INTERNATIONAL MONETARY FUND

IMF Country Report No. 18/339

BRAZIL

FINANCIAL SYSTEM STABILITY ASSESSMENT

November 2018

This Financial System Stability Assessment paper on Brazil was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with Brazil. It is based on the information available at the time it was completed on June 22, 2018.

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Price: $18.00 per printed copy

International Monetary Fund
Washington, D.C.

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FINANCIAL SYSTEM STABILITY ASSESSMENT

November 2018

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This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited Brazil in November 2017 and March 2018. The FSAP findings were discussed with the authorities during the Article IV consultation mission in May 2018.

- The FSAP team was led by Jodi Scarlata (IMF) and Mariano Cortes (World Bank), and included deputy mission chiefs Ivo Krznar (IMF) and Steen Byskov (World Bank); Majid Bazarbash, Richard Berkhout, Fabian Bornhorst, Kelly Eckhold, Alessandro Gullo, David Hofman, Phakawa Jeasakul, Purva Khera, Steve Philips, Martin Saldias, Katharine Seal, and Nobuyasu Sugimoto (all IMF); Pasquale di Benedetta, Ana Carvajal, Dorothee Delort, Tatiana Didier, Eva Gutierrez, Damodaran Krishnamurti, Claudia Ruiz Ortega, Bujana Perolli, Heinz Rudolph; and external experts Ricardo Cavalheiro, David Hoelscher, Richard Stobo, and Marguerite Zauberman. The team also thanks Shiyuan Chen, Daniel Cunha, Geoffrey Khaminwa, and Daniela Santos (all IMF), Pietro Calice and Alvaro Enrique Pedraza Morales (all World Bank) for very valuable support and inputs.

- The mission met with senior leaders and officials from regulatory and government agencies in Brasilia, Sao Paulo, and Rio de Janeiro, including the Central Bank of Brazil (BCB), Ministry of Finance (MoF), Securities and Exchange Commission (CVM), Insurance Supervisor (SUSEP), and Pension Supervisor (PREVIC). It also met with representatives from financial institutions, and market participants.

- FSAPs assess the stability of the financial system as a whole 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 FSAPs.

- Brazil is deemed by the Fund to have a systemically important financial sector according to Mandatory Financial Stability Assessments Under the Financial Sector Assessment Program—Update (11/18/2013), and the stability assessment under this FSAP is part of bilateral surveillance under Article IV of the Fund's Articles of Agreement.

- This report was prepared by Jodi Scarlata and Ivo Krznar with inputs from the FSAP team.

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Glossary

AML/CFT	Anti-money laundering/counter terrorist financing
BCB	Banco Central do Brasil
BCP	Basel Core Principles of Banking Supervision
BCBS	Basel Committee for Banking Supervision
BNDES	Banco Nacional de Desenvolvimiento Economico e Social, National Development Bank
BRL	Brazilian real
CCP	Central Clearing Counterparty
CETIP	*Central de Custódia e de Liquidação Financeira de Títulos*
CET1	Common Equity Tier 1
CMN	National Monetary Council
COMEF	Financial Stability Committee
COREMEC	Committee of Regulation and Supervision of Financial, Securities, Insurance and Complementary Pension Markets
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depository
CSP	Critical Service Provider
CVM	Securities and Exchange Commission (*Comissao de Valores Mobiliarios*)
DSIB	Domestic Systemically Important Banks
ELA	Emergency Liquidity Assistance
FATF	Financial Action Task Force
FGC	Credit Guarantee Fund
FMI	Financial Market Infrastructure
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FX	Foreign exchange
ICSD	International Central Securities Depositories
IOSCO	International Organization of Securities Commissions
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
MOF	Ministry of Finance
PFMI	CPSS-IOSCO Principles for Financial Market Infrastructures
RSFN	*Rede do Sistema Financeiro Nacional* (National Financial System Network)
RTGS	Real-Time Gross Settlement
SELIC	*Sistema Especial de Liquidação e de Custódia*
PREVIC	National Superintendence of Complementary Social Security
SCR	Credit Information System
SFN	National Financial System
SRC	Risks and Controls Assessment System
SSS	Securities Settlement System

EXECUTIVE SUMMARY

Since the Brazil 2012 FSAP, the financial system has been stable despite the deep recession. The resiliency of the banking system was supported by high profitability, buoyed by large interest margins. While the financial system has grown since the 2012 FSAP, its structure remains largely unchanged. The system is dominated by large, vertically-integrated financial conglomerates and concentrated in liquid short-term instruments. The public sector continues to play a dominant role in the financial sector, and its interconnectedness.

Banks are broadly resilient to severe macrofinancial shocks. Current high profits and capital ratios support the resiliency of banks under a severe stress test scenario. Under the stress scenario, small capital shortfalls result; banks would nevertheless experience reduced income, including from market loss on government bonds, and high credit losses on exposures to the corporate sector which, despite recent improvement, is still vulnerable to shocks. This benign outcome deteriorates if their capital is adjusted for deferred tax assets. Moreover, some banks are exposed to concentration risk. Some actions are still needed to address bank-specific risk profiles to boost their resilience. Banks are generally well-positioned to manage short-term and medium-term liquidity pressures and interbank contagion seems limited.

Supervision and regulation have strengthened at both micro and systemic levels. This has included risk-based supervision, off-site monitoring, effective use of large data resources, sanctioning powers, and the phasing-in of Basel III requirements. The Banco Central do Brasil (BCB) has put forward guidance for the preparation of Recovery and Resolution Plans by D-SIBs, and has focused on frontier risks related to interdependence, cyberattacks and potential payments system outages. The securities commission's (CVM) oversight of financial market infrastructures and issuers' financial disclosure is in line with international standards. Structural reforms have included revisions to the pricing of directed subsidized credit and funding modalities of BNDES, enactment of the corporate governance law for state-owned enterprises, and adoption of a new corporate governance code by CVM.

Nevertheless, strengthening the underpinnings of regulatory agencies is needed. The BCB's independence and legal protection of staff should be ingrained in law. Likewise, the autonomy of the senior leadership of BCB and SUSEP (insurance regulator) should be protected by clear rules, including fixed terms and conditions of dismissal. Resources should be enhanced to manage challenges from new reforms, particularly at CVM and SUSEP.

The supervisory process is well-structured and thorough but there are areas where further improvements will be needed. The BCB's and SUSEP's response times for corrective actions should be shortened. Also, while the BCB's analytical capacity is impressive, the onus of producing and submitting supervisory indicators should be with the banks. The regulatory and supervisory approach should be upgraded in related party exposures and transactions, large exposures, country and transfer risk and restructured loans. CVM should strengthen oversight practices through

industry specialization and more refined risk-criteria. To deter misbehavior, enforcement—administrative and judicial—should strive for prompter results.

Enhancing the macroprudential and crisis management frameworks would help shelter the financial sector against risks in the future. Creating high-level interagency committees with mandates for macroprudential policy and crisis management should be a priority. The existing resolution regime is inadequate and a new framework aligned to best international practice should be introduced promptly. The process for dealing with weak banks and emergency liquidity assistance should be tightened, and the FGC should be strengthened and brought into the public sector, as this would, among other things, help prevent conflicts of interest, retain the mandate for financial stability in the public sector, and improve the exchange of confidential information.

While financial markets—particularly derivatives—are liquid, concentration is high and government securities play a key role in systemic liquidity management. BCB term deposits will be useful as a small-scale fine-tuning sterilization tool, but limited for structural sterilization purposes as most banks use government securities repos to channel funds between related investment funds and the BCB. Adjustments to legislation should be considered to allow the BCB to issue securities for structural sterilization and to broaden investor access to the FX spot market for hedging. The overnight unsecured interbank rate is thinly traded and should be replaced by the SELIC government securities repo rate as a benchmark rate.

Improving the financial intermediation efficiency, reforming the role of public banks and developing the long-term fixed income market are crucial to improve the efficacy of the financial sector and increase productivity growth. In particular:

- **Inefficiencies in financial intermediation**. The high margins in the free-credit market are a major economic challenge. These are due to high operating costs and loan loss provisions, bank concentration at the credit-product level, and cross subsidies to the earmarked lending program. SMEs are particularly affected and enhancing SME finance includes reducing information asymmetries, improving legal and institutional frameworks for credit enforcement, and promoting alternative products.

- **Downsize the role of public banks.** BNDES needs to adapt its business strategy in light of the TLP reform by selectively assuming risks that mobilize private finance and providing financial services that help develop the financial sector. Caixa requires comprehensive reform, including refocusing on its core mandate, improving governance, risk management and efficiency to boost its capital. A strategic investor could provide stronger corporate governance and know-how.

- **Developing fixed income market.** Coordinated actions are required to develop the market including BNDES operating under a project-finance financing model that engages investment partners, and revamping tax incentives that would lengthen the maturity of open pension funds “liabilities” and increase the appetite for and supply of long-term funding.

Table 1. Brazil: 2018 FSAP Key Recommendations	
Key Recommendations	**Time**
Microprudential and macroprudential institutional arrangements	
Establish a multi-agency high-level committee, with explicit mandate for macroprudential policy and the power to issue policy recommendations on a comply-or-explain basis.	ST (Short Term
Strengthen the crisis management institutional arrangements for inter-agency cooperation and exchange of information, including for contingency planning.	MT (Medium Term)
Strengthen legal protection of all supervisors (BCB, SUSEP) by clear rules, including fixed term, condition of dismissal, public disclosure of reasons for dismissal and qualification criteria for appointments. Strengthen the independence to the BCB.	ST
Increase resources of CVM and SUSEP.	ST
Systemic risks	
Use Pillar 2 capital requirements to handle bank-specific risk profiles to boost their resilience as needed and to mitigate risks.	ST
Financial sector oversight	
Upgrade banking sector's regulatory and supervisory approach to credit risk—including identification and definitions, limits, and reporting requirements—for related party exposures and transactions, large exposures, country and transfer risk and restructured loans.	MT
Strengthen enforcement function of CVM by raising the level of sanctions and ensuring adequate resources for prosecution; strengthen cooperation allowing CVM proper oversight of ANBIMA's SRO activities in the investment fund sector.	ST
Implement (BCB, ANS and SUSEP) consistent group-wide supervision of insurance groups and conglomerates with joint rule-making, implementation, and on-site inspections and granular data sharing.	MT
Crisis management and bank resolution, safety nets	
Revise the draft resolution law in line with FSAP team's recommendations and promptly enact it.	ST
Revise the ELA framework to provide for a solvency test tied to enhanced supervision, remedial plans, and possibly restructuring measures, and allow for ELA in systemic circumstances upon a MoF indemnity.	ST
Put in place mechanisms to ensure lending from the deposit insurance fund is not used to maintain weak or insolvent banks in operation; and transform FGC into a fully owned public institution.	ST; MT
Financial integrity	
Complete the national AML/CFT risk assessment and introduce a risk-based approach specific to AML/CFT supervision.	ST
Financial intermediation efficiency	
Foster competition through client mobility and financial product cost transparency and comparability.	ST
Reform of public banks	
Change product offering of BNDES under new strategy with focus on catalyzing private sector finance and developing the financial sector.	ST
Focus Caixa on core activities, improve governance, and invite a strategic investor.	ST

MACROFINANCIAL DEVELOPMENTS

A. Structure of the Financial System and Role of the Public Sector

1. **The financial system is large and dominated by banks and investment funds.** While the financial system has grown to nearly 200 percent of GDP its structure has not changed significantly since the last FSAP (Table 2, Figure 1). The banking sector, controlled by three private and three public banks, still accounts for about half of the financial system's assets. Investment funds make up some 30 percent of total financial sector's assets. Pension funds and the insurance sector account for 13 and 8 percent of total assets, respectively. Shadow banking, narrowly defined as comprising only the investment funds that perform credit, maturity, and liquidity transformation, is very small. Financial conglomerates—headed by a commercial bank and typically including investment banking, securities brokerage, asset management, and insurance subsidiaries—control around 85 percent of the system's assets. Since the last FSAP, the presence of the public sector as a share of total assets of financial conglomerates has remained the same (about 40 percent of total banking sector's assets).

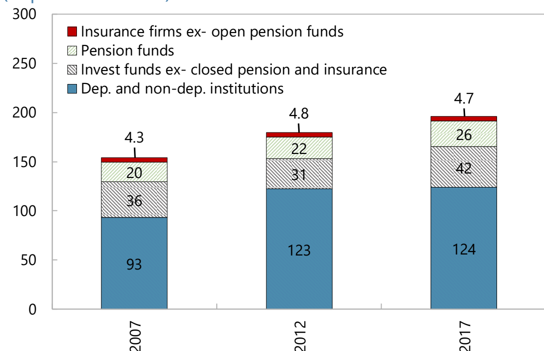
2. **Financial markets are dominated by short-term assets and derivatives instruments.** Shorter-term floating rate or inflation indexed securities are the predominant asset class, in part reflecting Brazil's history of high inflation. Most instruments are indexed to overnight secured (SELIC) or unsecured (CDI) interest rates. Liquidity is concentrated in the overnight markets making longer-term markets more prone to liquidity fluctuations. FX and fixed income derivatives markets are relatively large and play an important role in shifting risk from risk averse domestic retail investors and pension funds to other domestic institutional and foreign investors and in price discovery.

3. **The public sector continues to play a dominant role in the financial sector.** Public banks provide 55 percent of bank credit. Earmarked credits are loans with regulated allocation and lower interest rates reflecting embedded subsidies (Annex I) and have led to inefficiencies and the segmentation of credit markets. Government debt securities are the centerpiece of the fixed income market and are the single most important asset class held by investment funds, pension funds and insurance companies. Therefore, the financial sector interconnectedness is reinforced not only through direct exposures but also holdings of the same asset. Moreover, the government guarantees a large share of all banks' capital due to deferred tax credits (Annex II). Repos of government bonds channel liquidity between end-investors and intermediaries to the BCB, via open market operations (OMOs), that sterilizes Brazil's structural liquidity surplus (around 17 percent of GDP).

Figure 1. Brazil: Financial Sector Developments

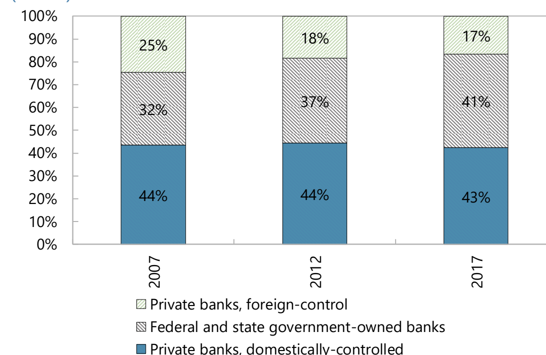
The sector has grown relative to GDP, though its broad structure remained stable.

Development of the Financial Sector Assets
(In percent of GDP)



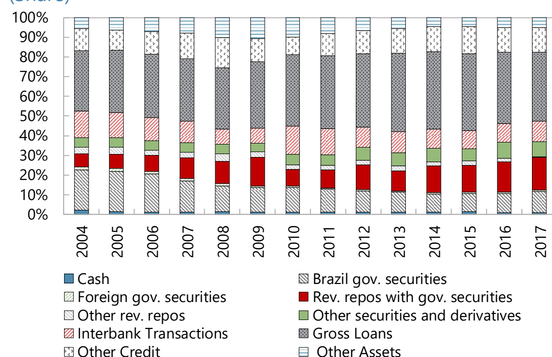
Public banks still play an important role in the banking sector.

Banking Sector Assets by Controlling Shareholder
(Share)



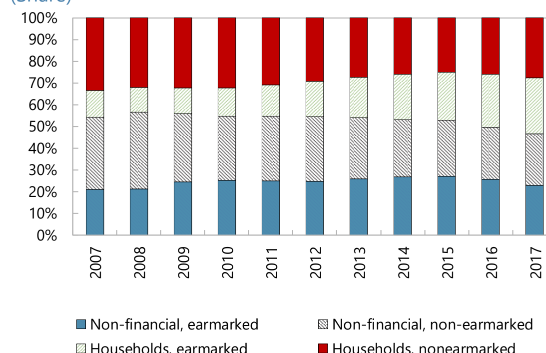
Banks assets continue to be dominated by loans and exposures to the government.

