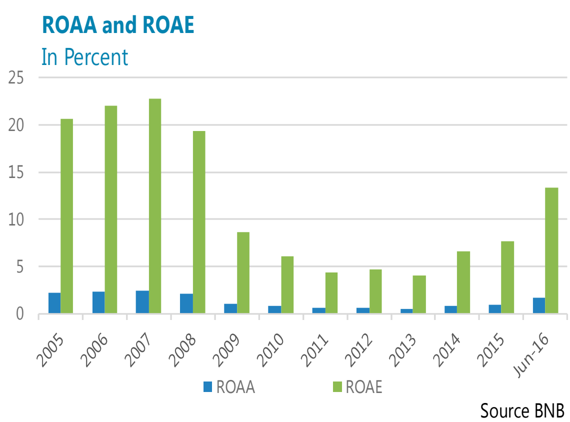
Capital adequacy ratios are high



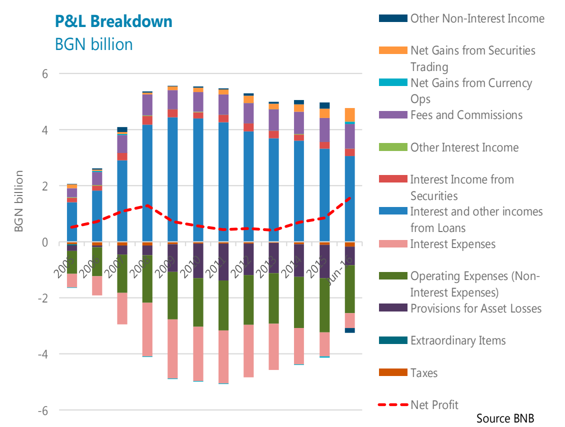
... and the ratio of liquid assets has increased in recent years.



Banks show higher profitability though ...



...this reflects lower provisions and cheaper funding.



STABILITY RISKS AND RESILIENCE

A. Key Risks and Vulnerabilities

9. **The Bulgarian banking system is characterized by significant capital buffers in the aggregate and generates steady profits but remains vulnerable to shocks**. The main vulnerabilities of banks are high NPLs, concentrated exposures in several banks, and relatively high corporate sector indebtedness. Despite strong economic growth recently, the NPL ratio remains persistently high with most NPLs consisting of loans that are over one year past due (see further discussion in NPL strategy section).

10. **Concentration analysis reveals vulnerabilities of several banks with concentrated loan books**. Several banks have large exposures on their balance sheets, which represent a meaningful portion of their capital base. Loan portfolio concentration, including to related parties in some

domestic banks, could potentially pose a larger risk than that estimated during the AQR and stress testing exercises carried out by the authorities (see Annex II). Because of the concentrated exposure, a few large loan defaults in some banks has the potential to lead to significant credit losses. This highlights the need to analyze and stress test large individual exposures separately.

11. There are several risks that, if realized, would have the potential to have significant impact on the banking system. These include: (i) protracted slowdown of European growth; (ii) change of investor sentiment toward emerging markets resulting in financial stress; (iii) increasing geopolitical tensions related to countries in the region; and (iv) asset price uncertainty over NPLs. The relative likelihood and expected impact of these risks are discussed in the Risk Assessment Matrix (Annex III). In part B, the stability analysis considers risks from a drop in external demand, financial stress, and uncertainty, that affects banks mainly through credit losses and higher funding costs. At the aggregate level, banking system shows resilience with vulnerabilities in a few select banks.

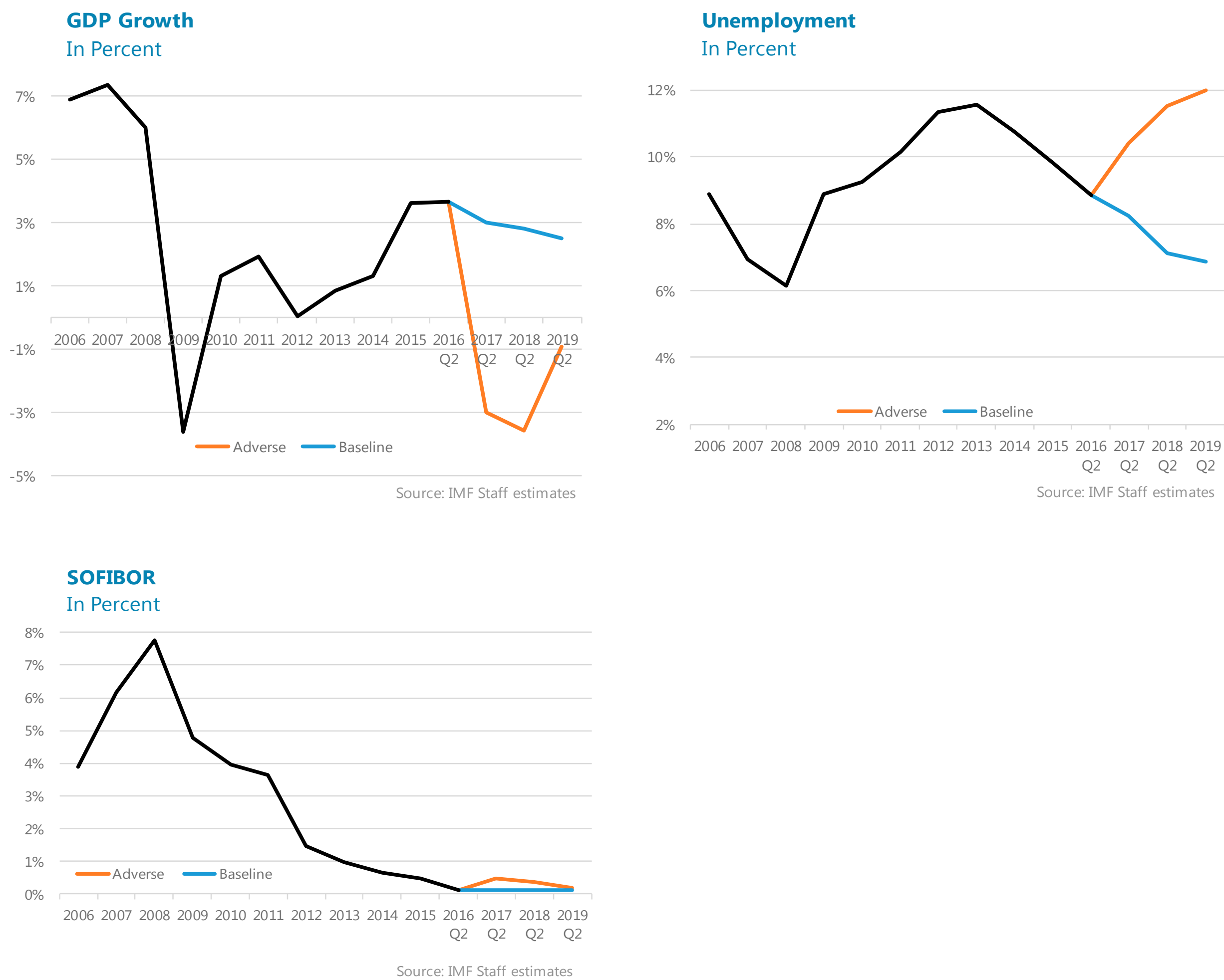
B. Stability Analysis

Bank solvency stress tests

12. Resilience of the banking system was assessed through "top-down" stress tests (see Annex IV). The analysis covered the 17 largest banks in Bulgaria, accounting for 95 percent of industry assets. Stress tests utilized supervisory data on balance sheets as of June 2016, and were based on macroeconomic scenarios consisting of a "baseline" and a severe but plausible "adverse" scenario spanning a three-year period (June 2016 to June 2019). The baseline scenario is based on the October 2016 World Economic Outlook (WEO) projections. The adverse scenario simulates a V-shaped GDP profile, with a combination of declining external demand and investor confidence, and asset price uncertainty over NPLs to capture the main intermediation risks implied by the RAM. Further contraction in Europe would bring about a drop in external demand, which would lead to lower growth, higher unemployment, fiscal pressures for the government, lower income for the corporate sector, higher household financial stress. At the same time, a higher country risk premium will lead to wider spreads for the sovereign, funding pressures for banks, and higher borrowing costs for nonfinancial corporates. Asset price uncertainty over NPLs would lead to declines in collateral values and the need for higher provisioning for banks.

13. In the stress scenario calibration, these adverse developments result in GDP contractions for three consecutive years (see Figure 4). Most of the total contraction occurs in the first two years, with the simulated GDP growth rates representing a cumulative deviation of approximately 12 percentage points over two years from the baseline scenario. These numbers correspond to approximately 2 times the standard deviation of the two-year cumulative growth rates observed during the 2006–2015 period. Under this adverse scenario, banks are likely to experience significant deterioration in their credit portfolios. The banking system's average NPL ratio increases by approximately 8 percentage points between the 2016Q2 and 2019Q2, with corporate and mortgage loans experiencing the highest increases compared to their starting points.[5]

Figure 4. Bulgaria: FSAP Baseline and Adverse Scenarios



14. Stress test results suggest system-wide bank capital would show resilience in the adverse scenario, with weaknesses in some banks. On a system-wide basis, the aggregate CET1 ratio falls to around 15 percent by the end of the stress period (June 2019) which is significantly higher than the regulatory minimum of 4.5 percent. Similarly, the system-wide leverage ratio falls from 11 percent to 8 percent, and remains comfortably above the 3 percent level (Figure 5). However, the bank-level results show that five banks will fall below the regulatory minimum CET1 ratio of 4.5 percent, as well as below the referenced 3 percent leverage ratio. The capital shortfall in the third year of the simulation scenario period would amount to 1.8 percent of the annualized GDP.

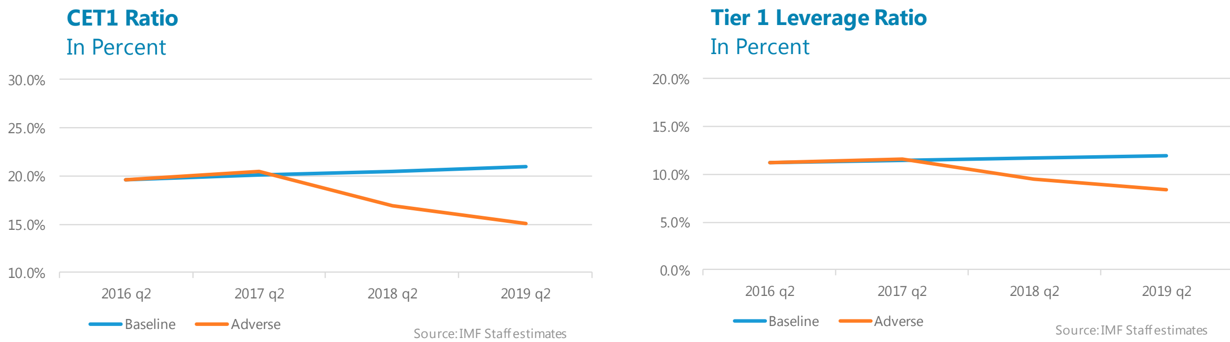
[5] See the associated technical note: Bulgaria—Risk Assessment and Stress Tests of the Banking System.

Although this is a modest number, of the five banks falling below the regulatory minimum at the end of the simulation period, three become technically insolvent.

Figure 5. Bulgaria: Stress Test Results—Capital Adequacy

System-wide CET1 ratio declines, however, it remains highly above the minimum 4.5 percent requirement

System-wide leverage ratio remains above the reference 3 percent level

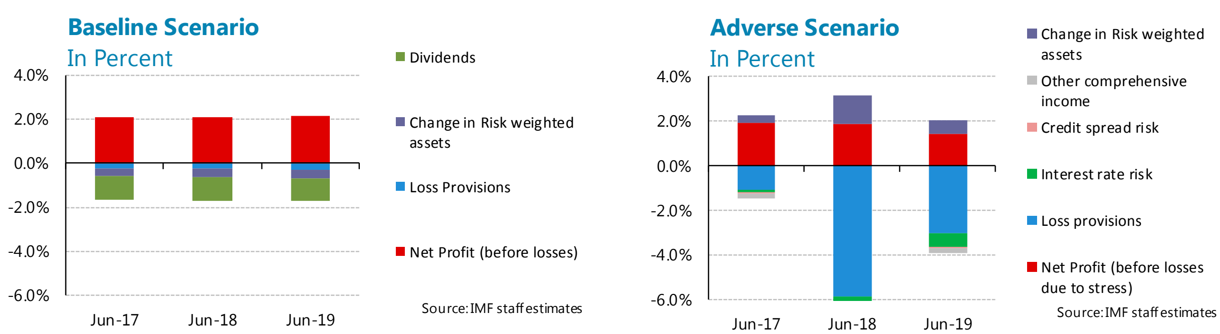


15. The largest driver of the change in capital positions in the adverse scenario is loan-loss provisions (Figure 6). As economic performance deteriorates in the simulated adverse scenario, the NPLs increase significantly. Together with the assumed increase in the provisioning ratio of 20 percentage points, this increase in NPLs leads to large loan-loss provisions, which reduce the capital of banks. For the domestic banks, the interest rate-related losses, due to the sizeable funding shocks that these banks receive, are the second largest driver of the decline in their capital positions.

Figure 6. Bulgaria: Stress Test Results—Drivers of Change in Capital Levels

Positive net profit leads to a slight increase in CET1 ratios

Loss provisions drive CET1 down in the adverse scenario



16. The forthcoming implementation of new accounting standards (IFRS 9) could lead to significant increases in provisions and declines in capital. Preparing for IFRS 9 starting from 2018, the FSAP team tested the impact of increasing the provisions by 20 percentage points for the existing stock of NPLs as part of its sensitivity analysis. This standard requires the banks to record loan-loss provisions based on lifetime expected credit losses for exposures 30 days or more past due. Thus, it is expected that provisions will need to increase significantly from their current levels. Due to the large stock of NPLs across the system, this test leads to significant declines in capital levels. Two banks fall below the regulatory minimum threshold for capital, and the aggregate CET1 ratio in the system declines by approximately 6 percentage points. This highlights the need to enforce robust provisioning (See NPL Reduction Strategy section and the associated technical note).

17. Additional sensitivity tests were carried out to assess banks' vulnerabilities related to their exposures to domestic sovereign risk and to interest rate risk. As banks have comparatively small exposures to these risk factors, they lead to modest amounts of losses in the sensitivity analysis.

Bank liquidity stress tests

18. The FSAP team assessed risks due to the potential volatility that banks' funding sources might display. For this purpose, the FSAP team used three methods to capture liquidity risks: liquidity coverage ratio (LCR), the net stable funding ratio (NSFR), and a cashflow-based liquidity stress test.

19. Stress tests confirm the general strength in bank liquidity, with vulnerabilities limited to a few banks.

- *Liquidity coverage ratio (LCR)*—The stress test suggests that most banks had enough buffers to withstand a significant shortage of liquidity in the short term. For the system, LCR remained above the 100 percent threshold, even in the extreme scenario with only one bank performing below standard. The resulting liquidity shortfall was less than BGN 740 million or 0.85 percent of 2015 GDP.

- *Net stable funding ratio (NSFR)*—The system-level NSFR level drops to 125.2 percent, which is well above the 100 percent standard; however, three banks perform below standard. The shortfall for the three underperforming banks amounts to BGN 1 billion or 1.2 percent of GDP at the extreme scenario of 50 percent of less stable deposits outflow.

- *Cash flow analysis*—The third stress test was performed using the temporal structure of cashflows generated by bank's assets and liabilities. These were mapped to a matrix of run-off rates for liabilities and roll-over rates for assets. The results indicated that vulnerabilities were limited to a few banks. Three banks could be vulnerable to cash outflows in the very short term (seven-day horizon), with a combined shortfall of 0.7 percent of GDP. Only one bank may be vulnerable in the longer term (ninety days) with a shortfall of 0.5 percent of GDP. No bank would be vulnerable within a one-year time horizon.

Connectedness tests

20. Spillover risks from banking system exposures are minimal. Local banks are funded mostly by domestic deposits and do not depend on significant foreign or wholesale funding. Similarly, foreign-owned banks' reliance on parents for funding is minimal, i.e., they are predominantly funded by domestic deposits. Interbank borrowing activity is limited and the Bulgarian banking system displays little vulnerability to direct (balance sheet-based) spillovers. Nevertheless, a loss of confidence might affect the banking system via indirect channels of deposit withdrawals as was experienced during the 2014 bank collapse.

FINANCIAL SECTOR OVERSIGHT AND RISK MITIGATION

A. Microprudential Oversight

Banking

21. **There is progress in response to the recommendation of the 2015 Basel Core Principles (BCP) Assessment**. The BNB has endorsed and is implementing a plan through a series of multi-year actions that aims to address the issues identified by the 2015 BCP report.[6] The FSAP sets out some further enhancements to specify activities, timeline, expected products, and outcomes from their use. The prioritization of the 2016 AQR and stress test exercise put heavy pressure on limited supervisory resources and delayed the implementation of some planned BCP recommendations. Nevertheless, a set of new policies, manuals, and ordinances are expected later in 2017-early 2018. There is, however, still room to further enhance the governance model of supervision, risk-assessment practices, and the response to the risk accumulation; notably, regarding local risks. Assessing the needs and allocating reasonable incremental supervisory resources is crucial, including the provision of tools to support and manage the risk-assessment process.

22. **A new BNB governance model is in place which aims to enhance the effectiveness of supervision**. As part of the reforms initiated in 2015, the Banking Supervision Department (BSD)'s activities will be governed by new formal policies, which will be adopted by the Governing Council (GC) based on the guidelines of EBA/GL/2014/13. The GC is now better informed on banking risks and the progress made in addressing them through a new quarterly report. The BSD is also subject to an annual internal audit. The decision-making process for supervision is streamlined with a more active role assigned to the Advisory Council (AC) in advising the deputy governor in charge of supervision (DGS). Under the new arrangement, the AC provides a collective opinion on supervisory matters, including on enforcement, so that the DGS can take informed decisions. It is noteworthy that the DGS remains, by law, the sole authority responsible for supervision, except for the GC's authority to grant and withdraw licenses, and to introduce special supervision measures. The FSAP supports the governance arrangement now in place, but there is a need to reinforce accountability to ensure prompt and effective risk response.

23. **The BNB needs to improve accountability and effectiveness by addressing three key areas**. First, there is the need to formalize a strategy on how to achieve the BNB's mandate by further detailing a set of prudential policy objectives (the objectives should set out an action plan,

[6] See the associated Technical Note "Stocktaking of Progress Achieved in Strengthening Banking Supervision" includes a further table of recommendation with suggestions on the action plan.

accountability framework—including completion of manuals, and the SREP and pillar 2 capital approaches, and response procedures to ensure early remediation of risk). Second, there is the need to adopt by the GC an explicit framework and procedures to enable an assessment of delivery on the selected policy objectives (See the Basel Committee's Report recommendations on the impact and accountability of banking supervision). Lastly, there is the need to adopt formal policies regarding the conditions under which the GC and the DGS will escalate their response and intervention measures, including specifying the severity of enforcement actions.

24. To strengthen the BSD's reliability, the GC should adopt a strategic tool to promote the effectiveness of the risk-assessment process and the policy response adopted. First, a process should be put in place to align the risk tolerance of the GC and the response and escalation stance of the BNB. This could be achieved, for example, by adopting a method to combine the risk profile and the systemic impact of each institution. This method may be used to guide the supervisory response and escalation stance expected ex ante from the BSD. In parallel, the combined effectiveness of the GC and the BSD should be assessed ex post by the success of their response strategies in containing or resolving the risks that have been assessed (per institution, risk, or across the industry).

25. The reinforcement of the organization and resources of the BSD is also underway. A new Offsite Directorate has been established and segregated from the Onsite Inspection Department. Inspection teams have increased to six. A new Analysis of Market Behavior and Risk Division has been created to permit greater focus on AML/CFT issues. Cooperation and information sharing with key domestic partners has been improved by signing three new Memoranda of Understanding. New staff has been recruited, although the desired levels are yet to be reached. The BNB has recently launched an external assessment of the adequacy of its IT systems, both for banking supervision and failing bank resolution activities. Moreover, key ordinances await drafting to adopt EBA standards, which are soon to be published, such as the development through regulations of the LCI Article 45 on related-party transactions (e.g., use of targeted reviews of suspect loans, and specific policy setting out controls, registers, and record keeping), including the revision of the supervisory processes and their supporting manuals, which are already under review.[7]

26. The BSD's capacity to meet the expectations of the GC and the DGS should, however, be reinforced, considering its engagement model. The intensity of the BSD's activities and its annual operational objectives should be reviewed, considering the changes in the governance model and the objectives endorsed by the GC and the DGS. Once the engagement model and the activities through the supervisory cycle are determined, a reasonable estimation of the workload and available skills set and needs (i.e., number of staff and specialists) will be necessary to continue the initiated recruitment plan. In addition, the BSD will need to implement an appropriate curriculum and training program, and to adopt an attractive remuneration system. In search of effectiveness and efficiency synergies, the BNB should consider providing to the BSD more modern software

[7] See Appendix III to the associated TN.

tools. This would support a more integrated, efficient, and auditable risk assessment and response process, aligned to and consistent with the risk tolerance of the GC.