Structure of Assets of Banking Sector
(Share)



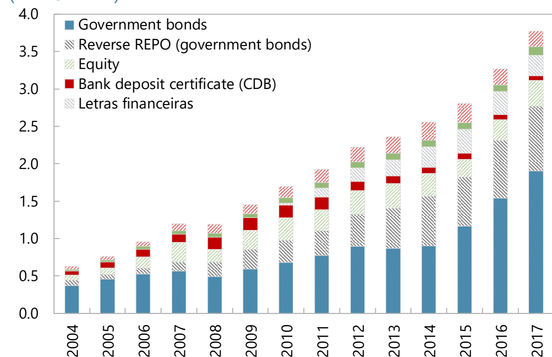
The share of earmarked household credit (mortgages) has increased significantly.

Bank Credit Portfolio
(Share)



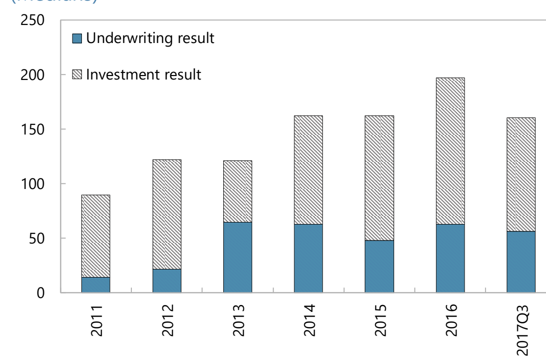
Investment funds have registered sustained growth, dominated by government bonds.

Investment Funds Net Worth Holdings
(Trillion BRL)



Insurance companies rely heavily on investment income.

Insurance Sector Results
(Medians)



Sources: CEIC, BCB, SUSEP, CVM, PREVIC, Anbima, SUSEP.

B. Despite the Recession, the Financial System Remained Resilient

4. In two of the past 5 years, Brazil experienced a long and deep recession, but is now on the path of recovery (Figure 2). In 2014, the terms-of-trade deteriorated alongside the fall of commodity prices and in 2015, Brazil lost its investment grade. The recession lasted 11 quarters and reduced output by a cumulative 7.8 percent as unemployment doubled to 14 percent. A high level of international reserves, strong FDI inflows and the flexible exchange rate provided important buffers throughout. Since mid-2016, markets have responded positively to the government's reform agenda and the economy exited the recession in 2017 Q1. Following a contraction of credit during the recession, there are signs of recovery as financial and credit conditions have eased. Medium-term growth is projected to reach just over 2 percent by 2020 (Table 3), but the forecast assumes that a sufficiently strong set of fiscal measures is put in place to ensure fiscal sustainability.

5. The corporate and household sectors remain vulnerable. Leverage, profitability and liquidity indicators of the corporate sector have all deteriorated on the back of the recession. Despite recent improvements, leverage remains high and profitability and liquidity indicators are below pre-recession levels. The structure of household debt has changed since the last FSAP—the share of mortgage debt has increased to almost 20 percent (up from 12 percent in 2012), and the household debt service-to-income ratio (DSTI) is still one of the highest in the world (22 percent) reflecting high interest rates.

6. Despite the deep recession, the banking sector has remained resilient (Figure 3, Table 4). Since the last FSAP, banks have continued to be well capitalized, profitable, and liquid. Despite record loan losses[1], profitability has been supported by prudent lending standards, high interest margins and fees. High profits and deleveraging have ensured that capital ratios have been well above the regulatory minima, but capital ratios of public banks are much lower than those of private banks and continue to be pressured by higher Basel III deductions from capital. External funding exposures are low (at around 10 percent of total funding) and FX risks are largely hedged.

7. The performance of the nonbank financial sector remains solid, but may be challenged by falling interest rates as the authorities' reform of the long-term interest rate (TLP) advances.[2] Assets managed by investment funds have grown steadily since the last FSAP, led by fixed income funds, the dominant investment vehicle in this area. While the growth of insurance premiums has declined since the last FSAP, the sector's profitability and other key credit metrics have all improved, mainly reflecting higher investment returns driven by higher interest rates. Pension funds have grown steadily as tax incentives support contributions. Still, high unemployment has lowered contributions and poor performance of investment portfolios—driven by losses on equity investments—has weighed on the solvency of defined benefit pension plans, particularly of state owned enterprises. As interest rates approach historical lows, lower returns will weigh on profits on the non-banking sector and a search for yield may increase risk-taking.

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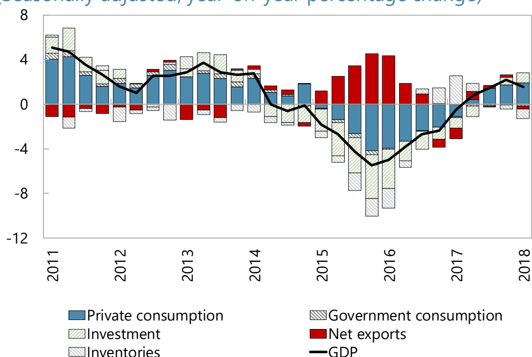
[1] Non-performing loans remained low because of high write-offs due to the strict regulatory requirements.

[2] A new long-term interest rate, TLP, was introduced effective 2018 that will gradually converge towards the market-based yield of 5-year government bonds.

Figure 2. Brazil: Macrofinancial Developments

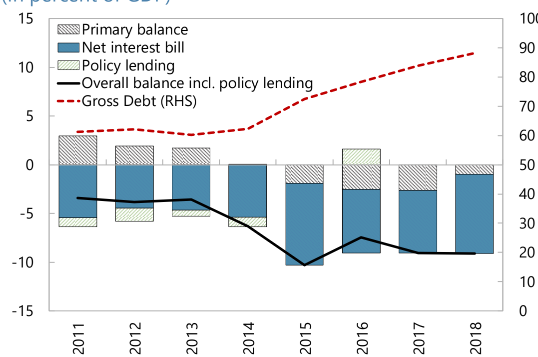
Brazil experienced a deep and prolonged recession…

Demand Contribution to GDP Growth
(Seasonally adjusted, year-on-year percentage change)



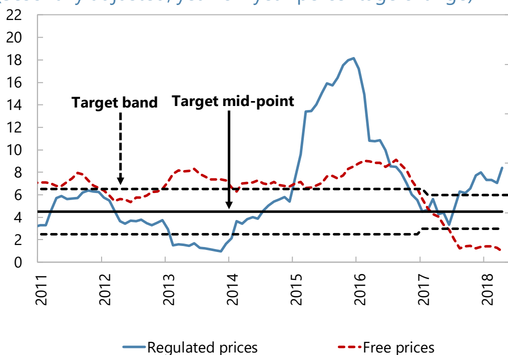
… contributing to large debt sustainability risks

Primary Balance, Policy Lending and Gross Debt
(In percent of GDP)



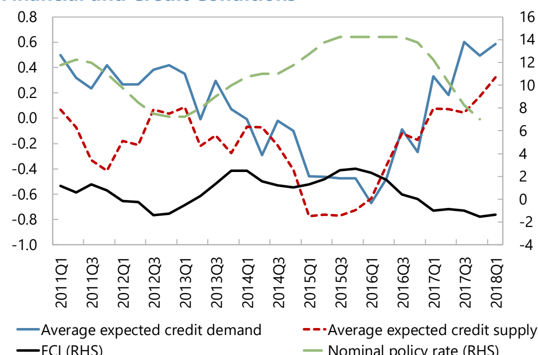
Inflation has recently declined rapidly mainly as the effects of sharp regulated-price adjustments in 2015 have waned…

Regulated and Free Prices
(Sesonally adjusted, year-on-year percentage change)



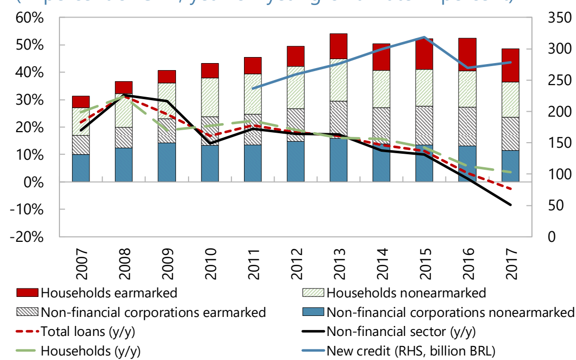
…opening space for monetary easing, which in turn positively affected financial and credit conditions…

Monetary Policy Target Interest Rate (SELIC) and Financial and Credit Conditions



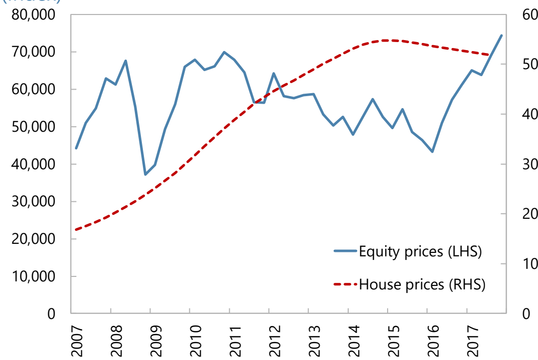
…and providing a catalyst for new lending.

Credit Variables
(In percent of GDP, year-on-year growth rate in percent)



The stock market has surpassed the levels from 5 years ago but the housing market is still in a correction phase.

Equity and House Prices
(Index)

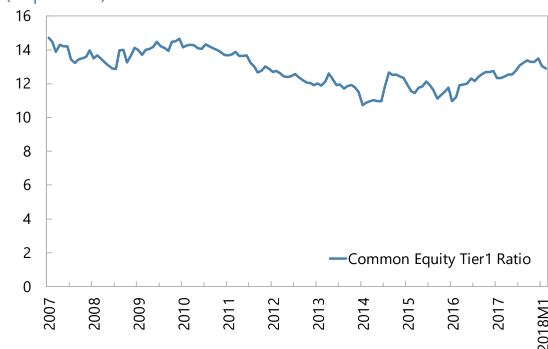


Sources: CEIC, BCB, Haver.

Figure 3. Brazil: Banking Sector Developments

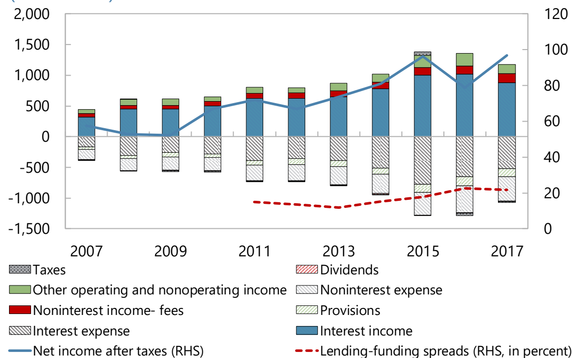
Despite the large recession, the banking sector has remined well capitalized…

Capitalization
(In percent)



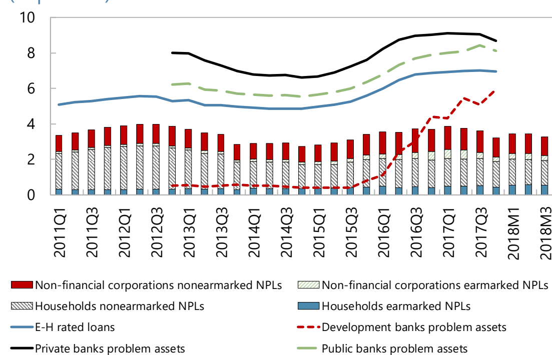
…due to high profits driven by increases in net interest margins…

Banking Sector Income Statement
(Billion BRL)



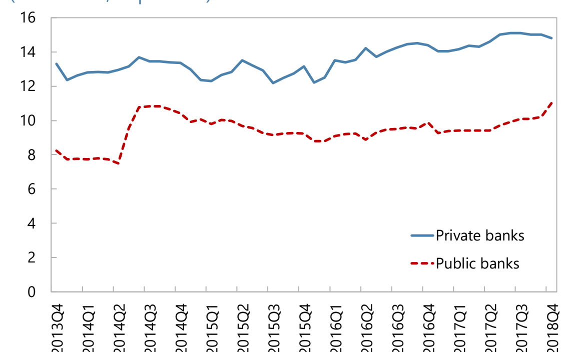
…despite lower asset quality and higher provisions for loan losses.

Credit Quality
(In percent)



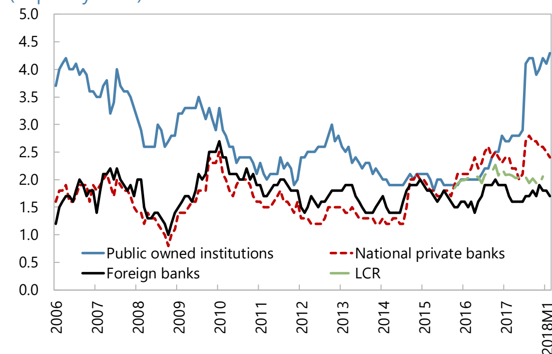
But capital ratios of public banks are much lower than those of private banks due to pressures from higher Basel III deductions from capital.

Capitalization of Banks
(CET1 ratio, in percent)



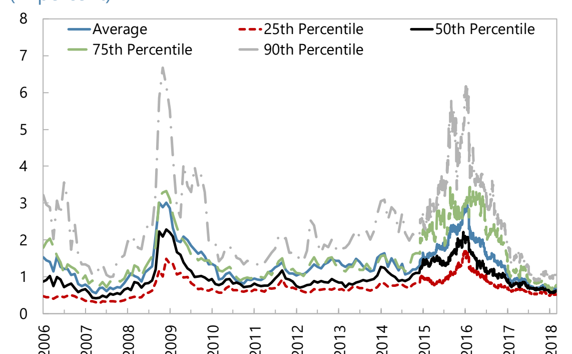
Liquidity has continued to be high due to large buffers of government bonds.

Liquidity Indicators
(Liquidity ratio)



The general health of the banking sector is reflected in low probabilities of default.

Probabilities of Default
(In percent)



Sources: CEIC, BCB, Moody's.