27. Besides amending the Banking Supervisory Process Manual to support the new governance model, work has already begun to update several key procedures. The process and procedures for onsite inspections are being reviewed with the aim to become a handbook for supervision by risk, and which would be better aligned to the EBA's standards. Nevertheless, there is need to recalibrate the current risk-assessment methodology by developing key benchmark risk indicators, and by setting up more granular criteria and control points for guiding consistently the assessment of central functions which are essential to internal governance. There should be means to coordinate the offsite and onsite risk assessments (CAEL and CAMELOS) for a combined rating, leading to an explicit response and escalation policy that is clearly related to the early intervention, and recovery and resolution planning policies and practices. Moreover, there is need to formalize a comprehensive Supervisory and Review and Evaluation Process (SREP) that would include an explicit and detailed supervisory Pillar 2 capital requirement as the BNB Act empowers the BNB to impose Pillar 2 capital requirements, including adequate ways to factor in concentration and untreated hidden risks, rendering the current practices fully consistent and compliant with the standards promoted by the EBA in EBA/GL/2014/13.

28. The BSD intends to use its 2017 supervisory plan of activities to follow up on the outcomes of the 2016 AQR and banks' progress in complying with its requirements. The Onsite Inspection Directorate has already adopted a plan of inspections to probe progress, with set targets for relevant banks. This appears to follow a reasonable risk scope, including on concentration and related-party risks. The Offsite Inspection Directorate is also monitoring required targets through more frequent ad hoc reporting requirements per the orders delivered to the banks. To support the work of these two directorates, the Policy Directorate is strengthening its tools to profile interconnections and relationships, and is considering the most feasible alternatives to adopt the suggestions of the FSAP mission. Key to the enforcement of the required targets (in particular, for the three banks with capital shortfalls) will be (i) higher loan loss provisions and NPL write-offs (i.e., implementation of the NPL strategy); and (ii) a well-calibrated Pillar 2 capital add-on requirement, including by the adoption of more demanding standards than those of the forthcoming EBA standards.

Bank corporate governance

29. The corporate governance regulatory framework has seen a positive evolution. EU directives and regulations have been transposed into the domestic framework, aimed at: (i) strengthening the Supervisory Board (SB) function (i.e., minimum qualification requirements for SB members or enhancement of the work of the SB by requiring the creation of technical subcommittees such as risk, nomination, and remuneration); (ii) enhancing the independence and effectiveness of the key internal control functions (audit, risk and compliance); and (iii) improving the quality and disclosure of financial information (i.e., implementation of IFRS standards).

30. Despite improvements, the implementation of corporate governance norms is uneven. The most developed practices are in foreign bank subsidiaries, particularly in the areas of internal controls and risk management. These banks have implemented the head-office practices, but this does not always translate into best corporate governance practices. Domestic private banks have a highly concentrated ownership structure, exercised through a few individuals or through corporations. In these banks, despite the structures on paper, the differentiation between shareholders, SB members, and Management Board (MB) members is more difficult, de facto, leaving much of the real management of the institution influenced heavily by the controlling shareholder(s). SBs should be more independent and evolve from a "policy approving body" to an "oversight body." Similarly, independence of internal control functions (audit, risk and compliance) needs to be reviewed to ensure the SB remains at an arm's length from the controlling owners.

31. Improving risk management has become the key priority for all banks, especially after the 2014 bank failure, and requires continued BNB commitment. The effectiveness is a work in process by several banks. Many banks have recruited, or are in the process of recruiting, Chief Risk Officers (CRO). In some instances, banks have elevated the role of the CROs, and they are now members of the MB and are reporting to the SB in accordance with good practices. Many banks have also created Risk Committees at the SB level. However, implementation of good risk management practices remains uneven. The BNB is currently in the process of reviewing its manuals and procedures to enhance the supervisory process of corporate governance to segregate supervision of these functions per the EBA's standards. Enhanced supervision and effective enforcement will contribute to the harmonization of practices and standards of corporate governance.

Nonbank sector

32. The Financial Supervision Commission Act needs to be amended to provide the FSC with financial and operational independence, adequate powers, and statutory indemnity to the FSC and its staff. The main source to fund its operations is the state budget. This may compromise effective supervision, as it allows the government to control the FSC budget. The supervised entities should pay the costs of the FSC by way of supervision levies; therefore, the FSC must be given the statutory powers to raise levies. The FSC should review all Acts that give it supervisory powers in relation to the supervised entities. The supervisory actions of the FSC must be executory. The FSC Act should be amended to provide indemnity to the FSC and its staff.

B. Macroprudential Policy Framework

33. In the absence of independent monetary policy, the BNB actively applies macroprudential tools to address systemic risk (Annex V). The BNB is the designated macroprudential authority for banks, including now in recent legislation. In the context of a booming economy during 2001–2008, the BNB implemented measures aimed at curbing rapid credit growth. Higher reserve requirements (RR) were used extensively, differentiated by sources of funding. Most measures aimed to exhort the banks to be more conservative in their lending (e.g., through lower loan-to-value ratios, stricter lending requirements), and to maintain higher capital (e.g., limiting dividends if capital and provisioning buffers are not sufficient, and asset quality indicators are not adequate). This latest measure is similar, but stricter than the Basel III's capital conservation buffer. More recently, macroprudential measures helped contain spillovers from Greece caused by Greek bank subsidiaries. In 2014, the Law on Credit Institutions was amended to give the BNB a clear macroprudential mandate and well-defined objective. The BNB is the designated macroprudential authority for banks and the FSC for nonbanks.

34. The Financial Stability Advisory Council (FSAC) serves to assess the condition of the national financial system and financial markets, and to ensure information exchange with its membership. The FSAC includes the BNB, the FSC, and the Ministry of Finance. The Minister of Finance is the chairman of the FSAC; his participation helps provide political legitimacy, which is helpful given the BNB's constraints under the CBA (see discussion in safety net section). The amendment of the Financial Supervision Commission Act in 2010 gives the responsibility of analyzing systemic risk and financial stability issues to the FSAC, but setting macroprudential instruments remains the responsibility of individual agencies—the BNB and the FSC.

35. The BNB has a strong operational role and is the de facto macroprudential authority representing Bulgaria at the EU level. The BNB has a dedicated macroprudential unit that is tasked with the analysis of systemic risks, the development and monitoring of core indicators, and the preparation of proposal for policy responses for the consideration by the BNB's Board and the FSAC. The risk that the Minister can exercise too much control of the FSAC is counteracted by the strong mandate that the BNB has in the banking system, as well as by the fact that the BNB is the best resourced to provide analysis of systemic risk to the FSAC. The BNB has voting power before European Systemic Risk Board (ESRB).

36. The BNB has the adequate powers, but more resources are needed to enhance its ability to act. The Law on Credit Institutions provides the BNB with adequate powers and access to information, and designates individual institutions as systematically important.[8] However, tailored design and timely identification and assessment of systemic risks may require additional efforts and resources to close data gaps and develop techniques for monitoring systemic risk. The BNB has the power to collect information from institutions and persons for macroprudential policy.[9] It can obtain *any information* deemed relevant from banks and financial holding companies, including parent companies and bank's subsidiaries. To assure the BNB's *ability to act, e*fforts should be oriented to collect regularly more detailed data on NPLs, information on the condition of the real estate market, and corporate sector indebtedness. Specifically, data on the value of various types of collateral provided for NPLs, NPLs data by sectors, and corporate debt at the firm level. The BNB should further enhance its analytical capacity to conduct full-fledged, top-down stress tests, including scenario analysis and covering credit and liquidity risks, and stay focused on identifying systemic (rather than bank-specific) risks.

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[8] The BNB designated 10 other systemically important institutions (O-SIIs). In accordance with art.9, paragraph 8 of the BNB Ordinance No. 8 the BNB shall review annually the identification of O-SIIs and shall disclose the updated list of identified O-SIIs on its website.

[9] Law on Credit Institutions, Art. 80.

37. Transparency and accountability could be improved. The BNB is accountable to the national parliament. The decision taken by the BNB's Board are published on the BNB's website. To improve the transmission channel and maximize the effectiveness of macroprudential policy, clear communication of policy decisions is needed. This includes explanation of (i) the overall objectives of macroprudential policy; (ii) the reasoning for macroprudential policy decisions and how specific measures are expected to work; and (iii) ex-post assessment of their effectiveness.

C. Anti-Money Laundering and Combating the Financing of Terrorism

38. The authorities have taken steps to strengthen the AML/CFT framework since the last assessment, but further improvements are needed. Amendments have been passed to strengthen the legal framework, notably on confiscation and targeted financial sanctions, but deficiencies remain to be addressed with respect to the criminalization of terrorist financing. While the authorities report several awareness raising and training activities in the designated non-financial sectors, as of mid-2016 suspicious transaction reporting from these sectors remains very low. The authorities should build on recent efforts to bring the AML/CFT framework in line with the 2012 FATF standard. Finalizing the AML/CFT law is underway that transposes the EU's Fourth AML Directive into local legislation. There have been efforts to enhance AML/CFT supervision of the banking sector, including by increasing available resources and signing an MoU between the BNB and the Financial Intelligence Unit. The authorities are encouraged to address in law aspects on the definition of beneficial ownership, and that the BNB adopt risk-based AML/CFT approaches consistent with Financial Action Task Force guidance.

NONPERFORMING LOANS REDUCTION STRATEGY

39. While the BNB has taken steps to promote reductions in NPLs in the banking system, NPL levels remain high (Figure 7). These steps include the 2016 AQR, limiting dividend payments based on factors such as high NPL ratios, and continual monitoring of forbearance and NPL exposures by BNB, with follow-up during onsite supervisory reviews. Based on the BNB's own measure, the NPL level at end-June 2016 was a high 19.7 percent of loans, with most NPLs over one year past due. Using the EBA's NPL measure, Bulgaria's banks had NPLs of 13.7 percent against the EU weighted average 5.5 percent as of June 2016.

40. Banks have generally high capital buffers in place, but loan-loss provisioning coverage needs improvement. The BNB's prudential policies have pushed banks to retain earnings and toward achieving generally high capital and liquidity buffers. The generally adequate capital positions were largely confirmed in the recent authorities' AQR/stress test. In addition, the recent AQR was useful to establish common measures of asset quality, thereby promoting better risk identification. However, loan-loss provisioning coverage shows some weaknesses as loan provisions lagged the significantly higher NPL flow since the global financial crisis, and the loan-loss reserve to NPL ratio (coverage ratio) declined to 51.7 percent as of June 2016, from just over 100 percent in 2008 based on the BNB's own NPL measure.

41. The BNB should adopt a comprehensive strategy to achieve a substantive reduction in NPL levels over a three- to five-year time horizon.[10] The strategy would be in keeping with the BNB's macroprudential responsibilities for maintaining bank and financial system stability and for mitigating systemic risk. The strategy should focus on more intensive prudential supervision to enhance bank practices in three main areas: (i) loan-loss provisioning (LLP); (ii) loan write-offs of NPLs, in whole or in part, where collection is unlikely; and (iii) collateral valuation. This effort would be supported further by enhanced supervisory guidance, supervisory reporting, and risk disclosure. Moreover, it should include efforts to improve banks' early warning systems (EWS) and develop the NPL market.

42. Key to the effort will be a strengthened supervisory review. Under this approach, as applied for loan loss provisioning, the BNB would still expect banks to follow International Financial Reporting Standards (IFRS), but would specify certain supervisory expectations using the BNB measurement metrics. For example, if the reported loan loss allowance is insufficient relative to the BNB supervisory metrics calibrated to encourage robust provisioning practices, then there would be additional supervisory scrutiny. A similar approach would also be taken for NPL write-downs and for collateral valuation through the application of additional BNB metrics. See associated TN, section on approach to reducing NPLs.

43. As banks prepare for the adoption of IFRS 9, they will need to adapt provisioning practices to better recognize loan deterioration using forecasts. Estimates of the impact from IFRS 9 are that loan-loss allowances may increase by 18-33 percent from current levels.[11] Under IFRS 9, there will be a rebuttable presumption that loans past due by 30 days or more will have experienced "a significant increase in credit risk," thus requiring the recording of provisions based on lifetime expected credit losses. The BNB should prepare now with supervisory guidance to ensure that banks are making appropriate preparations with systems and processes, as well as by enhancing their EWS.

44. The BNB should issue supervisory guidance to banks setting forth robust collateral valuation practices, including on the use of internal and external valuation experts. Since the highest NPL ratios are in the construction and real estate sectors, and collateral-based lending is extensively practiced, the proper valuation of collateral pledged against loans is essential to a sound NPL reduction strategy. The AQR results and discussions with market participants highlighted that a uniform, conservative set of rules for collateral valuations at banks is necessary to avoid unsound and divergent practices. The issuance of clear and conservative valuation rules will help reduce the significant NPL pricing gap observed in Bulgaria, and thus could contribute to improved NPL markets consistent with the NPL reduction strategy.

[10] See associated technical note Bulgaria—Nonperforming Loans Reduction Strategy.

[11] See paragraph 16 for simulated effects from a 20 percentage point increase in provisions on bank capital.

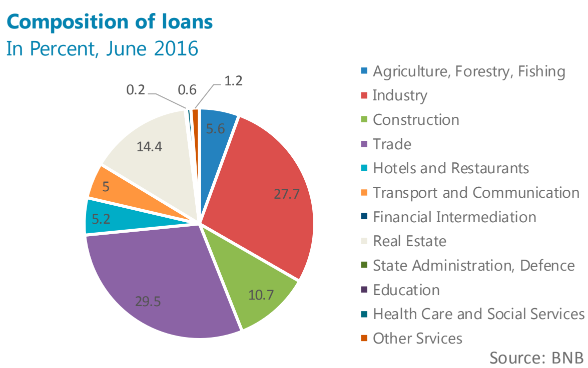
46. The BNB should promote improved risk information for investors and risk disclosure in line with the recommendations of the Financial Stability Board's (FSB) Enhanced Disclosure Task Force (EDTF). Improved credit risk management will require strengthened bank systems for the timely collection of internal loan and collateral data, and this data could also be useful to potential investors in NPLs. In addition, the global financial crisis highlighted the importance to market confidence of reliable valuations and useful risk disclosures. The FSB's EDTF's recommendations for improved bank risk disclosures and extensive examples of leading disclosure practices are designed to provide timely information that is useful to investors and other users, and which could contribute over time to improved market confidence in financial institutions. Together, these initiatives could foster better NPL markets through improved information needed for potential investors.

47. The BNB should work with banks, other national authorities, and other stakeholders to improve infrastructure for the NPL market. The Bulgarian NPL market is developing but remains shallow and improvements are needed to promote further use of NPL sales as an important option for meaningful NPL resolution. Potential improvements include: (i) a standardization of information about NPLs and related collateral (in effect, an extension of the AQR exercise); and (ii) the removal of certain legal impediments in the areas of collateral enforcement, insolvency regimes, and out-of-court settlement, as indicated in the World Bank Insolvency and Credit/Debtor Regimes ROSC in 2016.[12]

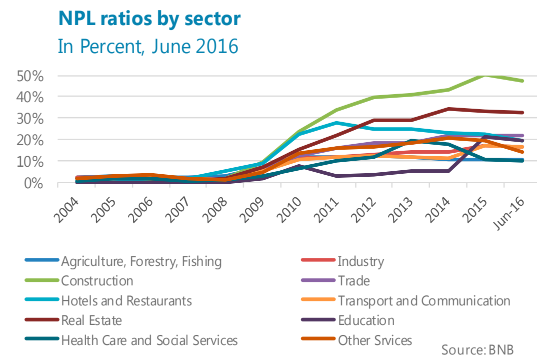
[12] See Bulgaria—Insolvency and Credit/Debtor Regimes ROSC, prepared by a World Bank team in 2016. The NPL market and concerns regarding collateral enforcement, insolvency regimes and out-of-court settlement are summarized in the technical note on the NPL reduction strategy, in the section on broader policies to enhance NPL resolution.

Figure 7. Bulgaria: Nonperforming Loans

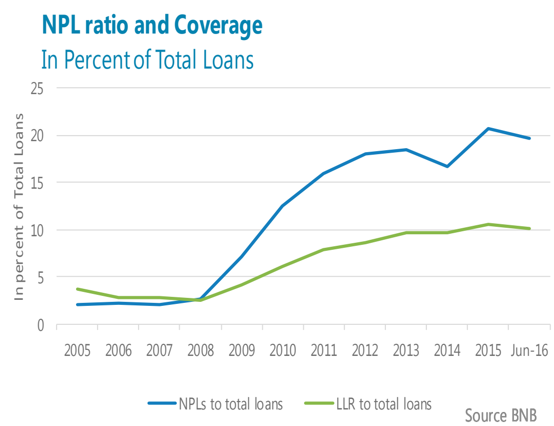
Exposures are concentrated to few sectors, and…



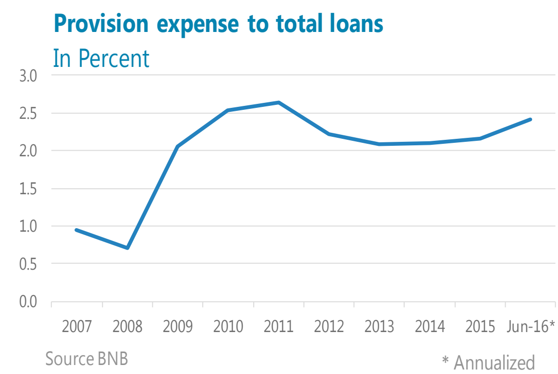
NPL ratios are highest in construction and real estate



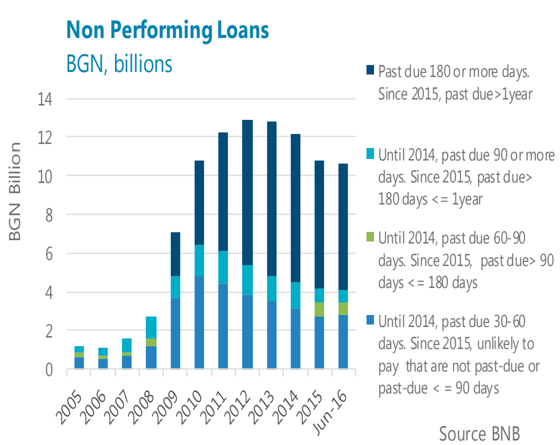
LLR coverage is 52% of NPLs based on local BNB measure,



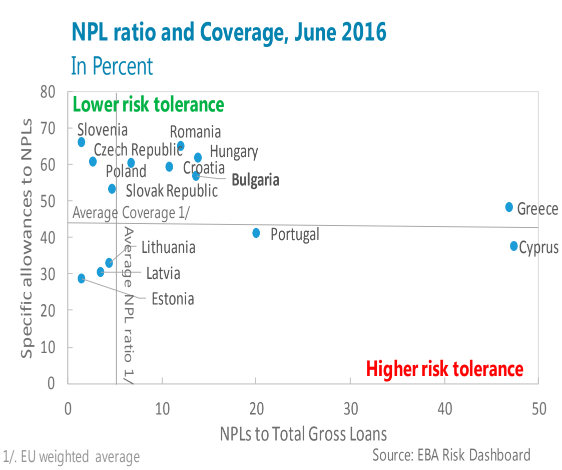
…as provision expenses have not kept pace with NPL growth.



Most NPLs are over 1 year past due



…resulting in higher risk than many peers (according to EBA measures)



FINANCIAL SAFETY NET AND CRISIS MANAGEMENT

48. The Bulgarian financial safety net comprises four domestic authorities.[13] The BNB is the monetary authority, and the prudential and resolution authority for banks. The FSC is the prudential and resolution authority for investment firms, and the prudential supervisor for other nonbank financial institutions. The BDIF provides deposit insurance and manages the deposit insurance fund and the bank resolution fund; it also appoints and oversees liquidators in bank bankruptcy proceedings. The MoF is politically responsible for Bulgaria's financial sector policies. The FSAC complements these authorities and brings together the Minister of Finance (chair) and the heads of the BNB and the FSC.

49. In 2014, Bulgaria's fourth largest bank collapsed. The collapse followed a massive deposit run-off with system-wide consequences particularly for larger domestically-owned banks. In the absence of a comprehensive bank resolution regime, the insolvency triggered bankruptcy procedures for the bank's liquidation. The ongoing liquidation remains a protracted and costly process. This experience will be useful in developing less costly and less disruptive resolution strategies as more viable alternatives to relying on bank liquidation with conventional depositor payouts.

50. Since the 2008 FSAP, but mostly since the 2014 bank collapse, Bulgaria's financial safety net and crisis management arrangements, including bank resolution and contingency planning, have progressed. In response, Bulgaria has introduced a resolution regime for credit institutions and investment firms; designated resolution authorities for financial institutions; and established mechanisms to fund resolution measures. Despite some progress, the financial safety net and crisis management arrangements face crucial challenges:

- The resolution regime includes a comprehensive resolution toolkit: the four basic tools that are mandatory under EU rules (sale of business, bridge institution, asset transfer, and bail-in) and the two last-resort government stabilization tools (equity support and temporary public ownership). The regime, however, has yet to be fully operationalized and pertinent staff trained in the use of the time-tested sale of business and bridge institution tools, and the new bail-in tool.