C. Developmental Issues

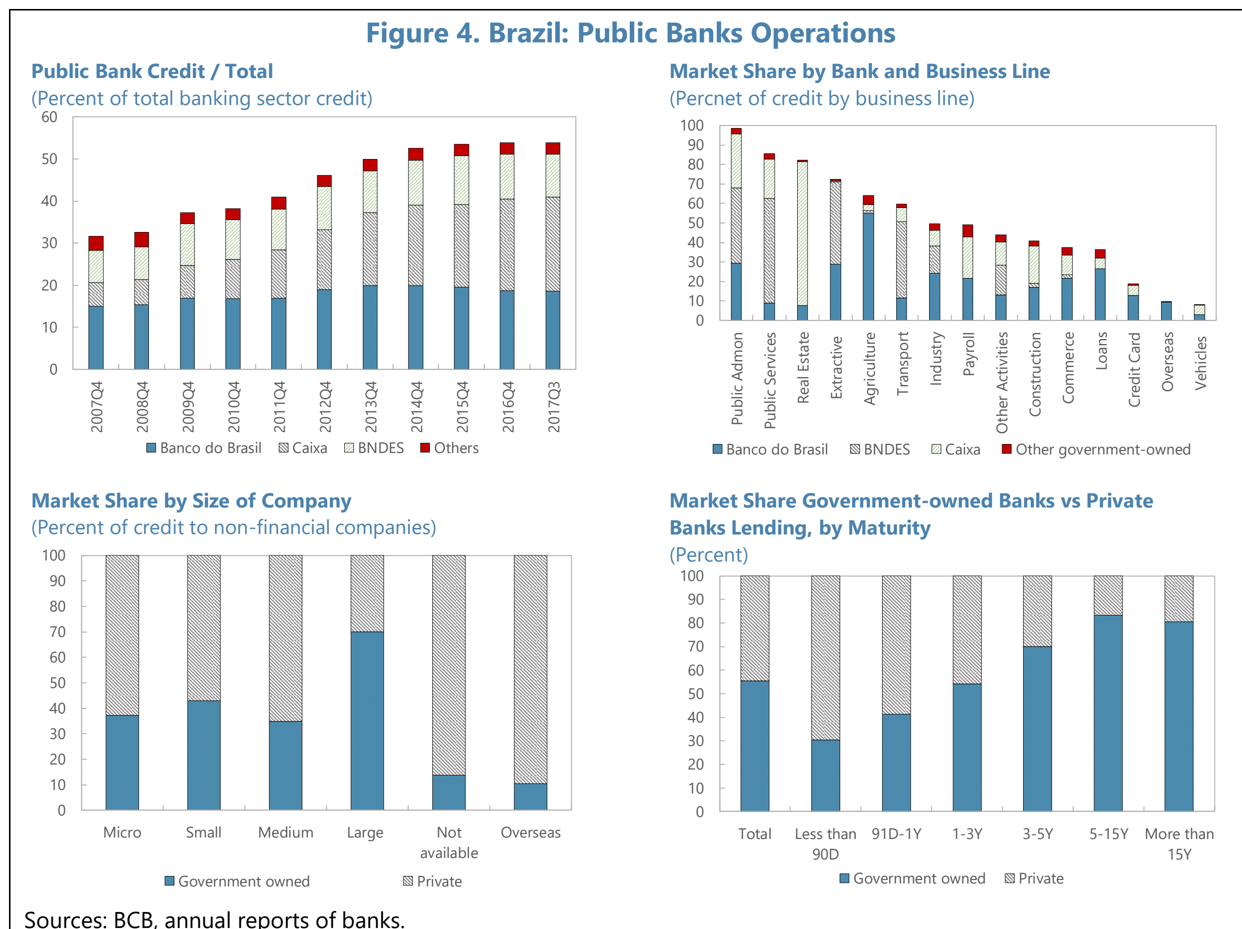
8. Public credit institutions account for about half of total credit (Figure 4). Two federal public commercial banks (Banco do Brasil—BB—and Caixa Economica Federal—Caixa) and a development bank (BNDES) are the three largest public banks in the system by loan portfolios, intermediating most of the earmarked credit, and are the main providers of medium and long-term finance. However, since 2015, their loan portfolios have contracted reflecting weakening demand, tightening of origination standards and lower fiscal resources.

9. Financial intermediation costs as measured by net interest margins (NIM) are particularly high in Brazil. Inefficient capital allocation has been an important drag on productivity growth (Dutz et al, 2018). NIMs in Brazil are similar to those in other Latin American countries but are considerably higher than in other peer economies and its income group. Operating costs are the main factor behind Brazil's high NIMs, followed by loan loss provisions. Among Brazilian banks, regression analysis shows that higher credit-product concentration, larger banks and share of earmarked credit are strongly correlated with higher interest rate spreads. Structural deficiencies such as poor collateral enforcement, low recovery ratios, and an inefficient judicial system contribute to the high delinquency costs.

10. Small and medium enterprises (SMEs) are key economic agents, but have a large negative productivity differential relative to large firms. Estimates indicate that the productivity of micro, small, and medium firms is 10, 27 and 40 percent, respectively, that of large firms in Brazil (ECLAC, 2013). The relatively low productivity of SMEs is reflected in one of the highest firm creation and destruction rates in the world. Large banks dominate credit markets for SMEs, with lending mostly biased toward short-term financing and the longer-term funding provided via earmarked credit.

11. Brazil's retail payments foundation is solid and the BCB has significantly strengthened the legal and regulatory framework that governs retail payments, particularly regarding the role of non-banks. The introduction of banking correspondents has been a key factor in enhancing financial inclusion by allowing more services by agents and expanding the list of institutions that may use agents.

12. Brazil's card market is the second largest in the world, characterized by vertical integration and concentration, from issuing to acquisition and card schemes. In 2010, the BCB opened the market for merchant acquirers, but two firms control 80 percent of the market. Acquirer competition has reduced the cost of card usage, but interchange fees and scheme fees are substantially higher than in comparable markets, anti-competitive practices have been reported, and the low level of interoperability among networks of point-of-sale (POS) terminals and automated teller machines (ATMs) continues to generate inefficiency and unnecessary costs.



RISK ASSESSMENT

A. Materialization of Risks Could Result in a Double Dip Recession…

13. Brazil is facing significant downside risks that are driven by both domestic and external factors (Table 4). Political instability and spillovers from the corruption investigations are major sources of risk that could threaten the reform agenda and the recovery. The main policy risk is that the reforms necessary to maintain the constitutional expenditure ceiling are diluted or delayed, prompting adverse market reaction in the near term and necessitating additional fiscal measures. The main external risks are tighter or more volatile global financial conditions associated with the unwinding of the unconventional monetary policy, trade and commodity price shocks arising from U.S. trade policy, and a significant slowdown in China.

14. In an adverse scenario, Brazil could experience a severe recession underpinned by a sudden stop of capital inflows (Figure 5). While domestic factors, namely the loss of confidence, are the main driving forces, the adverse scenario would also take place in a challenging global environment, as described in the RAM, and against the background of weaker private sector balance sheets. The adverse scenario, though featuring financial stress driven by capital outflows, does not consider government default.

B. ...Which Could Affect the Financial Sector Amplified by the Nexus with the Sovereign...

15. A recession in the adverse scenario would result in significant financial stress as the nonfinancial sector is weaker, a legacy of the previous recession. Stress would be manifested in all key markets, reflected in a large depreciation, collapsing stock prices, and spiking bond yields. Corporate and household balance sheets would weaken due to rising funding costs and falling income. Banks could face large credit and market losses given borrowers' impaired repayment capacity and their holdings of government bonds, which are sizeable for some banks. Liquidity risk could also materialize, with banks facing funding outflows and investment funds enduring redemptions in the face of increased market volatility. Financial stress could be amplified by intra-system linkages, while constrained bank lending capacity could further exacerbate the recession. Potential difficulty of the government to recapitalize banks could amplify system-wide stress and affect credit provision, especially of public banks.

16. Based on the solvency stress tests, banks appear to be broadly resilient to severe macrofinancial shocks (Figure 6, Annex VII). In the baseline, the CET1 capital ratio of the 12 largest banks would be on a downward trajectory, reflecting reduced net interest income, persistently large credit losses, and balance sheet growth, with one public D-SIB struggling to meet the capital requirements. In the adverse scenario, the CET1 capital ratio would decline by 4.7 percentage points to 8.5 percent at end-2020. These banks collectively would experience negative net income and incur unrealized losses associated with holding debt securities (mostly government securities) that would bring down the CET1 capital ratio by 0.2 and 1.4 percentage points, respectively. The reduction would also be driven by the increase in risk-weighted assets (1.8 percentage points). Negative profits would mainly result from reduced net interest income due to lower interest margins and substantial credit loss (larger than previous recession due to the weaker nonfinancial sector). Banks would also face significant market loss in 2018, although subsequent market improvements would help reduce the original loss. Four banks would fail to meet the hurdle rates (regulatory minimum and D-SIB surcharge) during the stress testing horizon, with aggregated capital shortfalls amounting to R$46 billion (0.7 percent of GDP), nearly all of which is for two public banks. The BCB stress tests based on the same scenarios showed more favorable results reflecting variations in methodologies, but some banks similarly would need additional capital in both baseline and adverse scenarios.

17. However, the benign outcome deteriorates if banks' capital is adjusted for deferred tax assets (DTAs) and problem loans. The Basel Committee's Regulatory Consistency Assessment Program (RCAP) has assessed the DTAs within the prudential capital adequacy regulations in Brazil as Basel III compliant (Annex II). However, DTAs may not be an effective loss-absorbing instrument in times of fiscal distress given the public debt sustainability and the lengthy timeframe for the government to release deferred tax credits (DTCs) after banks are out of business.[3] Furthermore, restructured and renegotiated loans, which increased during the recession (although reversed

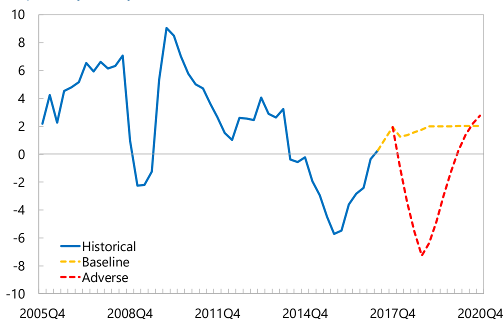
[3] The IMF's Fiscal Transparency Evaluation (2017) also recommended that the central government should disclose its contingent liabilities related to DTAs.

somewhat thereafter), might increase future credit risk and loan losses. If all existing DTAs are deducted from CET1 capital (the majority of which are DTCs) and all performing problem loans are downgraded to the "E" credit category, these adjustments would immediately reduce the CET1 capital ratio by 3.3 percentage points, of which about 95 percent is due to DTAs. Under this severe scenario, seven banks would fail to meet the hurdle rates, with aggregated capital shortfalls amounting to R$136 billion (2 percent of GDP). Supervisory actions are needed to address the macrofinancial risks posed by the sovereign-bank nexus, as a result of DTCs, that may materialize in times of severe fiscal distress.

Figure 5. Brazil: Macrofinancial Scenarios

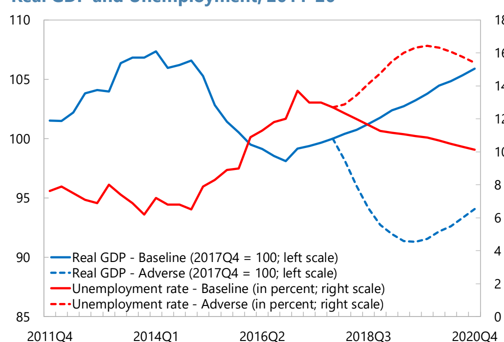
In the adverse scenario, Brazil would experience a double-dip recession.

Real GDP Growth, 2005-20
(In percent; year-on-year)



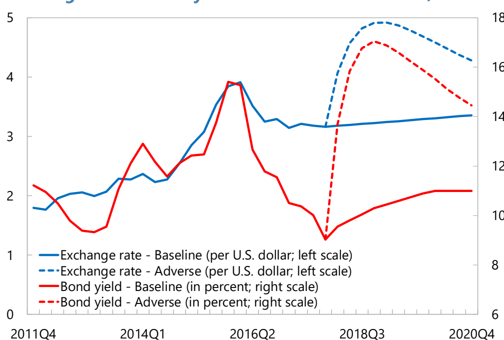
Output would fall by about 9 percent from the end-2017 level, coupled with rising unemployment.

Real GDP and Unemployment, 2011-20



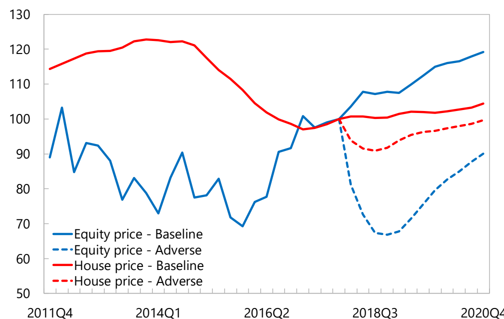
Brazil would face a sudden stop of capital inflows, resulting in a large exchange rate depreciation and bond yield spikes.

Exchange Rate and 10-year Government Bond Yield, 2011-20



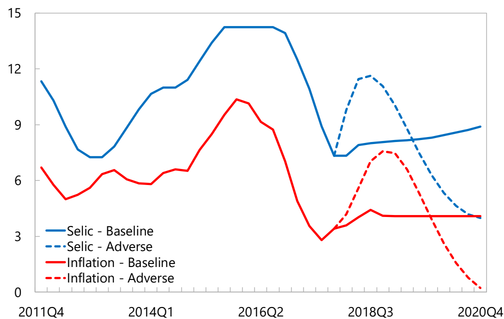
Equity and house prices would also decline.

Equity and House Prices, 2011-20
(2017Q4 = 100)



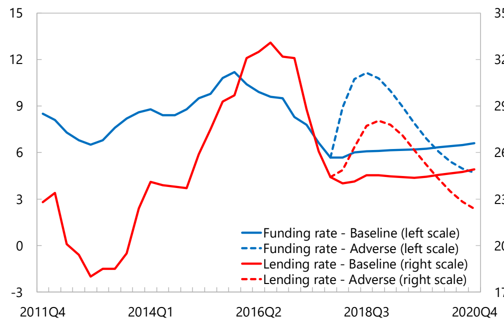
Monetary policy would be tightened initially to contain inflationary pressures.

Policy Interest Rate and Inflation, 2011-20
(In percent)



Banks would face a relatively large increase in funding costs, reducing their net interest margins.

Bank Funding and Lending Rates, 2011-20
(In percent)

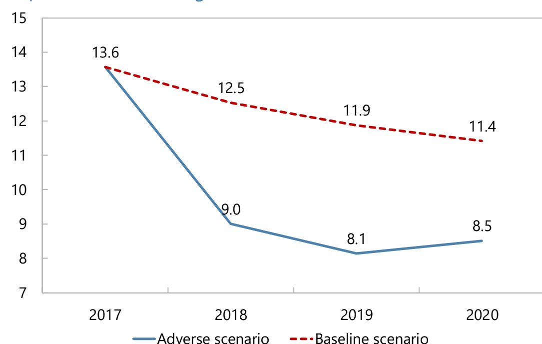


Sources: Haver Analytics; IMF staff estimates.

Figure 6. Brazil: Bank Solvency Stress Test Results

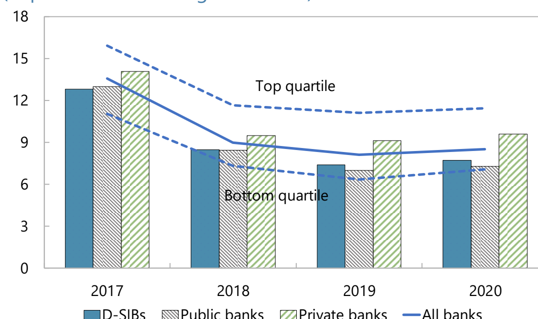
The CET1 capital ratio would fall in both baseline and adverse scenarios.

Common Equity Tier-1 Capital Ratio, 2017-20
(In percent of risk-weighted assets)



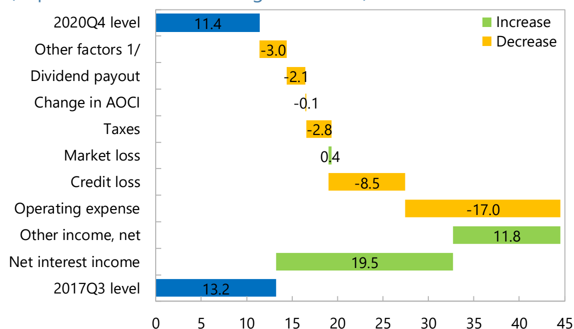
Capitalization of public banks would be weaker than private banks.

Common Equity Tier-1 Capital Ratio in the Adverse Scenario, 2017-20
(In percent of risk-weighted assets)



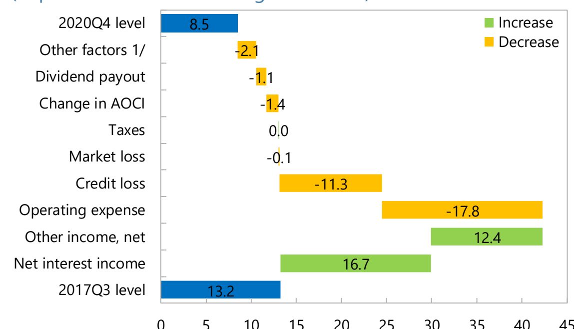
In the baseline, credit loss continues to be relatively large, driving the decline in the CET1 capital ratio in light of balance sheet growth and unchanged dividend policy.