- The combination of supervision, resolution, and lender-of-last-resort functions within the BNB could offer synergies at both the contingency planning and crisis management stages. In certain resolution scenarios, however, the BNB could end up sitting at the negotiation table representing three potentially conflicting interests: as the resolution authority selling assets, as the supervisor of the buyer, and as the liquidity provider, and, thus, as a creditor. Similarly, where the bridge institution tool is used, the BDIF would be both sole shareholder of the institution and insurer of the institution's depositors. The BNB is mitigating these conflicts at the stage where decisions are prepared and should ensure that all perspectives are fully represented in the

[13] See associated technical note: Bulgaria—Financial Safety Net and Crisis Management.

GC, where the ultimate decision making rests. The BDIF, too, will need to develop governance measures to mitigate its conflicts of interests.

- The bank collapse in 2014 depleted the deposit insurance fund. It is expected that by 2024, both the DIF and the Bank Resolution Fund will have reached their target levels, providing the BDIF a total reserve of 3 percent of covered deposits.

- There are significant financial and legal restrictions on liquidity support to banks. As became evident in 2014, in times of liquidity pressure on banks, the CBA poses a severe liquidity constraint, particularly, for majority domestically owned banks; strict collateral requirements further constrain the BNB's ELA. Government financial support is subject to EU state-aid procedures, and approval from the European Union and the national parliament, which adds to the decision-making time.

51. To ensure operational capacity to rapidly deploy recovery and resolution tools, actions are needed to strengthen the safety net and crisis management arrangements:

- Recovery and resolution planning (RRP) for most domestic systemically important banks (D-SIBs) is still ongoing. The BNB should prioritize RRP for the banks that the 2016 AQR and stress tests indicated capital shortfalls, and the domestically owned D-SIBs—foreign authorities oversee the RRP for the groups to which Bulgarian foreign-bank subsidiaries belong. The BNB should also define alternative resolution strategies for foreign-bank subsidiaries that operate in Bulgaria, in case the group resolution colleges cannot agree on a common approach.

- The BNB is updating its early intervention framework and is developing a new resolution (planning) manual that offers an opportunity to ensure consistency between the two. The authorities should ensure a smooth and decisive transition from early intervention into resolution, with problem bank metrics that apply consistently through regular supervision, early intervention (including recovery actions), and resolution (planning). Additionally, (i) pertinent staff should be trained in the use of the time-tested and cost-effective sale of business and bridge institution tools and the new bail-in tool; and (ii) metrics should be developed to compare liquidation costs and the use of said resolution tools.

- Considering the constraints on official financial support, the authorities should define strategies for liquidity assistance to distressed banks based on a three-pronged approach: (1) increasing the funds for liquidity support; (2) enhancing distressed banks' ability to meet collateral requirements; and (3) ensuring that the authorities can act decisively on liquidity support requests. The strategies should be defined jointly by the BNB and the MoF, and supported by a comprehensive toolkit. Considering the 'private solutions first' principle, the authorities could contemplate an industry-funded liquidity support arrangement (an ELA-like fund) at the BNB. The fund could be complemented by higher retained BNB profits. The MoF could be vested with statutory authority to borrow and lend for financial stability purposes through the BNB, with the BNB following similar conditions as typically applied to central bank ELA. To ensure that collateral requirements under the BNB's lending ordinance can be met—and excess foreign exchange reserves be used also for ELA—the mission recommended vesting in the MoF a statutory authority to extend guarantees to the distressed bank.[14] Furthermore, the authorities could arrange swap lines with international financial institutions such as the Bank for International Settlements (BIS) and major central banks such as the European Central Bank (ECB). Decision making could be better supported with, among other things, solvency and viability assessment methodologies,[15] which should be included in a contingency plan for liquidity support, and pre-assessment of collateral held by banks with a high-risk profile.

- The authorities should strengthen the financial crisis management framework by: (i) expanding the FSAC's mandate (including contingency planning) and membership (including the BDIF); and (ii) updating agency-specific and national financial crisis preparedness, including a national crisis communication plan, and regular single- and multi-agency financial crisis simulation exercises (CSEs), complemented with cross-border CSEs, particularly with EU authorities with jurisdiction over the groups to which seven out of nine foreign-bank subsidiaries belong.

- Establishing and maintaining the new RRP framework requires particular expertise and additional resources to achieve and maintain adequate staffing levels. The authorities have yet to develop internal procedures and methodologies to operationalize the RRP framework, and to develop—and regularly update—RRPs for a great number of institutions. Furthermore, higher staffing levels are needed to accommodate the inclusive and consultative nature of the EU framework, including through supervisory and resolution colleges in many of which the authorities are participating. The authorities should ensure: (i) that all financial oversight authorities are adequately staffed to expedite RRP and more generally to fulfil their BRRD responsibilities, including on a cross-border level; and (ii) that their staff is well trained in the use of the time-tested and cost-effective sale of business and bridge institution tools, and the new bail-in tool.

- While the legal framework gives the financial authorities' officials, staff, and agents some legal protection, none of the agencies has operationalized this protection. The authorities are faced with a high number of court cases against them (in the aftermath of the 2014 bank collapse) and international experience demonstrates that stakeholders are indeed more litigious when recovery and resolution powers are exercised—these tools are more intrusive than supervision. Consequently, the authorities should strengthen the legal protection framework, including with operational arrangements to make legal protection effective, covering such issues as the choice and (timing of) payment of legal representation, protection against self-incrimination during internal investigations while building a case to defend the agencies, and liability and legal aid insurance covering realistic monetary amounts commensurate with the high financial stakes at play in resolution cases.

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[14] Back-to-back asset swaps against banks' relatively liquid assets could be used to avoid unsecured government exposure to distressed banks. If needed, the BNB could act as the MoF's fiscal agent for these transactions.

[15] Important flexibility could be created if the BNB could deem a bank solvent if it has a credible recapitalization plan in place, which would foresee that capital requirements are met in the near term.

Annex I. Macrofinancial Profile and Trends

Annex Table 1. Bulgaria: Selected Economic and Social Indicators, 2013–22

(Annual percentage change, unless noted otherwise)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
							Proj.			
Real GDP	0.9	1.3	3.6	3.4	2.9	2.7	2.5	2.5	2.5	2.5
Real domestic demand	-1.9	2.6	3.5	1.6	3.1	2.8	2.5	2.5	2.5	2.5
Public consumption	0.6	0.0	1.3	0.5	3.2	3.4	1.7	1.7	2.1	2.1
Private consumption	-2.5	2.7	4.5	2.1	3.0	3.0	2.8	2.8	2.6	2.6
Gross capital formation	-2.1	4.2	2.2	1.0	3.4	1.9	2.1	1.9	2.3	2.4
Private investment	-2.6	0.3	-3.7	1.3	2.6	2.0	2.0	2.0	1.9	2.0
Public investment	11.4	14.0	21.4	-16.2	8.7	2.5	3.2	2.5	4.0	4.1
Stock building 4/	-0.5	0.2	-0.1	1.1	-0.1	0.0	0.0	0.0	0.0	0.0
Net exports 4/	2.8	-1.3	0.1	1.8	-0.2	-0.1	0.0	0.0	0.0	0.0
Exports of goods and services	9.6	3.1	5.7	5.7	3.5	3.9	3.8	3.9	3.9	3.9
Imports of goods and services	4.3	5.2	5.4	2.8	3.9	4.0	3.8	3.9	3.9	3.9
Resource utilization										
Potential GDP	1.5	1.6	2.3	2.5	2.4	2.5	2.5	2.5	2.5	2.5
Output gap (percent of potential GDP)	-2.4	-2.7	-1.4	-0.5	-0.1	0.0	0.0	0.0	0.0	0.0
Unemployment rate (percent of labor force)	13.0	11.5	9.2	7.7	7.1	6.9	6.7	6.6	6.5	6.5
Price										
GDP deflator	-0.7	0.5	2.2	1.1	1.0	1.8	1.9	2.1	2.1	2.1
Consumer price index (HICP, end of period)	-0.9	-2.0	-0.9	-0.5	1.7	1.8	2.0	2.1	2.1	2.1
Fiscal indicators										
General government net lending/borrowing (cash basis) 1/	-1.8	-3.6	-2.8	1.6	-1.3	-1.0	-0.5	0.0	0.0	0.0
General government primary balance 1/	-0.9	-3.0	-2.0	2.4	-0.4	-0.2	0.4	0.8	0.9	0.9
Structural overall balance (percent of GDP)	-0.9	-2.7	-2.3	1.8	-1.2	-1.0	-0.5	0.0	0.0	0.0
Structural primary balance (percent of GDP)	0.0	-2.0	-1.5	2.6	-0.4	-0.2	0.4	0.8	0.9	0.9
General government gross debt 2/	17.2	26.4	25.6	27.8	24.5	24.1	23.4	22.4	21.4	20.4
Monetary aggregates 3/										
Broad money	8.9	1.1	8.8	7.6	6.1	5.9	5.9	6.0	6.1	6.1
Domestic private credit	0.3	-7.7	-1.6	1.8	4.9	6.5	6.8	7.1	7.2	7.2
Exchange rates regime										
Leva per U.S. dollar (end of period)	1.42	1.61	1.79	1.86	...	...	...	...	...	...
Nominal effective rate	2.5	2.9	-1.3	...	...	...	...	...	...	...
External sector										
Current account balance 1/	1.3	0.1	-0.1	4.2	2.3	2.0	1.7	0.9	0.1	-0.8
o/w: Merchandise trade balance 1/	-7.0	-6.5	-5.8	-3.9	-4.3	-3.9	-3.6	-3.6	-3.6	-3.8

Sources: Bulgarian authorities; World Development Indicators; and IMF staff estimates.

1/ Percent of GDP.

2/ In projection period, largely reflects issuance and repayment of eurobonds.

3/ Due to the revocation of the banking license of KTB, the bank is excluded as a reporting agent from the monetary statistics data starting in November

4/ Contribution to GDP growth.

Annex Table 2. Bulgaria: Financial Soundness Indicators

(In percent)

	2008	2009	2010	2011	2012	2013	2014	2015	Jun 2016	Dec 2016
Regulatory capital to risk-weighted assets	14.9	17.0	17.4	17.6	16.6	17.0	21.9	22.2	22.7	22.2
Regulatory Tier 1 capital to risk-weighted assets	11.2	14.0	15.2	15.7	15.1	16.0	20.0	20.5	21.2	20.9
Capital to assets (Based on Tier 1 capital)	11.4	10.8	10.5	10.8	10.1	10.4	11.6	12.0	12.3	11.6
Nonperforming loans net of provisions to capital	3.5	15.1	28.0	36.9	38.9	36.2	43.5	49.8	47.2	44.7
Nonperforming loans to total gross loans	2.4	6.4	11.9	15.0	16.6	16.9	16.7	14.6	14.4	13.2
Return on assets	2.1	1.1	0.8	0.6	0.7	0.6	0.8	1.1	1.8	1.4
Return on equity	19.5	9.8	7.8	5.7	6.3	5.7	7.2	7.9	13.1	10.4
Interest margin to gross income	75.1	74.8	74.1	73.2	68.8	68.5	67.4	66.2	68.6	69.2
Noninterest expenses to gross income	50.1	49.9	49.1	50.6	52.1	54.0	49.9	47.3	42.1	44.0
Liquid assets to total assets	19.0	18.9	20.9	22.0	22.4	23.4	26.1	31.1	30.8	32.4
Liquid assets to short-term liabilities	26.4	26.6	30.0	29.1	30.0	30.6	33.7	40.2	39.9	41.0
Large exposures to capital	76.5	65.2	90.6	111.6	115.1	119.7	64.3	51.4	55.3	58.2
Trading income to total income	2.8	4.4	5.4	5.0	7.4	5.8	7.0	7.9	12.0	10.3
Personnel expenses to noninterest expenses	37.9	37.1	36.4	36.5	36.7	36.7	37.1	36.3	42.2	41.7
Customer deposits to total (noninterbank) loans	83.9	83.0	87.8	95.4	100.2	107.4	115.5	127.7	130.2	134.7
Foreign-currency-denominated loans to total loans	57.2	58.7	61.3	63.7	64.0	61.2	57.0	50.0	48.4	45.1
Foreign-currency-denominated liabilities to total liabiliti	60.0	64.4	58.6	54.8	51.8	50.2	49.0	42.6	43.2	41.7

Source: IMF IFS

Annex Table 3. Bulgaria: Structure of the Financial System
(Assets in billion LEV)

	2012			2013			2014			2015			2016 1/		
	Number	Total Assets	Percent of System Assets	Number	Total Assets	Percent of System Assets	Number	Total Assets	Percent of System Assets	Number	Total Assets	Percent of System Assets	Number	Total Assets	Percent of System Assets
Local banks	9	21.8	23.8	9	24.4	25.5	9	20.2	20.8	9	20.6	20.3	9	20.7	20.2
Foreign banks	15	55.0	60.3	15	55.7	58.2	13	58.9	60.8	13	63.5	62.5	13	65.6	64.1
Foreign branch	7	5.6	6.1	6	5.4	5.7	6	6.0	6.2	6	3.4	3.3	5	2.3	2.3
Total banking system	31	82.4	90.3	30	85.6	89.4	28	85.1	87.8	28	87.5	86.1	27	88.7	86.7
Insurance companies															
Non life	18	2.0	2.2	28	2.1	2.2	30	2.2	2.2	30	2.4	2.3	29	2.3	2.2
Life	16	1.2	1.3	16	1.3	1.3	15	1.4	1.5	16	3.6	3.6	15	1.5	1.5
Pension insurance companies	9	5.7	6.3	9	6.8	7.1	10	8.2	8.4	10	8.2	8.0	9	9.9	9.6
Non-bank depository institutions	43	8.9	9.7	53	10.2	10.6	55	11.8	12.2	56	14.2	13.9	53	13.7	13.3
Total financial system	**74**	**91.3**	**100.0**	**83**	**95.8**	**100.0**	**83**	**96.9**	**100.0**	**84**	**101.7**	**100.0**	**80**	**102.3**	**100.0**
(in percent of GDP)		111.9			116.8			115.9			117.7			115.0	

Source: BNB, FSC

1/ Through June 2016

Annex II. FSAP and BNB Stress Test Key Differences

Scenarios	Baseline		Adverse	
Assumptions	**IMF**	**BNB**	**IMF**	**BNB**
Macro scenarios	October 2016 WEO forecast	BNB macroeconomic forecast prepared as of 15 March 2016	WEO (2016 October) hypothetical forecast	Hypothetical scenario
Time horizon	3 years, starting from Q2 2016	3 years, starting from Q4 2015	3 years, starting from Q2 2016	3 years, starting from Q4 2015
Approach	Top-down (in-house)	Bottom-up with predefined constraints	Top-down (in-house)	Bottom-up with predefined constraints
Balance sheet	Dynamic	Static	Dynamic	Static
Credit shock	. NPL evolution based on scenario . Fixed shock provisioning rates	Evolution of PDs and LGDs based on the scenario	. NPL evolution based on scenario . Fixed shock to provisioning rates	Evolution of PDs and LGDs based on the scenario
Interest income	Excludes interest income accrual on NPLs	Interest income according to international accounting standards	Excludes interest income accrual on NPLs	Excludes interest income accrual on NPLs
Funding shock	No funding shock	No funding shock	Funding shock based on increase in Euribor and individualized premiums calibrated based on each bank's liquidity ratio (considering deposit flow from domestic to foreign owned banks) multiplied by largest historical shock to deposit interest rates. Shocks applied only to domestic banks, assuming that foreign owned banks will not experience deposit outflows	Uniform funding shock based on increase in sovereign yields and Euribor
Haircut on sovereign bonds (AFS and HFT securities)	No shock	No shock	Haircuts based on averages from EBA (2016) adverse scenario	Haircuts based on EBA (2016) adverse scenario
AQR adjustments	Adjustments applied on Q2 2016 reported results	Adjustments applied on Q4 2015 reported results	Adjustments applied on Q2 2016 reported results	Adjustments applied on Q4 2015 reported results

Annex III. Risk Assessment Matrix

Source of Risk	Relative Likelihood (*high, medium or low)*	Impact if Realized *(high, medium, or low)*
1. Protracted period of slower European growth.	**High** Bulgaria's exports are highly dependent on Euro-area markets. There would be direct negative influence through trade and investment channels.	**High** Low potential growth, high structural unemployment and low FDI, continued fiscal pressures. External shocks will lead to lower income for corporate sector as well as households. Fixed exchange rate will be maintained, thus external shocks will materialize in lower public spending, corporate sector income, and household wages. In the stress tests, this risk will be modeled through lower GDP growth and higher unemployment shocks, which lead to higher NPLs.
2. Financial stress in emerging markets	**Medium** Adverse effects on banks and corporates due to increased investor risk aversion, which leads to higher risk premiums.	**Medium** Increased country risk premium, leading to wider spreads for the sovereign, funding pressures for banks, higher borrowing costs for nonfinancial corporates, and lower FDI. In the stress tests, this risk will be modeled through wider spreads for the sovereign (losses on domestic mark-to-market securities) and higher funding costs for banks.
3. Intensification of geo-political tensions related to Russia, Ukraine, and Turkey.	**High/Medium** Negative spillovers from trade and investment channels increase in country risk, sovereign rating downgrade.	**High/Medium** Adverse effect on economic activity and social tensions leading to the higher country risk premiums and potential sovereign rating downgrade by one to three notches. This risk will be modeled through a stand-alone sensitivity shock (sovereign downgrade).
4. Asset price uncertainty over NPLs.	**High** Delayed recognition of NPLs, and loan foreclosures. Impediments to releasing collateral associated with NPLs, including judicial bottlenecks and administrative costs.	**Medium** Collateral prices decline. The need for higher provisions lowers bank profits and capital; investment and growth prospects are in turn weakened. In the stress tests, this risk has been modeled through higher provisioning rates for banks.

Annex IV. Stress Testing Matrix (STeM) for the Banking Sector

Domain		Top-down Stress Test by FSAP Team - Assumptions
Banking Sector: Solvency Risk		
1. Institutional Perimeter	Institutions included	17 banks
	Market share	95 percent of the banking system assets
	Data and baseline date	Source: Supervisory and publicly-available data Baseline date: End-June 2016 Scope of Consolidation: Consolidated level data for banks which have their headquarters in Bulgaria and subsidiary level data for the subsidiaries of foreign banks
2. Channels of Risk Propagation	Methodology	Satellite models developed by the FSAP team Balance sheet-based approach
	Satellite models for macro-financial linkages	Models for credit losses, pre-impairment income, credit growth, expert judgment Models to integrate solvency-funding interactions Methodology to calculate sovereign risk Methodology to calculate losses from bonds and money market instruments (sovereign and other issuers) Net fee income and commission income projected based on nominal GDP growth and expert judgment No accrued income on NPL loans
	Stress test horizon	3 years (2016 Q2– 2019 Q2)
3. Tail Shocks	Scenario analysis	Scenario-based tests, which assess the impacts on the entire portfolio including the loans and, if applicable, the trading book, will be conducted in the top-down exercise Variables in the scenarios include domestic macro- financial variables (*e.g.*, GDP and inflation), and GDP for key trading partners (EU, Russia, neighboring non-EU countries) In the Bulgaria-specific severe stress scenario, the GDP growth rate declines to -6, -6.4, and -3.4 percent, in 2017, 2018 and 2019, respectively A set of external sector shocks, including large declines in exports and FDI, is calibrated to magnitudes like those observed in countries with currency board system during 2008–2009
	Sensitivity analysis	Sensitivity analyses will be conducted in the top-down exercise. They will evaluate *external* shocks: sovereign rating downgrade and a decline in the prices of sovereign bonds. Default of large corporate borrowers. Decline in real estate prices. Increase in interest rates (risk premiums).

Domain		Top-down Stress Test by FSAP Team - Assumptions
4.Risks and Buffers	Risks/factors assessed	Credit losses. Losses from bonds and money market instruments (sovereign and other issuers) in the banking and trading books. Funding costs.
	Behavioral adjustments	Balance sheet grows in line with nominal GDP. Dividends are paid out by banks that remain adequately capitalized throughout the stress period. Dividend payout ratio is determined by using historical data.
5. Regulatory and Market-Based Standards and Parameters	Calibration of risk parameters	Through-the-cycle and point-in-time for credit risk parameters or proxies.
	Regulatory/ accounting and market-based standards	European and national regulation. Basel II/III STA approach.
6. Reporting Format for Results	Output presentation	System-wide capital shortfall. Number of banks and percentage of banking assets in the system that that fall below microprudential hurdle rates (Basel minimum: 4.5 percent and 8 percent for common equity tier 1 and total capital ratios, and 3 percent leverage ratio).
Banking Sector: Liquidity Risk		
1. Institutional Perimeter	Institutions included	17 largest banks in the system.
	Market share	95 percent of the banking system assets.
	Data and baseline date	Source: Supervisory data. Baseline date: End-June 2016. Scope of Consolidation: Consolidated level data for banks that have their headquarters in Bulgaria, and subsidiary level data for the subsidiaries of foreign banks.
2. Channels of Risk Propagation	Methodology	Basel III-LCR and NSFR type proxies, based on European Commission Delegated Act. Cash-flow based liquidity stress test using maturity buckets by banks.
3.Risks and Buffers	Risks	Funding liquidity (liquidity outflows). Market liquidity (price shocks and haircuts).
	Buffers	Counterbalancing capacity (HQLA). Central bank facilities.
4. Tail shocks	Size of the shock	Runoff rates calculated based on historical events and LCR/NSFR rates. Bank run and dry up of wholesale funding markets, considering haircuts to liquid assets.