Dynamics of Common Equity Tier-1 Capital Ratio in the Baseline Scenario, 2017Q4-20Q4
(In percent of 2020 risk-weighted assets)



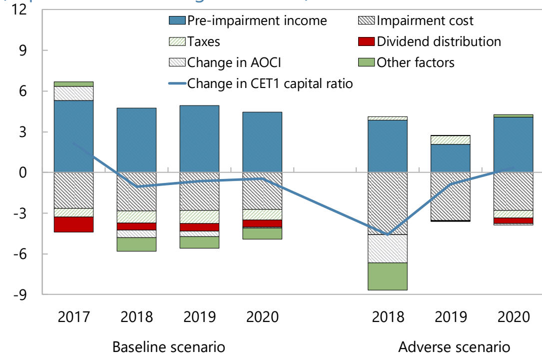
In the adverse scenario, banks would face reduced net interest income, greater credit loss and larger change in AOCI relative to the baseline, …

Dynamics of Common Equity Tier-1 Capital Ratio in the Adverse Scenario, 2017Q4-20Q4
(In percent of 2020 risk-weighted assets)



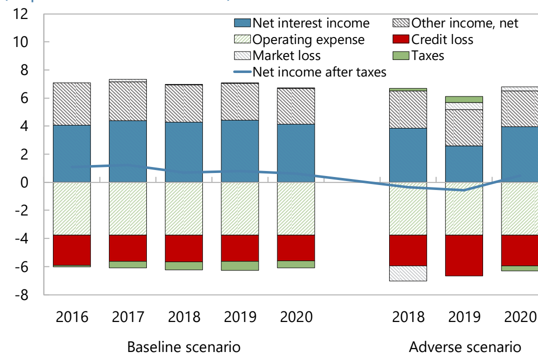
… with the negative impact largely concentrating in 2018. In addition to substantial credit loss, material market loss manifests in both change in AOCI and …

Contribution to Common Equity Tier-1 Capital, 2017-20
(In percent of risk-weighted assets)



… loss in the trading account.

Net Income, 2016-20
(In percent of total assets)



Source: IMF staff estimates.

18. Banks are exposed to concentration risk, exchange rate risk, and market risk owing to the holding of government debt and equity securities. The default of the very largest borrowers of individual banks and of the system could have a large negative impact on capital, especially at public banks. State-owned enterprises are among the largest borrowers of public banks and could give rise to contagion due to bank-sovereign linkages. Despite banks' small net open foreign exchange positions, a sizable impact could arise from depreciation-induced credit losses and increased risk-weighted assets. Furthermore, some banks could face significant losses when equity and government bonds' prices fall sharply.

19. Banks are generally well-positioned to manage short-term and medium-term liquidity pressures. The regulatory LCR for the 12 largest banks is about 250 percent on average, with all banks comfortably above 100 percent. In the event of severe group-wide deposit outflows and significant stress in the bond market, only one D-SIB would have stressed LCR below 100 percent. However, the NSFR-based tests suggested that six banks would not be able to maintain the required stable funding profile under a stressed scenario within a year. The results of a cash-flow analysis were consistent with the LCR and NSFR analysis. Total liquidity shortfalls and funding gaps that could emerge during the period of stress would be manageable and in the reach of the BCB's capacity, given substantial required reserves that could be released and provision of emergency liquidity assistance.

20. Investment funds could contribute to short-term price effects in the government bond market in the event of large-scale redemptions. The effects crucially depend on the underlying assumptions for calibration of redemptions. Three calibrations approaches, based on fund-homogeneity, fund-heterogeneity and fund-family, were accordingly used to assess price effects. The three exercises suggest that the funds would use from R$437 to R$77 billion of their reverse repos to meet extreme redemptions, followed by a total sale ranging from R$194 to R$10 billion of government bonds, respectively. This large-scale sale would respectively raise government bond yields from 62 to 8 basis points on average under the 2017 market liquidity conditions. Under more severe market liquidity conditions of September 2015, the average increase in bond yields would range from 99 to 11 basis points.

21. Pillar 2 capital requirements could help mitigate identified risks in the banking sector. Given concentration risk, including large holdings of debt and equity securities, capital add-ons based on individual banks' risk profiles should be considered. Banks that would experience capital shortfalls in stress tests should be encouraged to build capital buffers, for example by a restriction on dividend distribution.

22. The BCB's stress testing framework is sound, with significant upgrades since the last FSAP. Under way are the BCB's initiatives to develop its solvency-liquidity contagion module to better capture potential risk amplification and bottom-up stress testing of banks. Further enhancements to the framework could include the handling of overseas operations; the estimation of credit loss based on default probability and loss given default; and the incorporation of cash-flow analysis. Lastly, given the prominent role of the government in the financial system, the BCB should take an integrated approach to assess the financial-sovereign linkages.

C. …And Vulnerabilities in the Household and Corporate Sectors

23. Notwithstanding the recent strengthening of their balance sheets, households are vulnerable to adverse macrofinancial shocks (Figure 7). Households are exposed to a liquidity squeeze given their large debt servicing obligations. Based on the debt-at-risk analysis conducted by the BCB, the share of financially weak households (i.e., with debt- service-to-income above 40 percent and debt-to-income above 3) and the share of debt belonging to these households (so-called "at risk") has increased only marginally since 2013. However, shocks, such as falling income and rising interest rates, would bring these figures well above their previous peaks during the last recession, suggesting that more households might become financially distressed. That said, the implication for financial stability could be limited as the share of debt-at-risk not covered by assets would still be relatively small.

24. Despite moderate signs of recovery, vulnerabilities linger among financially weak corporates that constitute a large fraction of the sector (Figure 8)[4]. Low profitability remains a challenge especially for the energy sector, while about two-thirds of firms in the highly-leveraged services sector face difficulty in servicing their debt solely relying on operating income. Macro-financial shock could substantially raise debt-at-risk in the corporate sector. While corporates with international activities utilize a reasonable degree of hedging against their FX exposures, profitability and interest rate shocks could double the amount of debt at risk under the adverse scenario with the manufacturing and energy sectors being most vulnerable (Annex IX).

D. Interconnectedness Underpinned by the Role of the Government

25. Contagion through interbank cross-exposures seems limited, but could amplify shocks when banks are under significant stress[5]. Interbank exposures are relatively small—accounting for 5 percent of banks' total assets—and about 60 percent of interbank exposures are secured. In a standalone exercise a default of one large bank would lead to a default of a medium-sized bank, while contagion would be limited when all other banks default. In an exercise integrated with bank solvency stress tests, the CET1 capital ratio would fall to 7.1 percent, compared with 8.5 percent when credit loss associated with interbank exposures are not considered, in the adverse scenario.

26. Financial interconnectedness between sectors was assessed from both within Brazil and from cross-border perspectives, identifying the central role of the public sector in the financial system. The role of public banks and state-owned firms, the critical importance of repos collateralized by government securities as the main instrument for conducting monetary policy and carrying out interbank transactions, and the centrality of government securities as the main liquid financial instrument in Brazil are distinguishing features. In addition, banks are the most interconnected sector by the size of exposures and their presence across all financial instruments.

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[4] A stress test of the corporate sector based on interest rate coverage ratio and debt-at-risk was performed to assess the resilience of the non-financial corporations.

[5] The risk of contagion within the banking system was assessed using a network model (Espinosa-Vega and Solé, 2010).

The investment fund industry also has strong links with banks, and the insurance and pension fund sectors, by lending to the former and receiving funds from the latter. Institutional investors account for 80 percent of the industry's assets under management. Meanwhile, the corporate sector seeks 30 percent of their funding from nonresidents.

27. Brazil faces both inward and outward cross-border spillovers in the equity, sovereign credit risk and foreign exchange markets[6]. For the equity and sovereign credit risk markets, spillovers are both inward and outward within the Latin America region, and Brazil also faces inward spillovers from Europe and the United States. For the foreign exchange market, both inward and outward spillovers are more concentrated among large and financially integrated emerging market economies, with Brazil generating outward spillovers to other smaller Latin American economies.

RISK OVERSIGHT: POLICIES TO MITIGATE RISKS AND ENHANCE RESILIENCE

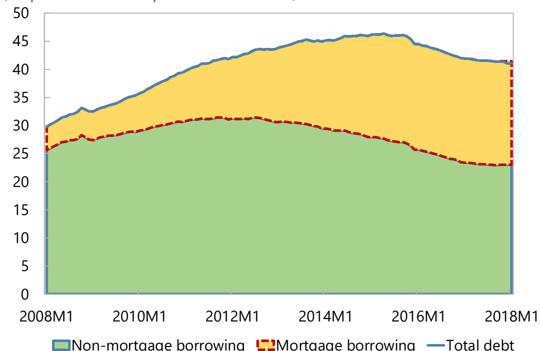
A. The Architecture of Regulation and Supervision

28. The architecture for supervision and regulation of the financial sector is hierarchical and broadly well-defined (Table 6). Policy boards—committees comprising ministers and heads of agencies—set general prudential principles and guidelines for the financial system, but do not take executive decisions. Regulating entities issue specific regulations and are responsible for enforcement of principles and guidelines. The Committee of Regulation and Supervision of Financial, Securities, Insurance, and Complementary Pension Markets (COREMEC) is a high-level consultative forum that was created for information exchange and the coordination of supervisory policies among the financial regulatory agencies. While reforms have advanced, progress on the 2012 FSAP recommendations has been uneven (Table 6).

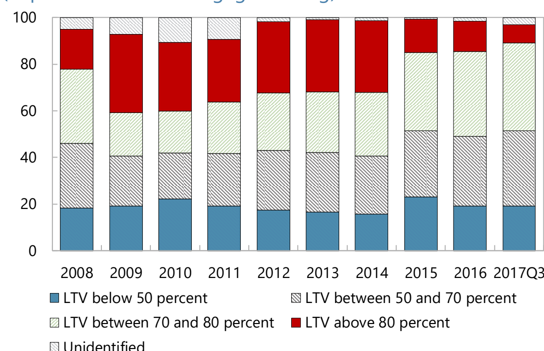
[6] Market data was used to analyze cross-border spillovers between Brazil and major countries using the methodology is based on Diebold and Yilmaz (2014, 2015) and recent extensions in Demirer et al. (2017) which relies on variance decompositions of marked based variables in VAR models.

Figure 7. Brazil: Vulnerabilities in Household Sector

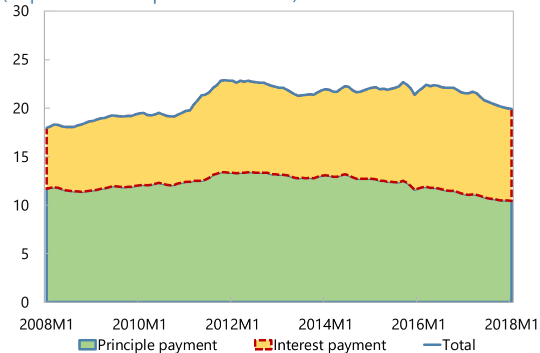
Household debt relative to disposable income has fallen.



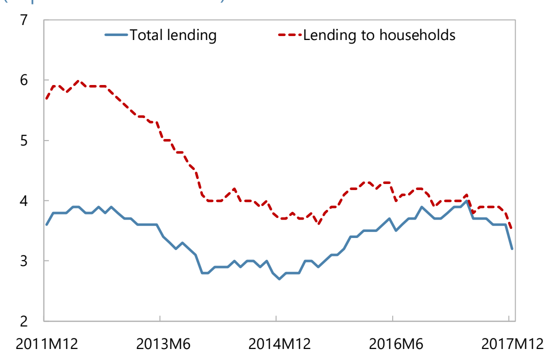
Despite a growing share of mortgage borrowing, the LTV has become more restrictive.



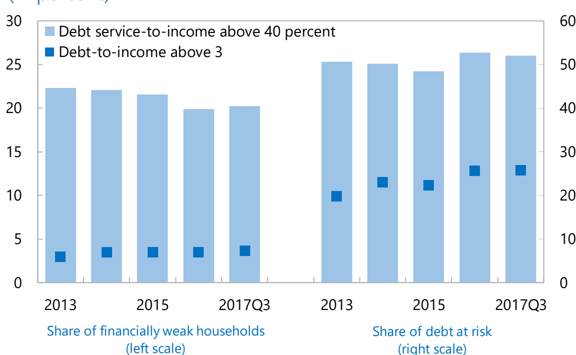
Debt servicing obligation is particularly large, due to sizeable interest payments.



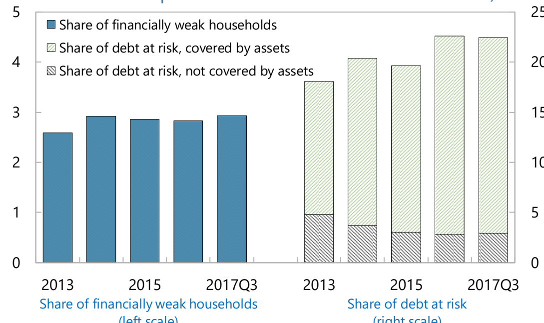
Banks did not see a sharp deterioration in asset quality for their lending to households during the last recession.



Household financial weaknesses stem from large debt servicing obligations, not high indebtedness,



The share of debt at risk has increased, but financial stability implications are limited given that a growing portion is covered by assets.

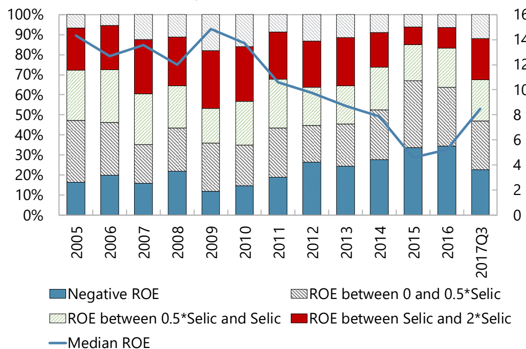


Sources: Banco Central do Brasil; Haver Analytics; and IMF staff calculations.

Figure 8. Brazil: Vulnerabilities in Corporate Sector

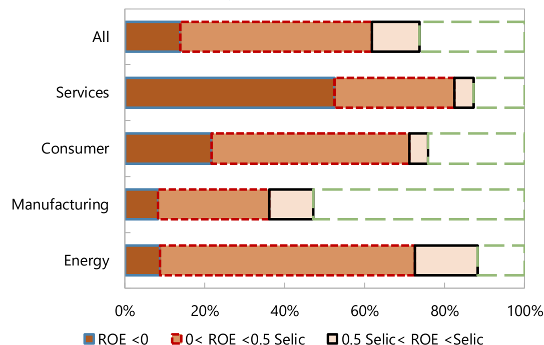
While corporate profitability has been improving, 2/3 of firms failed to generate high return on equity.

Corporate Profitability, 2005-2017
Based on Return on Equities (ROE)



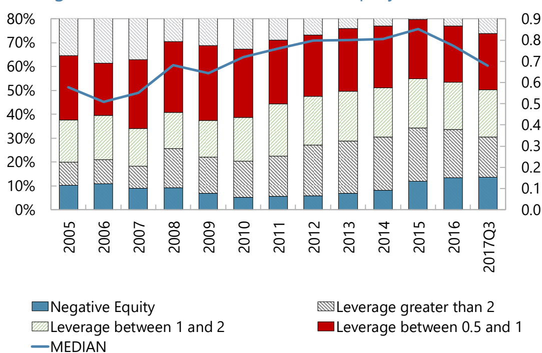
Low corporate profitability was salient particularly among energy companies.