Domain		Top-down Stress Test by FSAP Team - Assumptions
5. Regulatory and Market-Based Standards and Parameters	Regulatory standards	European Commission Delegated Regulation (EU) 2015/61; and Basel Committee on Banking Supervision (2014), "Basel III: The Net Stable funding ratio" Basel, October.
6. Reporting Format for Results	Output presentation	Bank-level and aggregate banking-level liquidity gaps. Survival period in days by bank, number of banks that can still meet their obligations.
Banking Sector: Interconnectedness		
1. Institutional Perimeter	Institutions included	17 largest banks in the system.
2. Modeling Approach	Methodology	Simple balance sheet contagion model.

Annex V. Macroprudential Tools and Instruments Implemented by the BNB

Policy Tool	Objectives	Description	Adoption Date	Notified to the ESRB 1/
By type of tools and measures				
Credit risk tools				
Introduction of credit ceilings	To mitigate and prevent excessive credit growth and leverage	Additional required reserves were imposed on banks whose credit portfolio expands by more than 6 percent per quarter.	Feb 2005	N/A
Introduced higher risk weight on mortgages	To slow excessive mortgage lending.	Amendments to Regulation 8 introduced that for mortgage credit to have a 50% risk weight, the loan amount must be less than 70% of the home value (70% loan-to-value ratio), otherwise the risk-weight is 100%.	2005 Q3	N/A
Stricter consumer lending standards	To mitigate and prevent excessive credit growth and leverage	To prevent excessive credit growth, restrictions on credit standards were introduced, such as not extending credit to household with less than 100 BGN per member per month.	2006	N/A
Increase/decrease reserve requirement ratio (RRR)	To mitigate and prevent excessive credit growth and leverage	Influence credit growth in a countercyclical manner by increasing RRR from 8 percent to 12 percent during the cycle's upturn and decrease them from 12 percent to 10 percent in the downturn. As of January 1, 2009, minimum RRR on funds attracted by the banks from abroad were decreased from 10 percent to 5 percent. As of January 1, 2009, no minimum required reserves were allocated on funds attracted from the state and local government budgets	2007/2008 Q4	N/A
Extended coverage of the information in the credit register	To strengthen the resilience of the banking sector	The scope of data collected in the credit register was extended to include also nonbank borrowers.	July 2009	N/A
Counter-cyclical buffer	To mitigate and prevent excessive credit growth and leverage	To protect the banking sector from periods of excess aggregate credit growth that have often been associated with the build-up of system-wide risk, and in a downturn to reduce the risk that the supply of credit will be constrained by regulatory capital requirements that could undermine the performance of the real economy and result in additional credit losses in the banking system. Set at 0 percent and reviewed on a quarterly basis.	Jan 1, 2016	Dec 21, 2015

Policy Tool	Objectives	Description	Adoption Date	Notified to the ESRB
Liquidity risk tools				
Higher liquidity coverage requirements	To prevent the materialization of risks to the liquidity and provide for sustainable sources of funding	All banks were recommended to considerably enhance the timeliness and granularity of information on liquidity, and to strengthen precautionary measures aiming to improve the management of liquidity risk under currently sensitive circumstances. Banks shall be ready to prepare and present liquidity reporting on a more frequent (even daily) basis. Banks shall update their contingency plans to reflect latest developments in the markets they are exposed to. Banks shall explore the options of funding to reduce or avoid concentration of funding sources. Since 2009, banks were explicitly required to maintain a minimum liquidity coverage requirement. The measure was applied in a countercyclical manner, as the level of the requirement varied between 15 percent and 25 percent.	2009	N/A
	To prevent the materialization of risks to the liquidity and provide for sustainable sources of funding	Ordinance No. 11 addressed bank liquidity management. The amendments harmonized qualitative requirements to bank liquidity management within the EU framework. As an element of liquidity and liquidity risk management, banks were required to maintain liquidity buffers. The new provisions enhanced the use of stress tests. The results thereof would be used by banks as a basis for determining the amount and composition of liquidity buffers and positions, and for updating their contingency action plans and 'liquid crisis' scenarios. Those amendments resulted in a more conservative treatment of the respective risks. Since mid-2014, banks have prepared liquidity reporting on a more frequent (even daily) basis.	Oct 2010	
Higher liquidity measures for Greek banks	To prevent the materialization of risks to the liquidity and provide for sustainable sources of funding	Measures also included the requirement to maintain cash and total liquidity levels above those required for other credit institutions.	March 15, 2010; and 2012	N/A
Funding risk tools				
Funding and liquidity management independence	To limit the risks stemming from banking system interlinkages and the materialization of external risks to the banking system (contagion)	To mitigate potential contagion from the Greek crisis, the Greek banks were further required to implement plans for reducing their dependency on funds attracted from the parent or other group entities. In 2012 requirements for banks with Greek equity in Bulgaria to achieve operational independence in their activities in the territory of Bulgaria and to ensure their own liquidity management. In January 2015, the banks with Greek equity were required to stop operations at group level, which may jeopardize the control over liquid resources in case of further financial distress in Greece. 2/	March 15, 2010; 2012; and January 2015	N/A

Policy Tool	Objectives	Description	Adoption Date	Notified to the ESRB
Structural measures to lower systemic risks				
Dividend distribution restrictions	To strengthen the resilience of the banking sector	Banks can distribute profits based on quantitative and qualitative criteria such as: minimum level of capital adequacy (CAR and Tier I), liquidity coverage ratio (the share of liquid assets to attracted funds from nonbanks/core funding), asset quality indicators (including level of NPLs), supervisory ratings, and other elements specific for the respective year. The dividend distribution restrictions are confirmed on an annual basis since 2009, and implemented via recommendations. For 2015 year-end, the decision for dividend distribution is conditional on individual AQR and Stress test results.	January 6, 2009	N/A
Systemic risk buffer[16] CRD	To strengthen the resilience of the banking sector	With the aim to prevent and mitigate long-term non-cyclical systemic or macroprudential risks, the SRB of 3 percent was introduced. Applied to domestic exposures. Applied on individual, consolidated, and sub-consolidated basis.	Dec 31, 2014	Nov 11, 2014
Macroprudential reporting	To strengthen the resilience of the banking sector	To monitor systemic risk such as excessive risk taking and risks related to significant exposure concentrations, including loans in foreign currency, the BNB developed a new reporting template for monthly loan-level data from early 2015 onward (covering currency and residential information, as well as volumes and types of exposures to parent banks. The BNB also introduced quarterly and annual reporting templates. The quarterly template covers credit activity in the banking sector (LTV, LTI, PTI, DTEBITDA, and flow of newly granted/renegotiated loans. The annual template contains data on credit migration between the categories of past-due status.	January 2015	N/A
Higher capital requirements for O-SIBs 3/	To limit the risk stemming from the activity of systemically important institutions	Introduce a capital surcharge based on size, interconnectedness, complexity, and substitutability. The surcharge was gradually applied for 3 groups of banks. The buffer was initially set at 0 percent in 2017 and will increase in increments each year within a period of four years until 2020.	Effective from January 1, 2017	Nov 10, 2016

[16] http://www.bnb.bg/PressOffice/POPressReleases/P/OPRDate/PR_20140529_EN;

http://www.bnb.bg/bnbweb/groups/public/documents/bnb_law/regulations_**capital**_buffers_en.pdf

Policy Tool	Objectives	Description	Adoption Date	Notified to the ESRB
Limit investment in Greek government securities	To limit the risks stemming from banking system interlinkages and the materialization of external risks to the banking system (contagion)	Measures to prevent uncertainty and transfer of vulnerabilities through contagion channels. Banks with Greek equity in Bulgaria were required to implement a more conservative policy on group placements to reduce exposures and discontinue investing in Greek government securities.	March 2010 and January 2015	N/A
Capital conservation buffer CRD	To strengthen the resilience of the banking sector	Early introduction at 2.5 percent level.	May 13, 2014	Nov 11, 2014

1/ Since 2014, national authorities communicate macroprudential measures to the ESRB in the context of Regulation No 575/2013 of 26.06.2013 (CRR), Directive 2013/36 of 26.06.2013 (CRD) and the ESRB recommendations.

2/ For details on the BNB's measures to counteract external risks to the Bulgaria's banking system, see http://bnb.bg/bnbweb/groups/public/documents/bnb_publication/pub_ec_r_2015_02_en.pdf

3/ http://www.bnb.bg/PressOffice/POPressReleases/P/OPRDate/PR_20140529_EN; http://www.bnb.bg/bnbweb/groups/public/documents/bnb_law/regulations_capital_buffers_en.pdf

4/ http://www.bnb.bg/PressOffice/POPressReleases/POPRDate/PR_20161212_EN

Annex VI. Implementation Status of 2008 FSAP Recommendations

Recommendations	Status
Crisis management	
Establish clear principles and objectives in allowing discretion over the use of a part of the Fiscal Reserve Account for emergency bank liquidity assistance. Create fiscal buffers in the fiscal reserve account for potential solvency support, in case of systemic problems.	**MoF:** It should be noted that the 2008 FSAP recommendations were made in the absence of a framework for recovery and resolution of credit institutions. ➢ Directive 2014/59/EU of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms (BRRD) sets clear rules for the provision of public liquidity and capital assistance to banks (Article 32, para 4 (d), items i to iii). These provisions were transposed into the Bulgarian legislation in Article 51, (3) and (4) of the Law on recovery and resolution of credit institutions and investment firms (LRRCIIF). ➢ With a view to the asset quality review and stress test of the whole banking system in Bulgaria, the 2016 Law on the State Budget of the Republic of Bulgaria if within the limit set out for new government debt (BGN 5.3 billion), the new government debt could be assumed to finance programmes and instruments for financial stabilisation and provision of extraordinary public financial support under the LRRCIIF. ➢ Chapter XIV of the LRRCIIF contains clear and detailed rules and conditions for the application of government stabilization tools—government equity support and temporary government ownership tool. These tools can only be applied in the event of a systemic crisis as a last resort and under strict conditions. Considering the above, along with other related aspects of the Public Finance Law, the Ministry of Finance does not support the recommendations made with respect to creating fiscal buffers in the fiscal reserve account.
Banking Supervision and Regulation	
In line with EU practice, consider moving to a governance structure for BNB to discharge its bank supervisory responsibilities with the BNB Board taking key decisions and limiting discretionary powers of the Deputy-Governor in charge of the Banking Supervision Department.	**BNB:** The concentration of power for supervisory action in a single individual, the deputy governor for supervision, was a conscious decision designed to ensure responsibility and accountability. Checks and balances have been put in place in the sense that not all powers are reserved by the deputy governor. ➢ Decisions such as licensing, revocation, conservatorship must be made by the full Governing Council based on a joint motion by the governor and deputy governor. ➢ Also the Governing Council has responsibility for issuing the regulations of the BNB, including those regulations