Corporate Profitability, 2017Q3
Based on Retunr on Equity (ROE)



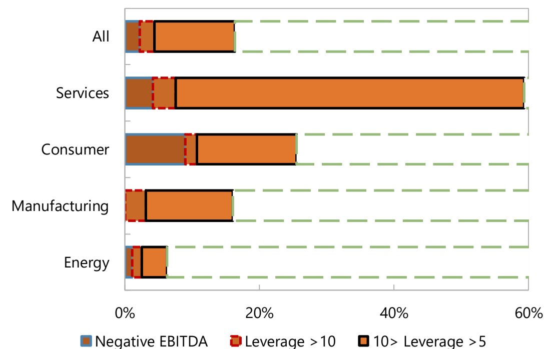
Corporates continued to deleverage in 2017 …

Corporate Leverage, 2005-2017
Leverage Based on Total Debt to Total Equity



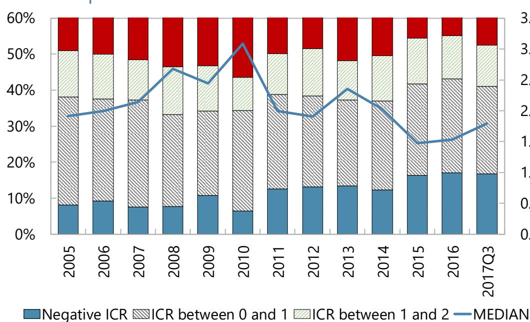
… yet more than half of firms in the services sector were highly leveraged.

Corporate Leverage (By Sectors), 2017Q3
Based on Net Debt/EBITDA



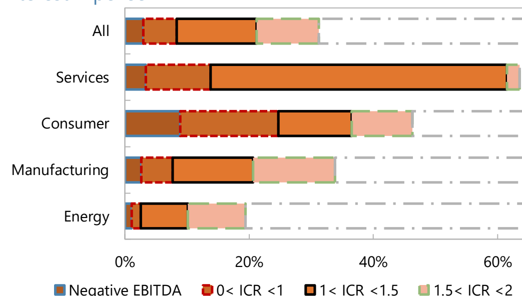
Corporate debt servicing capacity has been mildly improving…

Corprate Debt Servicing Capacity, 2005-2017
Based on Interest Coverage Ratio (ICR) Defined as EBITDA to Interest Expense



Although companies in the energy sector are still facing a challenge to service their debt.

Corporate Debt Servicing Capacity (Main Sectors), 2017Q3
Based on Interest Coverage Ratio (ICR) defined as EBITDA to Interest Expense



Source: Capital IQ, BCB and IMF calculations.

B. Systemic Risk Monitoring has Improved, but Gaps in the Oversight Framework Remain

29. Progress has been made on the macroprudential toolkit and systemic risk monitoring. Building on an already substantial set of macroprudential instruments, several new tools were introduced in recent years, including: (i) a counter-cyclical capital buffer (CCyB), currently set at zero percent; (ii) DSIB capital surcharges; (iii) a loan-to-value (LTV) cap of 80 percent (90 percent for constant amortization loans) for residential mortgages under the Sistema Financeiro da Habitação (SFH); and (iv) differentiated risk weights for residential housing loans, based on LTV ratios and other loan characteristics. In line with Basel III requirements, a capital conservation buffer (CCB), LCR, and NSFR are also being phased in. As pressures eased during the downturn, LTV limits for car loans were eliminated. Meanwhile, the BCB continues to actively use reserve requirements as a policy tool. Reserve requirements remain at relatively high levels, but the BCB has started to simplify and reduce them, to reduce the cost of credit. Progress was made on house price data and the introduction of a credit bureau, though the availability of "positive" credit information is still pending. Risk analysis has improved with more sophisticated stress testing and interconnectedness analyses. With an eye to potential future risks, the authorities could consider a DTI or DSTI limit to provide an additional instrument to manage risks.

30. But there remains room for improvement of the institutional framework. As in the 2012 FSAP, there is no single agency that has a clear legal mandate and adequate powers for macroprudential policy, though in practice the BCB has taken the lead. While existing informal arrangements seem to have worked in the past, the increasing complexity and interconnectedness of the financial system call for closer coordination among supervisory agencies.

31. Creating a Financial Stability Committee would fill a key gap in the institutional framework. To clarify responsibilities and ensure adequate coordination across agencies, the authorities should establish a high-level committee comprising all relevant agencies (BCB, MoF, CVM, SUSEP, Previc, and FGC once it is transformed into a public agency), with an explicit mandate for macroprudential policy. This committee should have the power to issue macroprudential policy recommendations, with a comply-or-explain requirement. Given its strong expertise in systemic risk assessment, the BCB should have an important role in the committee, and the division of labor with COREMEC should be clearly defined.

C. Prudential Supervision Supported Banking Sector Resilience

32. The framework for banking sector supervision is well-articulated and the BCB has responded thoughtfully to the international regulatory reform agenda. A proportionate approach to implementation of the international standards has been fostered by the BCB's decision to classify the banking sector into tiers, reflecting their impact in the event of failure and risk profile. Supervisory intensity is adjusted according to this segmentation, but flexibility is also built in to adjust to developing circumstances. The same regulatory and supervisory framework applies to both the private and the publicly owned banks. However, this also means that the two sectors are each subject to the BCB's unduly deliberate approach to corrective actions. Placing corporate governance

assessment at the center of the supervisory process, and integrating conduct supervision into the overall assessment of institution, are recent and significant changes that should yield considerable supervisory insight. The BCB's use of data is a clear strength (Annex III). However, at a more granular level, the BCB should introduce disclosure requirements for banks to share information on the level of restructured loans (Annex IV) in their portfolios, as this is an important component of credit risk monitoring and management.

33. Since the 2012 FSAP, the BCB dis-applied solo bank requirements. This might give rise to the risk that an individual bank within a prudential conglomerate (i.e., a consolidated financial group that does not include an insurance entity) could suffer due to unforeseen restrictions in access to capital and/or liquidity when needed. Taken together with weaknesses identified in the approach to concentration risk, related party transactions and the country and transfer risk management, a prudential conglomerate could be exposed to risks that are being imperfectly identified or monitored in the regulated entity. While the BCB does not attach major significance to this risk, it should re-instate prudential requirements and monitoring at the individual banking institution level for entities within the prudential conglomerate.

34. Other gaps in the overall approach persist, notably relating to the independence, governance and accountability arrangements to support the supervisor. Deficiencies include the lack of formal independence of the supervisor, the lack of legal protection for staff and the potential for the BCB governor to be dismissed for any reason and without the cause being stated publicly. Failure to remedy these deficiencies weakens the institutional stature of the BCB, notwithstanding the well-recognized commitment, skill and integrity of the staff.

D. However, Inefficiencies Linger Due to Government Interventions

35. Important reforms to downsize public involvement and enhance the corporate governance of financial institutions were adopted in the past two years. The cost of funding of BNDES is being aligned with the cost of sovereign debt (TLP reform), and pre-payment of BNDES liabilities to the government is reducing the funds available for lending operations, with profound consequences for reducing the size and business model of BNDES. Caixa is expected to organically generate resources to meet capital requirements leading to an increased focus on profitability, the efficient allocation of capital, and a concomitant decline in the non-core portfolio. Corporate governance and internal controls are being strengthened, including public disclosure of the appointment and remunerations of management and board members.

36. But wider reforms are needed for a reduced role of public banks. For Caixa, reforms include focusing on core competencies; a solvency strategy that supports reform momentum; and a socially-oriented strategic investor that can improve governance and bring know-how. For BNDES, the TLP reform to its pricing and pre-payment of its borrowing opens the door for a strategic reorientation of the development bank. Instead of providing loans, BNDES' new strategy should focus on (i) assuming limited risks to catalyze private sector finance (e.g., through guarantee-type products) and (ii) enabling the development of new financial institutions with a view to enhance

competition. Strong governance arrangements would be needed to guard against misuse, including an independent monitoring and evaluation function.

E. Further Progress is Needed to Address Governance Risks

37. AML/CFT and anti-corruption policies and measures have evolved and led to a greater effectiveness of the system. Brazil's AML/CFT system was last assessed in 2010 by the Financial Action Task Force (FATF) and by the *Grupo de Acción Financiera de Latinoamérica* (GAFILAT) and the report identified important supervisory, customer due diligence and criminal justice gaps, many of which have since been addressed. These technical improvements have supported an increase in the effectiveness of the system, most notably in regard to the number of corruption investigations, prosecutions and convictions. COAF, BCB and CVM issued updated customer due diligence regulations, and increased the number of AML/CFT inspections.

38. Nevertheless, further progress is essential. Addressing the remaining shortcomings from the previous assessment would strengthen Brazil's defenses against terrorist financing and allow Brazil to avoid FATF's call for countries to apply counter measures that would be harmful to Brazil's financial sector. To this end, a draft act was prepared. The completion of the national AML/CFT risk assessment, including a targeted assessment of beneficial ownership risks, and follow-up on other pending ENCCLA action items would address remaining gaps in the legal framework. Finally, the introduction of a risk-based approach specific to AML/CFT supervision and sanctioning would strengthen AML/CFT compliance.

F. Oversight of FMIs is Effective

39. Since the last FSAP, the authorities have rightly identified and started focusing on key frontier risks in the four main financial market infrastructures (FMIs)—interdependence in the financial system, cyber-attacks and payment systems outages. Further, FMIs have introduced significant enhancements to risk management frameworks to address liquidity, credit and operational risks. The mission assessed FMI supervision, as well as financial and operational risks in the largest CCP, BM&FBOVESPA Clearinghouse.

40. While FMIs are subject to effective oversight and supervision, improved disclosure is recommended. The supervisory framework by the BCB and CVM broadly complies with the CPSS-IOSCO Principles for Financial Market Infrastructures (PFMI). However, the CVM should disclose its adoption of the PFMI, its specific objectives for FMI supervision, and consider producing a supervisory report disclosing its findings. The BCB and CVM should ensure publication of disclosure frameworks by all systemically important FMIs to improve their overall transparency, their governance, operations, and risk-management framework, and to promote objectivity and comparability of assessments of observance of the PFMI.

41. CCPs should finalize a robust and effective recovery plan consistent with CPMI–IOSCO Guidance. Moreover, the BCB should set an action plan and a schedule with B3, the owner and the operator of CCPs and several other FMIs and the stock exchange, for finalizing such a plan. CCPs

are presently subject to the Bankruptcy Code in case of insolvency, which means neither the BCB nor CVM, can intervene on CCPs, even in case of insolvency. Thus, an orderly resolution regime, consistent with international guidance for CCPs, should be introduced.

G. Material Gaps Remain in Insurance Supervision

42. Insurance regulation has been improved since the last FSAP. The Superintendency of Private Insurance (SUSEP) has shifted from a compliance-orientation to a risk-based and outcome-focused approach to supervision. Risk-based capital requirements together with the Liability Adequacy Test (LAT) have improved the soundness of the industry.

43. However, significant gaps remain in important areas, particularly the lack of independence and resources of SUSEP. Superintendents have been dismissed with neither a clear nor public explanation of the reasons. Staff lacks the appropriate legal protection and are not be able to impose sanctions promptly due to legal/procedural limitations. SUSEP's resources have eroded since the last FSAP, and it does not have the flexibility to hire experts with needed technical knowledge. The shortage of resources prevents proper implementation of new regulations, which hinders the potential growth of the industry.

44. Group supervision should be established with enhanced coordination among supervisors. Large insurance groups belong to financial groups that dominate the market. Despite limited interlinkages between banks and insurers, search-for-yield in a low-risk interest scenario could increase contagion through reputational channels. Oversight by SUSEP and the National Agency for Supplementary Health (ANS) is solely focused at the entity level, without group level oversight. Some of the new regulations, in particular enterprise risk management and governance requirements, should have an increased focus on groups. The implementation of group level supervision would require significant coordination among agencies, especially among SUSEP, ANS, BCB and CVM.

45. Enhancing market conduct supervision is key. The industry is facing high surrender rates in annuity products, suggesting room for improvement in market conduct. Some insurance products are sold as a requirement for loans, typically within the same financial group. In a lower interest rate environment and a search for yield, policyholders would need high-quality advice in order to make informed decisions. Therefore, it would become important to improve the transparency and quality of advice in the sales channel of the insurance products. This highlights the need to clarify the current gap in the oversight responsibility for insurance sales through banking branches.

H. Securities Supervision Faces Resource Challenges to Meet Market Growth

46. Regulation and supervision of investment funds has been strengthened since the 2012 FSAP, in particular through a reform in 2015 of the rules on fiduciary administrators and asset managers. However, the resources of the CVM do not appropriately reflect the number of entities in the investment fund sector that it oversees, the growth of the sector and the important

role played by investment funds in financial markets. The last open competition to recruit new staff was held in 2010, making it challenging for the CVM simply to replace employees who retire. Notwithstanding CVM's risk-based supervisory approach, the lack of resources inevitably means that certain issues are not addressed in a way that CVM itself would consider appropriate.

47. While the regulatory framework for investment funds in Brazil is robust, institutional arrangements should allow CVM proper oversight of ANBIMA's[7] SRO activities with respect to the investment fund sector. The lack of a statutory basis for ANBIMA's role means CVM is unable to oversee or take due account of what ANBIMA does. The two entities cooperate relatively closely on the development of the regulatory framework but ANBIMA is completely independent for the purposes of its supervisory and enforcement activity. The CVM is not represented in any of ANBIMA's decision-making bodies, nor does it provide input to the developments of ANBIMA's supervisory activities.

48. Rules on leverage and liquidity management should be strengthened further. The CVM should introduce a regulatory definition for leverage to allow the authorities to measure and compare leverage across the investment funds sector, and set a cap on leverage for individual funds or groups of funds managed by the same asset manager. With respect to liquidity management, there is a strong and balanced framework to prevent the build-up of liquidity problems. However, fiduciary administrators lack the tools to deal with situations in which illiquidity risk has crystallized and are obliged to move immediately to a suspension of subscriptions and redemptions. Giving fiduciary administrators access to a broader range of liquidity management tools would allow for more flexibility in the management of situations of illiquidity.

49. CVM's enforcement powers were reinforced in 2017 legislation and it has adapted its supervisory activity to recognize the specific risks of related party transactions and their predominance in what remains a highly concentrated sector. CVM now has the authority to impose larger penalties, and has improved enforcement of good corporate governance (CG), imposing sanctions on grounds of fiduciary duties, related party transactions, and conflict of interest violations, and opined on share valuations in take-overs.

50. The timeliness and quality of information has improved, but there is a need for CVM to have a stronger presence in the market. CVM should deepen its risk analysis, including by industry specialization. It could strengthen its risk-based supervisory methodology by adding other indicators (such as financial indicators and potentially over time also corporate governance). Additionally, the CVM could consider increasing the number of companies reviewed and strengthening the type of review.

51. Effective implementation of CVM's recently issued CG Code for issuers could face challenges. Reforms have enhanced transparency of ownership structure, non-financial disclosure, material events, and related party transactions. Further, it recommends a range of good practices including on appointment, composition, evaluation, and succession of board members and senior

[7] ANBIMA is the Brazilian Financial and Capital Markets Association.

executives, and further defines the role of internal control bodies. However, the quality of reporting has yet to be tested and market participants have raised concerns over compliance costs. CVM should ensure appropriate staffing able to effectively analyze compliance reports and annually report on developments.

52. The 2016 SOE Law (Law 13.303) seeks inter-alia to upgrade CG in SOEs, but it has lacunas and implementation may prove challenging. While the Law upgrades transparency and integrity requirements with the mandatory issuance of the Annual Letter and impact sustainability report, and the adoption of a Code of Conduct, related party transaction and dividend policies, the appointment and evaluation policies of board members and senior executives, and remuneration disclosures may be challenging.

CRISIS MANAGEMENT: ENHANCING POLICY RESPONSE

A. Work Should Continue to Strengthen the Resolution Framework

53. Important improvements have been made to the bank resolution, safety net and crisis management framework since the last FSAP. The resolution framework has been strengthened with the creation, within the BCB, of a new Resolution Department, and requirements for recovery and resolution planning have been established.

54. Notwithstanding this progress, the current framework has limitations that are broadly acknowledged by the authorities. Resolution powers are limited and no inter-agency arrangements for crisis management are in place. The BCB has taken the lead in preparing a comprehensive draft law (the "Draft Law") that seeks to introduce a new resolution regime that is in line with international best practices (Annex V).

55. The proposed resolution reform is a major step toward aligning the safety net with international standards, although room for improvement remains.[8] The reform gives options to restore the viability of a failed institution and broadens the toolkit of the authorities for dealing with systemically important institutions (including via bail-in and bridge banks). Importantly, it also strengthens the legal protection regime and removes impediments to temporary public support. However, elements of the law remain unclear, including its application to medium and small-sized banks, elements of bail-in powers, bridge bank transactions and conditions for transfers to asset management companies. The Draft Law will strengthen the recovery and resolution-planning ("RRP") framework. The BCB is beginning resolution planning and resolvability assessments, and the Draft Law will require D-SIBs to prepare recovery plans. The authorities could benefit from extending RRP

[8] The findings on the Draft Law are made on the basis of a version that was shared by the authorities at the time of the November 2017 FSAP mission. The authorities have indicated that, after the mission, they have introduced a number of changes into the Draft Law, in line with the FSAP recommendations.

requirements (notably for recovery planning) to non-systemic institutions, by implementing such requirements proportionally to the size and complexity of such institutions.

56. The effectiveness of the new resolution framework should be improved by providing for the greater operational autonomy of the BCB and putting in place stronger inter-institutional arrangements. As noted above, the BCB enjoys limited autonomy. Coordination between the BCB and other safety net agencies, including the FGC once it is transformed into a public agency, should be strengthened by the establishment of formal, inter-agency crisis management arrangements and tested by regular multi-agency crisis exercises.

57. The process for dealing with weak banks and providing emergency liquidity assistance ("ELA") should be tightened. While the BCB's early intervention powers are robust and flexible, a regulation could be put in place identifying progressively tighter measures to address emerging risks in a bank. Further, ELA has not been used in over 20 years, due to, among other things, banks' concerns about triggering supervisory actions, and relatively easier access to open-bank assistance from the deposit guarantee scheme (FGC). Measures to limit the risk faced by the BCB could be implemented, including a solvency test of the recipient institution and escalating measures such as enhanced supervision—measures that do not reduce flexibility as ELA would remain a discretionary decision of the BCB. Such measures pose a strong bulwark against supervisory forbearance and increasing resolution costs. An indemnity of the MoF could operate in systemic circumstances when solvency is in doubt and there are not sufficient assurances that the facility will be repaid.

58. The FGC should be strengthened including by bringing it into the public sector and ruling out open bank assistance from the deposit insurance fund. The FGC is a non-profit private association composed of financial institutions. Measures to make the FGC more effective include enhancing arrangements for payout, strengthening access to supervisory data subject to adequate confidentiality safeguards, and establishing back-up funding facilities. In addition to depositor protection, the FGC provides open bank assistance to member institutions. Such a role exposes the deposit insurance fund to significant risk and could undermine depositor confidence in the scheme. Shifting the FGC into the public sector could address many of these limitations, as it would help prevent conflicts of interest, improve the exchange of confidential information, allow the FCG to participate in high-level financial stability and crisis management committees, and, importantly, retain the mandate for financial stability in the public sector. In addition, emergency liquidity provision by the FGC should be discontinued once the BCB ELA framework has become fully operational. If solvency support is required in systemic circumstances, it should be provided from the resolution fund and open bank assistance from the deposit insurance fund should be ruled out. In the interim measures should be put in place to minimize the risk of the FGC lending to unviable and insolvent banks.

SYSTEMIC LIQUIDITY MANAGEMENT

59. Brazil's financial markets are generally liquid and sophisticated. Government bonds and overnight government securities repos are the centerpiece of Brazil's money and fixed income markets. Fixed income and foreign exchange derivatives markets are very well developed and allow investors plenty of scope to manage risks. The infrastructure supporting markets appears sound. The large structural liquidity surplus (around 20 percent of GDP) and Brazil's substantial FX reserves are key factors bolstering resiliency. Markets are highly interconnected and concentration is high as a handful of related banks and asset managers are involved in channeling funds from end investors through to the BCB via repo transactions.

60. But derivatives are based on underlying instruments that that are much less liquid. Interest rate derivatives use the overnight unsecured interbank CDI rate as their benchmark—a market that is very lightly traded and is not generally perceived to be representative of the true cost of funding for large banks relative to the much more active SELIC repo market. FX derivatives are based on a spot market that is very small and directly inaccessible to most market participants with derivative exposures. The CDI benchmark needs urgent reform, replacing it with SELIC. International efforts to reform interest rate benchmarks provide a good guide on the approach the BCB could take.[9]

61. The development of the spot FX market lags Brazil's peers reflecting regulatory impediments. Longstanding FX regulations limit transactions that physically settle in FX to around 180 authorized FX dealers and their customers with a defined underlying reason to trade FX. Hence price discovery occurs in less restricted derivatives markets with spot transactions reflecting the needs of end-users such as importers and exporters. This means that if FX derivatives markets become illiquid or close investors could have limited alternatives to trade and manage risk. Spot markets need to develop to support their larger derivative counterparts. The FX regulatory regime should be updated to reflect the current level of development of Brazil's markets so more entities can trade in deliverable instruments.

62. The authorities play a key role in backstopping market liquidity. The BCB is a key supplier of high quality liquid assets to banks and asset managers through its large OMO repo operations. The BCB has at times intervened extensively in the FX futures markets to provide FX hedges. The MoF takes an active approach to issuing domestic debt and is responsive to changes in market conditions including using reverse auctions to provide liquidity in the bond market during periods of high volatility. Markets are comforted by the authorities' intervention roles in the bond and FX markets, the BCB's significant FX reserves and the high degree of coordination between the MOF and BCB during stress periods. However, reliance on the authorities may at the margin discourage incentives by markets to develop the capacity to manage risks for themselves.

[9] The US, UK and European authorities are taking coordinated action to push markets to transition from the LIBOR and EURIBOR benchmarks by announcing a fixed horizon beyond which there is no guarantee these benchmarks will be available or acceptable for use. Additionally, these authorities are working with markets and regulators to provide more robust alternative benchmarks as well as developing transition plans for moving to alternative benchmarks if LIBOR is no longer available.

63. Planned changes to the central bank's operating framework could challenge markets. Legislative changes designed to reduce the variability of transfers between the BCB and MoF, while desirable, may mean the BCB has fewer government bonds to use in OMOs over time. The BCB plans to introduce term deposits as an alternative tool to sterilize liquidity. However, term deposits do not currently fit within asset managers' investment mandates and may also be costlier for the BCB due to their lower liquidity. Using BCB securities would be better but requires legislative changes that should be pursued if a structural alternative sterilization instrument is needed.

64. The BCB should review its operational framework to accommodate new instruments and better align operations with policy settings. Introducing new instruments such as term deposits demand a revised approach. The BCB should reform its OMO approach to accommodate more conventional fixed volume, variable priced auctions targeted at keeping rates close to the SELIC target rate.

ENHANCING FINANCIAL SECTOR DEVELOPMENT, EFFICIENCY AND INCLUSION

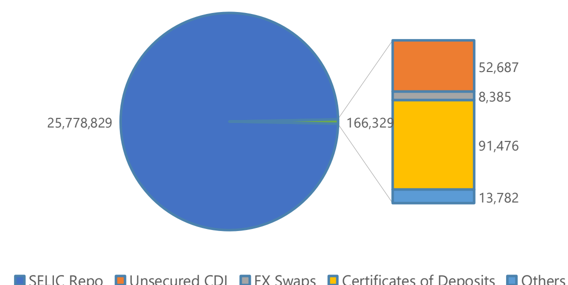
A. Financial Intermediation Efficiency

65. Financial intermediation displays high costs that vary substantially by product and bank. Operating costs, loan loss provisioning, and bank concentration at the product level are strongly correlated with higher NIMs in Brazil vis-à-vis peers. Other significant factors are bank size—typically the larger the bank the wider the spreads—and the volume of earmarked-credit provision—among private banks, the higher the share of earmarked credit in their lending portfolio the higher interest rates in free-market loans. Reform directions emerging from the analysis include addressing operational costs, increasing the efficiency of credit enforcement, reducing information asymmetries, and identifying options to strengthen market contestability. A new law on electronic collateral registration may help reduce banks' costs associated with SME lending. To reduce market power, actions are needed to facilitate client mobility and financial product cost transparency and comparability. The BCB and the competition authority, CADE, recently signed a memorandum of understanding to collaborate on facilitating efficient functioning of the financial market and a legal initiative on competition matters.

Figure 9. Brazil: Structure of Key Liquidity Markets

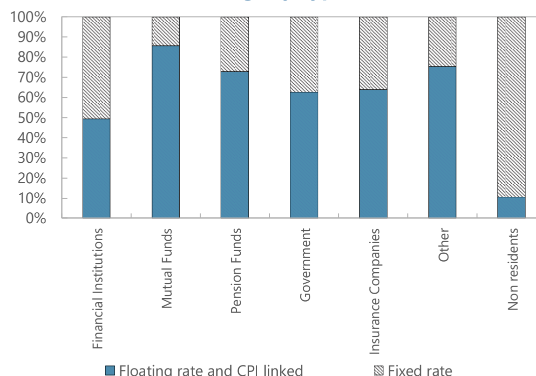
The money market is dominated by overnight repos…

Money Market Instruments Traded Volumes, 2017
(BRL millions per month)



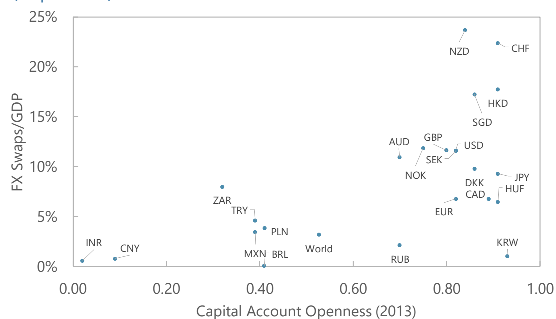
… reflecting local investors' preference for liquidity and safety

Government Bond Holdings by Type of Investor, 2017



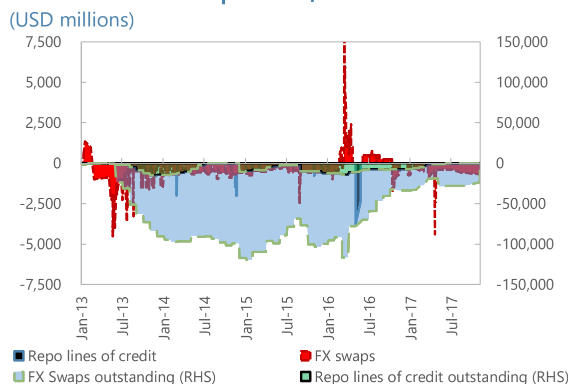
Brazil's FX market is small but has a well-developed FX derivatives market …

Onshore FX Swap Turnover to GDP vs Capital Account Openness, 2016
(In percent)

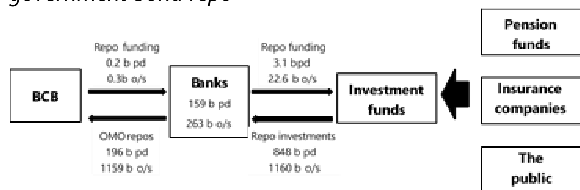


… which the BCB uses to intervene to provide FX hedges

BCB FX Intervention Operations, 2013-17
(USD millions)

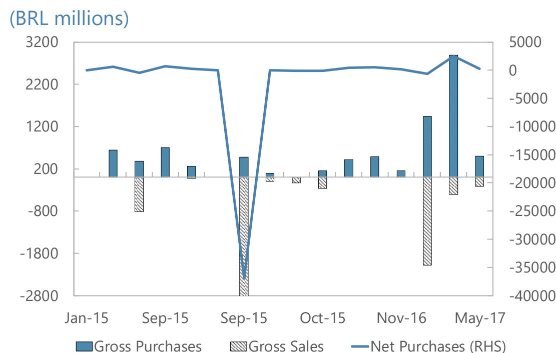


The BCB plays a key role in meeting market demand for government bond repo



The MOF, in coordination with the BCB, takes an active approach to managing bond market liquidity

MOF Extraordinary Purchases/Sales of Government Securities
(BRL millions)



Source: BCB

B. SME Financing

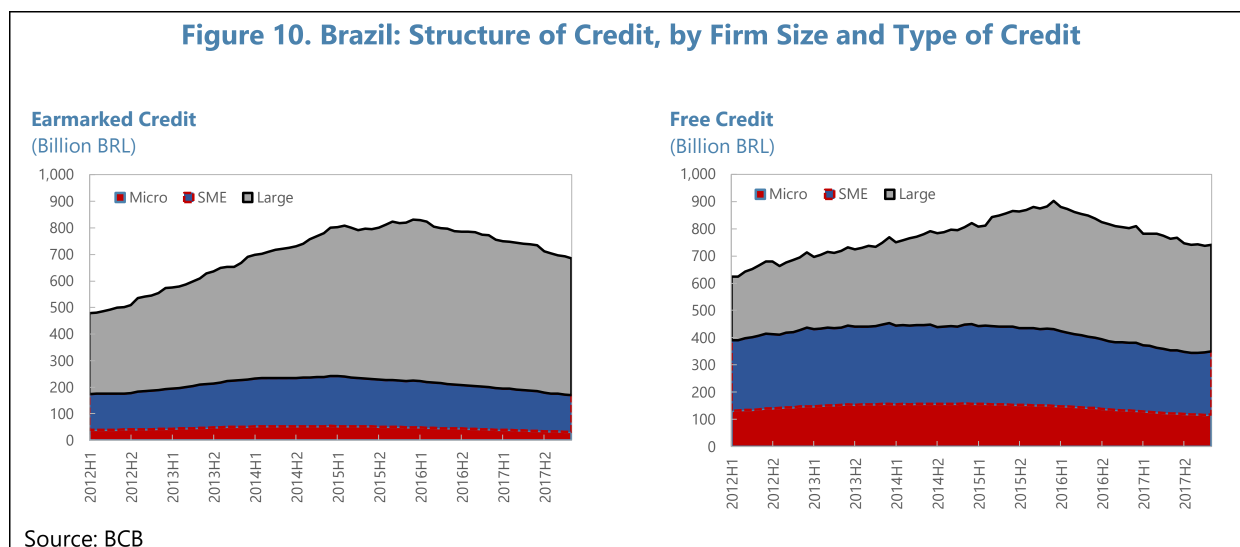
66. Despite their importance to large segments of the population, the share of credit to SMEs as a percentage of total credit is low (approximately 36 percent in late 2017) and volatile (Figure 10). Initiatives to foster SME financing should focus on three broad areas:

- Information infrastructure to mitigate information asymmetries. The adoption of centralized and digitalized business registries is recommended; while the "Cadastro Positivo" reform, pending approval in Congress, should ease information asymmetries.;

- Legal and institutional frameworks for secured transactions, creditor rights, and insolvency to address issues of collateral registration and execution. These include the use of movable assets as collateral, and improving the efficacy of the insolvency framework and of judicial enforcements with respect to collateral execution; and

- Availability of alternative products and sources of financing, including through fintechs.