Recommendations	Status
	pertaining to supervision. Since the fourth quarter 2015, a quarterly report is submitted to the BNB Governing Council containing information on the current supervisory monitoring of banks and the identified problems.
Banking Supervision and Regulation	
Enhance BNB's capacity to carry out macro-scenario stress testing at the system level and bank level, with special emphasis on credit, foreign exchange and liquidity risks.	**BNB:** After 2009, several different types of stress tests (in 2011, 2014, and 2016), covering credit, market, and interest rate risk, have been implemented. Liquidity risk top-down simulations are also performed on a regular basis, and credit risk is tested each year. As part of the 2016 comprehensive assessment of the Bulgarian banking system, a bottom-up macro-scenario stress test was carried out (details available on the BNB website).
Securities and Capital Markets	
Strengthen capacity of FSC to monitor and enforce the securities laws by increasing FSC staff numbers and enhancing their skills through training and secondments with other regulators.	➢ Since its participation by law in the EU authorities ESMA/EIOPA. Since the 2008 FSAP, the FSC has participated in training programs of ESMA/EIOPA, Institute of Public Administration and Joint Vienna Institute. In addition, the FSC has two secondments in the EC and the ESMA. ➢ From January 1, 2008 until August 29, 2016, the FSC has increased its staff by 17 experts.
Build an effective on-going FSC oversight program of the stock exchange and securities clearing and settlement.	➢ Because of the coordinated activities between the Bulgarian Stock Exchange and the FSC, access to the new settlement system is granted to an extra observer with the purpose of oversight of the trade on the stock exchange. ➢ Following consultations with the Bulgarian Stock Exchange, the FSC published an action plan in October 2010, identifying priorities for coordinated supervisory activities to be undertaken and for capital markets development. ➢ Onsite inspections have been conducted on the Bulgarian Stock Exchange and on the Central Depositary, with focus on the clearing and settlement systems.
Upgrade the securities clearing and settlement system for the private debt markets to meet international standards.	➢ The Central Depositary JSC, and the BNB realize the clearing of transactions in securities jointly. The depositary institution has taken organizational measures for its alignment with the European requirements and the future issuance of license to the institution in accordance with Regulation (EU) № 909/2014. The current legislation provides for the separation of the two services. CDAD establishes and operates a system for the settlement of transactions in financial instruments in accordance with Art. 109a of the LPOS. CDAD is responsible for registration of financial instruments in accordance with Art. 127 of LPOS.

Recommendations	Status
Pension Fund and Insurance Sectors	
Redesign the regulatory framework for the pay-out phase for retirement products.	➢ In the period 2012–2016, the FSC prepared a conceptual framework concerning the improvement of the regulation on the private pension funds, including the pay-out phase and a new draft law proposing the necessary amendments in the Social Insurance Code. Following the public consultation on the draft law, the Ministry of Finance decided to put this group of amendments for more detailed discussion with the Ministry of Labor and Social Policy.
Increase scope for price competition by increasing disclosure of net risk-adjusted performance, reviewing the rules related to switching and the automatic assignation rule.	➢ In accordance with the requirements to the advertising and information materials, the pension insurance companies are required to disclose annually on their websites information on the investment results of the pension funds they manage, including Sharpe's ratio. ➢ The FSC publishes on its webpage statistics on pension insurance companies and the funds managed by them, including data on amounts of fees and deductions, investment performance and benefits paid. ➢ The pension insurance companies started to disclose the real rate of return (adjusted for changes in prices due to inflation) achieved in the course of management of the pension funds and to disclose more frequently (on a quarterly basis instead of annually). ➢ The newly introduced rights of the members of the universal pension funds also stimulate the competition in the sector. ➢ A gradual decrease was introduced of both the deduction from each contribution and the investment fee. The fee for switching participation from one mandatory pension fund to another was repealed. ➢ The draft law amending the Social Insurance Code proposes that members of the mandatory pension funds can switch their participation to another pension fund of the same type more frequently after the conclusion of the first social insurance contract and the fee for switching participation from one voluntary pension fund to another is repealed.
Introduce investment options in the mandatory funds through life style or life cycle funds.	The FSC prepared amendments in this respect in the period 2012–2016, but they were not supported by the Ministry of Finance, and were subsequently removed from the draft law.

Statement by Mr. Doornbosch, Alternate Executive Director and Mr. Manchev, Advisor to the Executive Director on Bulgaria
May 22, 2017

The Bulgarian authorities have had constructive dialogues with the joint IMF/WB Financial Sector Assessment Program (FSAP) mission since July 2016.

The authorities remain committed to prudent macroeconomic and financial policies. They thank staff for the Financial Sector Stability Assessment (FSSA) report. The new government, which took office on May 4, 2017, is dedicated to give a new impetus to domestic reforms by increasing public confidence in the reform process, improving the business environment and strengthening the utilization of the EU funds to attract more private investment. Since the authorities broadly agree with staff that they should continue their policies aimed at increasing financial sector resilience, we would like to make the following points for emphasis.

Amid the high global and regional uncertainty, the Currency Board Arrangement (CBA) continues to be the cornerstone for the domestic policymaking together with the government's strong underlying fiscal position. These are the anchors for all other macroeconomic policies in the long run. Last year, the Bulgarian National Bank's (BNB) gross international reserves increased by 17.8 percent, and reached the historically record level of 23.9 billion euro. The 2016 fiscal consolidation went ahead of schedule to a surplus, mainly thanks to the higher-than-initially expected growth and comprehensive administrative revenue measures. The new coalition government will support financial stability and sustainability in the highly uncertain and volatile external environment through a conservative medium-term fiscal consolidation strategy, aimed towards a structurally balanced budget by 2020. It would allow the automatic stabilizers to work while the government builds up liquidity buffers in good times and contains further debt accumulation.

In response to the global crisis and the 2014 domestic bank failure, Bulgaria has further progressed in strengthening prudential supervision, financial safety net, crisis management and resolution frameworks. Following the 2015 IMF/WB Assessment of compliance with the 2012 Basle Core Principles for Effective Banking Supervision, the BNB adopted a detailed Plan on Reforms and Development of Banking Supervision to support the shift toward a more effective governance model and to promote risk-based supervision, including the risk-based AML/CTF approaches. The plan has also been evaluated and regularly updated to accommodate important developments like outcomes of the 2016 comprehensive asset quality review (AQR) and stress-tests of banks. Bulgaria remains fully engaged in the financial sector reform at the European level. The Bank Recovery and Resolution Directive (BRRD) has been fully transposed into the Bulgarian law in mid-August 2015.

Several other policies have been implemented to strengthen financial stability and increase confidence in the financial system. The BNB has proactively developed its macroprudential framework and capacity to analyse and address systemic risk. Since 2010, the BNB successfully contained the spillovers from Greece and the domestic banking system remained stable. In 2016, the Bulgarian Deposit Insurance Fund (BDIF) took two government-guaranteed loans from the WB and the EBRD to replenish its resources. In line with the Resolution Act, under the BNB guidance and with the technical assistance from the WB, the BDIF has already started building capacity to manage either an asset separation vehicle or a bridge bank. On the micro-prudential front, the BNB has recently updated the Banking Supervisory Process Manual to better reflect the Basel Committee Recommendations on supervision of the Pillar 2 capital requirements and the related European Banking Authority standards. With regards to the non-banking financial system, earlier this year the Financial Supervision Commission completed an AQR of the pension funds and insurance companies, and a stress test of the insurance and re-insurance industry.

The Bulgarian banking system remains profitable, well capitalized, and highly liquid. The AQR has confirmed the comfortable position of banks' balance sheets as of end-2015. In 2016 the returns on bank assets and capital increased respectively by 0.4 and 3 percentage points and reached 1.4 and 10.4 percent. The capital adequacy ratio remained high at 22.2 percent. All banks have observed the regulatory standards for accumulating various capital buffers, and following the AQR, some banks have successfully implemented recovery plans to achieve the supervisory targets above the minimum regulatory capital. Despite the sizable deposit growth, the banking system leverage ratio (10.9 percent) remains among the lowest in the EU. In addition, the banking sector liquidity position has further increased. The commercial banks' reserves with the BNB increased by 0.4 billion euro despite the central bank discouraging excess reserve policy. The total liquid assets of the banking system increased by 9.6 percent, and the liquidity ratio reached 38.2 percent in the end of 2016.

The authorities welcome the FSAP "top-down" solvency stress test and the liquidity stress-tests of the Bulgarian banking system. They provided a helpful addition to the authorities' own "bottom-up" stress-test results, based on the EBA methodology. Both approaches have demonstrated the resilience of the system-wide bank capital and revealed some vulnerabilities. We agree that the main driver of change in the capital position of Bulgarian banks under the adverse stress-test scenario remains loan-loss provisions. For a small open economy, it is not surprising that the main transmission channels of the external shocks are linked to external demand and investor confidence. Spillover risks from the Bulgarian banking system remain minimal due to the stable domestic deposit funding and low reliance on the both domestic and international wholesale financial markets.

Market-driven changes in the ownership structure of the Bulgarian financial sector have steadily been taking place. In early 2017 a large euro-area banking group operating in

Bulgaria acquired the Bulgarian subsidiaries (bank, insurance and leasing) of a Greek bank, and in 2018 plans are to accomplish a merger of the respective businesses. Based on the AQR results, the banking supervision has initiated a comprehensive review of the banks' credit rules and procedures, aimed to strengthen the risk-based assessment and asset classification as well as to reinforce the collateral evaluation and provisioning in line with the best recommended international practices.

Conclusions

The FSSA report clearly shows the progress Bulgaria has made since 2014. The authorities fully understand that there is no room for complacency, and further steps need to be taken over the coming years to bolster Bulgaria's financial stability. The priority is given to further enhance bank capital buffers, strengthen the compliance and supervision, the financial safety net, crisis management and bank resolution. The BNB stands ready to sustain and further develop the capacity of the banking system and individual credit institutions to withstand shocks. The authorities are open to the recommendations and will consider a more systematic approach toward the NPLs reduction. They closely work with the domestic banking community and various counterparties at domestic and international level to sustainably address the NPLs. Bringing about these improvements will continue to be the focus of the authorities' efforts.