Figure 10. Brazil: Structure of Credit, by Firm Size and Type of Credit



Source: BCB

C. Digital Access to Payment Services and Financial Inclusion

67. Brazil has long been at the forefront of payment systems but needs to adapt to rapid technological changes. The BCB should actively pursue the objectives of interoperability and improved competition in the retail payments market, and promote innovation. There is significant room for improved transparency, price differentiation, unbundling of services and cost reduction.[10] The BCB should promote open banking (open application programming interfaces (APIs) allowing authorized third parties to develop services and tools for customers) to facilitate the development of new entrants and new business models, as well as a specific FinTech framework to stimulate

[10] The recent BCB regulation on interchange fees is a welcome step.

innovations.[11] E-money is underutilized, and its development would require a structured communication and education campaign.

68. The BCB is encouraged to continue its ongoing efforts to improve the legal framework and the payment system infrastructure. The legal and regulatory framework that governs the National Payments System is complex, and could be consolidated and simplified. In addition, the settlement guarantee mechanism should be extended to deal with the default of a participant, a single platform for bill payment should be established, NB PSP should be represented in the governance of CIP, and a structure to address the security of electronic payments is warranted.

D. Long-Term Financing and Institutional Investors

69. Development of the private fixed income market remains a major challenge in Brazil's capital market agenda. Multiple causes interact to keep this market underdeveloped ranging from institutional and regulatory, to demand and supply factors. In particular: (i) public banks have played a major role in the financing of large companies and infrastructure projects but the bulk of their financing has come at subsidized rates; (ii) BNDES has structured financing for infrastructure under a corporate lending model, a model that is excessively onerous for infrastructure financing projects, which are typically highly leveraged; (iii) vertically integrated, bank-dominated financial conglomerates make competition difficult for the development of strong independent capital market institutions; (v) savings taxation provides weak incentives for long-term savings; and benefiting high-income people in their tax planning; and (vi) pensions funds and fund managers are increasingly focused on showing short-term results.

70. A reform agenda should include (i) a redefinition of BNDES' role; (ii) new ways to distribute capital market products; (iii) a restructuring of tax incentives; and (iv) a re-thinking of the regulation of pensions. BNDES should move away from a sole-financier business model and corporate guarantees to actively engaging other partners and migrating toward project financing. Competition and supervisory authorities should be vigilant to business practices that reduce market contestability. Tax incentives should reduce deterrents to long-term savings and supervision of pensions funds should consolidate under one agency.

[11] The CMN has recently issued Resolution No. 4,649 that will pave the way for open banking.

Table 2. Brazil: Financial Sector Structure

	2007				2012				2017			
	Number of Institutions	Financial sector assets			Number of Institutions	Financial sector assets			Number of Institutions	Financial sector assets		
		R$ billion	Percent of total	Percent of GDP		R$ billion	Percent of total	Percent of GDP		R$ billion	Percent of total	Percent of GDP
Depository institutions	1,673	2,520.7	60.6	92.7	1,478	5,877.9	68.7	122.1	1,137	8,080.6	63.6	123.2
Multiple and commercial banks 1/	119	2,245.7	53.9	82.6	123	4,982.3	58.2	103.5	118	6,887.1	54.2	105.0
o/w, by size 2/:												
Large banks	3	931.0	22.4	34.2	4	3,439.7	40.2	71.4	6	5,762.9	45.3	87.8
Medium banks	9	960.7	23.1	35.3	6	969.6	11.3	20.1	5	434.3	3.4	6.6
Small banks	36	294.5	7.1	10.8	29	460.0	5.4	9.6	31	552.6	4.3	8.4
Mirco banks	71	59.5	1.4	2.2	84	113.0	1.3	2.3	76	137.3	1.1	2.1
o/w, by ownership:												
Federal government-owned banks	6	633.3	15.2	23.3	4	1,775.0	20.7	36.9	3	2,683.2	21.1	40.9
State government-owned banks	6	83.0	2.0	3.1	5	75.0	0.9	1.6	5	122.1	1.0	1.9
Private banks, domestically-controlled	59	978.4	23.5	36.0	58	2,213.0	25.8	46.0	53	2,930.7	23.1	44.7
Private banks, foreign-control	48	551.0	13.2	20.3	56	918.8	10.7	19.1	57	1,151.0	9.1	17.5
Development banks	3	205.5	4.9	7.6	4	708.1	8.3	14.7	4	893.2	7.0	13.6
Savings banks	0	0.0	0.0	0.0	0	0.0	0.0	0.0			0.0	0.0
Savings and loans associations	2	2.1	0.1	0.1	2	4.6	0.1	0.1	1	7.3	0.1	0.1
Credit unions	1,441	38.1	0.9	1.4	1,250	103.5	1.2	2.1	920	199.3	1.6	3.0
Investment banks	10	22.7	0.5	0.8	10	65.2	0.8	1.4	10	62.5	0.5	1.0
Consumer finance companies	35	4.7	0.1	0.2	40	13.2	0.2	0.3	42	30.1	0.2	0.5
Real estate credit companies	17	1.8	0.0	0.1	13	1.4	0.0	0.0	6	0.8	0.0	0.0
Micro-financing institutions	46	0.1	0.0	0.0	36	0.1	0.0	0.0	36	0.3	0.0	0.0
Non-depository financial institutions	484	18.9	0.5	0.7	394	25.9	0.3	0.5	303	41.4	0.3	0.6
Development agencies	12	3.7	0.1	0.1	16	8.0	0.1	0.2	14	10.6	0.1	0.2
Leasing companies	3	1.0	0.0	0.0	3	1.9	0.0	0.0	6	2.5	0.0	0.0
Securities brokerage companies	69	5.9	0.1	0.2	57	5.4	0.1	0.1	36	9.4	0.1	0.1
Exchange brokerage companies	45	0.1	0.0	0.0	52	0.2	0.0	0.0	55	0.4	0.0	0.0
Security Distribution companies	70	3.2	0.1	0.1	67	1.4	0.0	0.0	50	1.5	0.0	0.0
Consortium managers	285	5.0	0.1	0.2	199	9.0	0.1	0.2	142	17.0	0.1	0.3
Insurance companies	150	207.3	5.0	7.6	156	517.0	6.0	10.7	151	1,037.0	8.2	15.8
o/w open pension funds	29	89.5	2.2	3.3	33	288.2	3.4	6.0	27	728.5	5.7	11.1
Life (long-term)	38	100.7	2.4	3.7	34	248.5	2.9	5.2	28	488.8	3.8	7.5
Nonlife (general)	97	73.9	1.8	2.7	96	142.8	1.7	3.0	92	210.2	1.7	3.2
Life and non-life	15	32.7	0.8	1.2	13	109.5	1.3	2.3	15	309.2	2.4	4.7
Reinsurance	n.a	n.a	n.a	n.a	13	16.2	0.2	0.3	16	28.8	0.2	0.4
Pension fund management companies	401	547.2	13.1	20.1	360	1,042.8	12.2	21.7	334	1,699.0	13.4	25.9
Closed Pension fund companies	372	457.7	11.0	16.8	327	678.6	7.9	14.1	307	837.2	6.6	12.8
Pension funds' states and municipalities 3/	n.a	n.a	n.a	n.a	n.a	76.0	0.9	1.6	n.a	133.3	1.0	2.0
Open pension funds with insurance firms	29	89.5	2.2	3.3	33	288.2	3.4	6.0	27	728.5	5.7	11.1
Investment and asset managers 4/	87	1,160.0	27.9	42.6	93	2,268.0	26.5	47.1	107	4,174.5	32.8	63.6
o/w closed pension funds		68.9	1.7	2.5		408.9	4.8	8.5		544.1	4.3	8.3
o/w pension funds' states and municipalities		n.a	n.a	n.a		64.0	0.7	1.3		118.3	0.9	1.8
o/w insurance companies		104.1	2.5	3.8		321.5	3.8	6.7		787.6	6.2	12.0
o/w depository institutions		26.9	0.6	1.0		48.7	0.6	1.0		68.4	0.5	1.0
o/w non-depository financial institutions		2.0	0.0	0.1		38.9	0.5	0.8		76.4	0.6	1.2
Total financial sector 5/		4,162.8		153.0		8,561.5		177.8		12,709.1		193.7
Money and capital markets 6/												
Money market		443.0	10.6	16.3		886.0	10.3	18.4		1,830.0	14.4	27.9
Government bond market		1,224.9	29.4	45.0		1,916.7	22.4	39.8		3,435.5	27.0	52.4
Corporate bond market		223.0	5.4	8.2		507.6	5.9	10.5		747.9	5.9	11.4
Equity market		1,765.0	42.4	64.9		2,000.6	23.4	41.6		2,575.9	20.3	39.3
Derivatives market 7/		1,728.7	38.8	63.5		3,703.3	38.1	76.9		5,340.6	35.5	81.4
Memorandum items:												
Insurance firms ex- open pension funds		117.8	2.8	4.3		228.8	2.7	4.8		308.6	2.4	4.7
Invest funds ex- closed pension and insurance		987.0	23.7	36.3		1,473.6	17.2	30.6		2,724.5	21.4	41.5
Nominal GDP		2,720.3	65.3			4,814.8	56.2			6,559.9	51.6	

Sources: BCB, SUSEP, PREVIC, SPPS, CVM, ANBIMA, National Treasury, B3 and IMF staff calculations.
Note: Depository/non-depository institutions data is aggregated by conglomerates and complemented by individual financial institutions that are not part of conglomerates. Institutions are grouped by financial conglomerates for 2007 and 2012 and by prudential conglomerates for 2017.

1/ *Caixa* is classified as a multiple bank (not savings bank) as this best describes its activities from an economic perspective.
2/ Exposure to GDP ratio according to CMN Resolution 4553/2017. Exposure is an indicator of balance and off-balance assets, which is defined by Circular 3748/2015.
3/ Funds under the supervision of SPPS (Secretariat of Social Security Policies). Preliminary data indicate that by 2017 there were about 2,000 funds.
4/ Assets refers to assets under management.
5/ Aggregation may overstate the total size in due to some double-counting.
6/ This aggregation reduces double counting of investment funds with closed and open pensions, insurance companies and depository /non-depositary institutions.
7/ Amount outstanding unless otherwise noted.

Table 3. Brazil: Selected Economic Indicators

I. Social and Demographic Indicators

Area (thousands of sq. km)	8,512	Health	
Agricultural land (percent of land area)	31.2	Physician per 1000 people (2018)	2.1
		Hospital beds per 1000 people (2018)	2.0
Population		Access to safe water (2015)	98.1
Total (million) (est., 2018)	208.8		
Annual rate of growth (percent, 2015)	0.8	Education	
Density (per sq. km.) (2018)	24.5	Adult illiteracy rate (2016)	7.2
Unemployment rate (latest, Apr 2018)	13.1	Net enrollment rates, percent in:	
		Primary education (2016)	99
Population characteristics (2016)		Secondary education (2015)	84
Life expectancy at birth (years)	76		
Infant mortality (per thousand live births)	13	Poverty rate (in percent, 2017) 1/	25.4
Income distribution (2016)		GDP, local currency (2017)	R$6,559 billion
By highest 10 percent of households	40.9	GDP, dollars (2017)	US$2,055 billion
By lowest 20 percent of households	3.6		
Gini coefficient (2016)	52.5	GDP per capita (est., 2017)	US$9,896

Main export products: airplanes, metallurgical products, soybeans, automobiles, electronic products, iron ore, coffee, and oil.

II. Economic Indicators

	2016	2017	2018 (Proj.)	2019	2020	2021	2022	2023
			(Percentage change)					
National accounts and prices								
GDP at current prices	4.4	4.8	4.9	7.5	7.2	7.1	7.1	7.1
GDP at constant prices	-3.5	1.0	1.8	2.5	2.3	2.2	2.2	2.2
Consumption	-3.4	0.6	1.5	1.9	1.2	1.0	1.4	1.9
Investment	-14.3	2.9	7.7	8.6	8.8	8.3	6.1	3.8
Consumer prices (IPCA, end of period)	6.3	2.9	3.5	4.1	4.0	4.0	4.0	4.0
			(Percent of GDP)					
Gross domestic investment	15.4	15.5	16.2	16.9	17.8	18.7	19.3	19.5
Private sector	13.6	13.8	14.5	15.3	16.3	17.2	17.9	18.2
Public sector	1.8	1.7	1.7	1.6	1.5	1.4	1.4	1.3
Gross national savings	14.1	15.0	14.9	15.4	16.2	16.9	17.4	17.6
Private sector	21.2	21.0	21.6	21.5	22.1	22.5	22.7	22.7
Public sector	-7.1	-6.0	-6.7	-6.1	-5.9	-5.6	-5.4	-5.1
Public sector finances								
Central government primary balance 2/	-2.6	-1.8	-2.3	-1.8	-1.3	-0.6	0.0	0.5
NFPS primary balance	-2.5	-1.7	-2.4	-1.8	-1.1	-0.4	0.2	0.7
NFPS cyclically adjusted primary balance	-1.2	-0.5	-1.4	-1.2	-0.8	-0.3	0.2	0.7
NFPS overall balance (including net policy lending)	-9.0	-7.9	-8.5	-7.8	-7.5	-7.1	-6.8	-6.5
Net public sector debt	46.2	51.6	56.2	59.9	62.9	65.7	67.7	68.9
General Government gross debt, Authorities' definition	70.0	74.0	…	…	…	…	…	…
NFPS gross debt	78.4	84.0	88.2	90.4	92.4	94.2	95.1	95.6
Of which: Foreign currency linked	3.8	3.6	3.5	3.2	3.0	2.8	2.8	2.8
			(Annual percentage change)					
Money and credit								
Base money 3/	8.1	0.5	4.9	7.5	7.2	7.1	7.1	7.1
Broad money 4/	12.4	0.3	7.9	10.9	13.8	14.6	14.5	14.5
Bank loans to the private sector	-2.9	-0.9	2.7	7.3	7.7	8.4	8.0	8.6
			(Billions of U.S. dollars, unless otherwise specified)					
Balance of payments								
Trade balance	45.0	64.0	59.4	55.4	55.6	57.8	60.3	62.6
Exports	184.5	217.2	234.1	242.8	253.5	265.7	277.8	289.5
Imports	139.4	153.2	174.7	187.4	197.9	207.9	217.4	226.9
Current account	-23.5	-9.8	-24.4	-30.5	-35.1	-39.3	-43.8	-46.9
Capital account and financial account	16.7	6.5	24.4	30.5	35.1	39.3	43.8	46.9
Foreign direct investment (net)	65.4	64.1	60.0	55.1	50.7	48.8	48.1	48.7
Terms of trade (percentage change)	3.0	-0.8	-1.3	-0.8	-0.8	-0.4	-0.1	0.0
Merchandise exports (in US$, annual percentage change)	-3.0	17.8	7.8	11.8	8.3	4.8	4.5	4.2
Merchandise imports (in US$, annual percentage change)	-19.1	9.9	14.0	22.3	13.3	5.1	4.6	4.3
Total external debt (in percent of GDP)	37.2	32.5	32.0	30.4	28.9	27.3	25.7	24.2
Memorandum items:								
Current account (in percent of GDP)	-1.3	-0.5	-1.2	-1.4	-1.5	-1.6	-1.7	-1.8
Unemployment rate	11.3	12.8	11.6	10.5	10.1	9.8	9.5	9.5
Gross official reserves	365.0	374.0	374.0	374.0	374.0	374.0	374.0	374.0
REER (annual average in percent; appreciation +)	6.8	9.6	…	…	…	…	…	…

Sources: Central Bank of Brazil; Ministry of Finance; IBGE; IPEA; and Fund staff estimates.

1/ Computed by IBGE using the World Bank threshold for upper-middle income countries of U$5.5/day. This number is not comparable to the estimates provided by IPEA in previous years due to methodological differences.

2/ Includes the federal government, the central bank, and the social security system (INSS). Based on the 2017 draft budget, recent annoucements by the authorities, and staff projections.

3/ Currency issued plus required and free reserves on demand deposits held at the central bank.

4/ Base money plus demand, time and saving deposits.

Table 4. Brazil: Financial Soundness Indicators

	2012	2013	2014	2015	2016	2017
			Total banking system			
Capital Adequacy						
Regulatory capital to risk-weighted assets	16.4	16.1	16.7	16.4	17.1	18.1
Regulatory Tier 1 capital to risk-weighted assets	11.9	12.6	13.0	12.7	13.7	14.5
Capital to assets	10.1	9.3	9.0	8.4	9.3	10.0
Gross asset position in financial derivatives to capital	7.8	9.6	11.8	29.6	22.8	19.5
Gross liability position in financial derivatives to capital	9.3	10.9	13.9	35.6	21.8	19.1
Asset Quality						
Nonperforming loans to total gross loans	3.4	2.9	2.9	3.3	3.9	3.6
Provisions to Nonperforming loans	148.7	161.2	155.7	154.4	152.2	163.1
Earnings and Profitability						
Return on assets	1.4	1.4	1.3	1.5	1.1	1.5
Return on equity	12.9	13.0	13.1	15.5	11.3	13.9
Liquidity						
Liquidity assets to short-term liabilities	191.8	158.0	202.2	190.0	236.3	237.5
Liquidity assets to total assets	14.9	10.9	12.1	11.6	14.1	14.6
Net open position in foreign exchange to capital	-0.6	0.4	0.3	0.5	0.9	0.7
External funding to total funding	9.3	8.5	9.4	13.0	10.3	10.3
			Public banks			
Capital Adequacy						
Regulatory capital to risk-weighted assets	14.5	14.9	16.2	15.5	16.3	18.5
Regulatory Tier 1 capital to risk-weighted assets	9.4	11.3	11.8	11.0	11.5	12.7
Capital to assets	6.3	5.6	5.1	4.7	4.9	5.7
Gross asset position in financial derivatives to capital	1.0	1.7	3.1	8.2	2.6	1.6
Gross liability position in financial derivatives to capital	2.1	3.0	2.5	3.2	3.0	1.3
Asset Quality						
Nonperforming loans to total gross loans	1.8	1.9	2.0	2.5	3.3	3.1
Provisions to Nonperforming loans	203.3	181.1	164.0	157.8	146.6	158.6
Earnings and Profitability						
Return on assets	1.5	1.5	1.1	1.0	0.6	1.1
Return on equity	18.7	18.1	13.8	14.5	9.0	15.9
Liquidity						
Liquidity assets to short-term liabilities	282.1	214.1	209.6	196.0	282.0	308.7
Liquidity assets to total assets	14.2	10.5	10.2	9.7	13.2	14.8
Net open position in foreign exchange to capital	0.0	1.4	2.2	-1.2	4.4	2.2
External funding to total funding	4.4	4.3	4.6	5.6	6.6	5.3
			Private banks (domestic and foreign)			
Capital Adequacy						
Regulatory capital to risk-weighted assets	17.4	16.8	16.9	16.8	17.6	17.9
Regulatory Tier 1 capital to risk-weighted assets	13.2	13.3	13.7	13.6	14.9	15.4
Capital to assets	12.5	11.8	11.6	10.9	12.4	13.1
Gross asset position in financial derivatives to capital	9.9	12.2	14.4	35.8	28.6	25.0
Gross liability position in financial derivatives to capital	11.6	13.5	17.3	44.9	27.2	24.5
Asset Quality						
Nonperforming loans to total gross loans	4.9	3.8	3.7	4.2	4.6	4.1
Provisions to Nonperforming loans	131.6	151.7	151.0	152.2	156.5	166.5
Earnings and Profitability						
Return on assets	1.3	1.3	1.5	1.8	1.5	1.7
Return on equity	10.8	10.8	12.8	15.9	12.2	13.1
Liquidity						
Liquidity assets to short-term liabilities	162.4	135.3	198.5	187.2	214.3	152.1
Liquidity assets to total assets	15.4	11.2	13.3	12.9	14.8	14.4
Net open position in foreign exchange to capital	-0.8	0.1	-0.3	1.0	-0.1	0.2
External funding to total funding	12.5	11.8	13.4	14.4	15.4	14.5

Sources: Central Bank of Brazil; and Fund staff calculation.

Table 5. Brazil: Risk Assessment Matrix (RAM)

Source of Risks	Likelihood	Impact
Weak domestic economic growth due to loss of confidence This risk could materialize due to: • Failure to pass reforms necessary to maintain the constitutional expenditure ceiling • Uncertainty surrounding the outcome of the 2018 presidential elections and associated policy uncertainty • Broadening of the corruption scandal, including in the financial sector • Effects of the retreat of cross-border integration	**High**	**High** Weakened confidence and prolonged uncertainty induce a sizeable output contraction and a capital flows reversal, leading to: • Increase in funding costs across the board, with impacts on banks' net interest income and liquidity squeeze for corporates • Impaired debt servicing capacity of corporates and households, raising banks' nonperforming loans • Losses on banks' holdings of government bonds, and funding outflows from banks, redemptions at investment funds • Reduced bank lending to the economy, adversely affecting growth and public finance
Tighter and more volatile global financial conditions This risk could materialize due to: • Disruptive adjustments following the U.S. monetary policy normalization and the QE tapering in the euro area • Corrections of overstretched asset valuations, in part supported by high leverage	**High**	**Medium** Decompression of risk premiums prompts a worldwide decline in asset prices, leading to: • Tightening of liquidity conditions and increase in funding costs, especially for entities that rely on external funding • Losses on holding of government bonds and other securities • Weaker economic activity, contributing to deterioration in banks' asset quality
Significant China slowdown and its spillovers This risk could materialize due to: • Efforts to rein in financial sector risks expose vulnerabilities of indebted entities and reduce growth • Overly ambitious growth targets further increase financial imbalances, with an abrupt adjustment	**Low/Medium**	**Medium** Negative spillovers from China weaken growth, in part through falling commodity prices, leading to: • Growing vulnerabilities in the commodity-related sector • Reduction in exports and investment, with knock-on effects on banks' asset quality

Note: The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly. "Short term (ST)" and "medium term (MT)" are meant to indicate that the risk could materialize within 1 year and 3 years, respectively.

Table 6. Brazil: Progress on Implementing the 2012 FSAP Recommendations

2012 FSAP Recommendations	***Implementation status***
Macroprudential Institutional Arrangements and Instruments	
Issue regulation on credit bureaus to ensure broad availability of reliable positive information on borrowers.	*Partially implemented (participation is voluntary).* The new regulation on positive credit bureau is expected to come out in 2018.
Ensure compilation and publishing of a housing price index that is based on purchases, with broad geographic coverage.	*Implemented*
Create a multi-partite, high-level committee, comprising all financial safety net providers, with an explicit mandate for systemic risk monitoring and crisis coordination	*Some progress.* The central bank is drafting a law that would give a legal mandate to the Financial Stability Committee consisting of all the supervisors and the Ministry of Finance, The would clearly deliniate the responsibilities for macroprudential oversight and accountability. The law would also give broad powers to the central banks for macroprudential instruments. The law is expected to be finalized in 2018.
Safety Nets and Crisis Management	
Strengthen the procedures and systems of the BCB to deliver ELA.	*In process.* The project to submit a proposal to improve ELA framework is still underway. Some project milestones were concluded: design of collateral and counterparty eligibility policies, haircut methodologies and quantification, asset valuation methodologies and a prototype tool. A proposal to improve ELA regulation has yet to be presented to the Board and amendments to the legal framework still have to be approved (included in the Draft Bill on Resolution). Design of operational framework and IT system will start after approval of all policies/methodologies.
Revise the composition of the board of the FGC; use the least-cost principle in deciding FGC support for resolution, with OBA provided only when there is a grave systemic threat (capped at 50% of the FGC's cash resources); and secure adequate funding for the FGC in the event of a systemic crisis.	*Partly implemented. A new bill of law is proposed.* Of the three issues raised in the FSAP, two have been addressed: the governance and the least-cost principle. The adequate funding (government backstop) requires changes in the legal framework. These will be addressed in the new Bank Resolution Law, which has been proposed by the Central Bank and is currently being evaluated by the Ministry of Finance, but not enacted yet. The expectation is that the Government will submit the draft to Congress by mid-2018.
Remove legislative impediments and strengthen the purchase and assumption and bridge bank statutes.	*In process. A new bill for Brazilian bank resolution framework is proposed.* Under the new resolution framework, existing tools, such as reorganization, separation into good bank and bad bank, and liquidation are made more effective, and new measures are introduced, such as the possibility to create bridge banks and to adopt bail-in (which will be a pre-condition for any injection of public funds in the institution). In addition, the draft law contains provisions regarding cooperation and exchange of information with foreign resolution authorities in connection with the resolution of multinational firms.
Extend legal protection to all financial sector supervisory agencies, and elevate the threshold for actions against employees of these agencies, BCB-appointed directors, intervenors, or liquidators to gross negligence.	*In process. A new bill of law is proposed.* The new Resolution Law enhances the protection offered to the resolution authority's employees, the managers and directors of the private entity that it will manage Resolution Fund and Deposit Guarantee Fund, interveners, directors during temporary administration and liquidators by elevating the liability threshold, in actions related to resolution or liquidation, to willful misconduct.
Capital Markets	
Extend tax incentives on infrastructure bonds to infrastructure FIDCs.	*Implemented*
Issue stricter market-making rules, e.g., apply a narrow set of the same benchmarks to all market makers, linked to improved incentives, e.g., access to MOF's securities lending facilities.	*Implemented*
Shift BNDES operations towards co-financing with institutional investors of a broader set of companies and projects to provide market access and facilitate longterm financing.	*Mostly implemented*
Insurance and Pensions	
Provide SUSEP and PREVIC with the same legal status as CVM (e.g., fixed-term appointments and clear mandates for board members).	*In process.* For SUSEP, the draft bill, with the requirements for the appointments and mandates of their board members, is under evaluation by the Lower Chamber. Regarding Previc, there is a bill (PLS 361/2015) in progress in the National Congress that deals with the proposal of composition and mandate for the directors of Previc, improving the already existing governance in the institution.
Issue a secondary regulation on brokers' self-regulation, which should include a mandatory affiliation to the self-regulating entity, and closely supervise its implementation.	*Partially implemented.* SUSEP Ordinance 5568 granted permission to the Brazilian Institute of Self-Regulation of Insurance Brokerage Market, Reinsurance, Capitalization and Open Pension Funds – IBRACOR to operate as a self-regulating entity. IBRACOR, however, has not been able to operate the monitoring of all insurance brokers. Only those insurance brokers which are associated to the self-regulating entity are applicable to its supervision.
Implement the required regulation for consolidated supervision, including the introduction of ERM and capital requirements at group level.	*In process.* The solvency monitoring department proposed a model for the supervision of groups, which is under consideration by the other departments in Susep. A new system for monitoring provisions, capital and collateral at the group level has already been developed.
Consumer protection	
Establish a dedicated consumer financial protection unit.	*Implemented*

Sources: BCB, and Ministerio da Fazenda.

Table 7. Brazil: Financial Sector Authorities

Task	Banks	Investment firms	Insurance companies	Pension funds \1	Capital markets	Market infrastructure
Systemic risk surveillance	BCB	CVM/BCB	SUSEP/BCB	SUSEP/PREVIC	BCB/CVM	CVM/BCB
Prudential oversight – *Regulation*	De facto BCB (macropru)	CMN (regulatory role)	CMN (regulatory role)	CMN/CNPC (regulatory role)	CMN (regulatory role)	CMN (regulatory role)
Prudential oversight – *Regulation*	BCB (micropru)	CVM (micropru)	SUSEP (micropru)	SUSEP/PREVIC (micropru)	BCB/CVM (micropru)	CVM/BCB (micropru)
Prudential oversight – *Supervision* and *Market conduct oversight*	BCB	CVM	SUSEP	SUSEP/PREVIC	CVM/BCB	CVM/BCB
Resolution	CMN (general)	CMN (general)	CNSP (general)	CNSP/CNPC /CMN (general)	CMN (general)	CMN/BCB (general)
Resolution	BCB (execution)	CVM (execution)	SUSEP (execution)	SUSEP/PREVIC /BCB (execution)	CVM/BCB (execution)	CVM/BCB (execution)

\1 Pension funds include open and closed complementary funds.

Sources: BCB, SUSEP, and PREVIC.

Annex I. Directed Credit

1. **Credit markets are intervened in a variety of ways from direct credit, often at subsidized rates, to preferred borrowers—these loans are known in Brazil as earmarked.** About half of the credit market is earmarked and the large majority of the earmarked credit flows through the public banks. Caixa Econômica Federal dominates the housing market with a more than 70 percent market share, and Banco do Brasil dominates the rural finance market. For households, the earmarked credits are predominantly for housing. For enterprises, they tend to be for investment purposes. Special programs are available to the agricultural sector. The earmarked loans are of much longer maturities than those in the free market.

2. **On-budget fiscal subsidies are provided to reduce interest rates for some loans.** These are the only costs explicitly recognized. The implicit subsidies provided by the below-market remuneration are not explicitly reported. The interest rates on earmarked loans are with a few exemptions regulated and substantially below market rates and have often been below the monetary policy rate. The exact interest rates depend on a complex set of eligibility criteria.

3. **Special funds such as the Workers Guarantee Fund (FAT), the Severance Indemnity Fund (Fundo de Garantia do Tempo e Serviço, FGTS), and Constitutional Funds are used extensively to fund the directed credits.** The funds receive a low remuneration allowing the financial intermediaries to lend at low rates. Similarly, the government has been lending directly to BNDES at well below market rates allowing it to on-lend at low rates.

4. **Central Bank regulations channel a share of demand, savings, and rural savings deposits to housing, microcredit, and rural credit. In addition to using the special savings deposits with mortgage lending requirements, FGTS provides funding to Caixa Economica Federal to on-lend at below market rates.** The central bank has detailed regulations and supervision of the banks to ensure that the credit flows to the intended beneficiaries.

5. **The empirical literature suggests that earmarked credits have had modest impact on firm performance.** In the aftermath of the global financial crisis, an expansion of earmarked credit provided a countercyclical credit measure. The subsidized lending has reduced interest expenditures for firms, but investment and productivity have not been conclusively supported by these credits. On the other hand, monetary policy has been impeded by the earmarked credit at regulated rates. Analysis has shown that the impact of the monetary policy rate tightening is reduced by one third for firms that receive earmarked credits. Understanding the general equilibrium effects from both the microeconomic and the macroeconomic distortions is complex and remains to be done.

6. **A recent reform aims to disconnect subsidies from BNDES lending by linking the interest to the Government's cost of funds. Previously, BNDES lending as well as borrowing has predominantly been done at the regulated TJLP interest rate.** It has been kept below market rates, which has implied a subsidy from those who lend to those who borrow. The reform transitions over a 5-year period and the interest rates on new loans (TLP, starting January 2018) is linked to the sovereign cost of funding using the combination of an inflation indexed 5-year sovereign bond, actual inflation and the old TJLP.

Annex II. Deferred Tax Credits in Brazil

1. **In Brazil, banks are required to make provisions for potential losses inherent in credit risk exposures as per BCB prescribed prudential rates.** These prudential provisions are required to be established for the credit risk exposures irrespective of whether these are classified as problem assets or not. These provisions are not tax-deductible in the year in which they are established, but are allowed as deductibles only when the bank recognizes a loss and writes-off the exposure, up to the extent of the loss. As a result of the above differences between the timing when a provision is established by the bank and when it is actually allowed as an expenditure for tax purposes, the banks recognize (in compliance with accounting standards) a 'deferred tax asset' (DTA). DTAs arise in Brazilian banks primarily because of loan loss provisions (about 55 percent of total DTAs out of aggregate gross DTAs of around R$280 billion).

2. **As per Basel III framework, DTAs whose de-recognition relies on future profitability of the bank must be deducted from Common Equity Tier 1 (CET1) capital per the Basel III phase-in arrangements.** Instead of a full deduction, DTAs that arise from temporary differences (such as loan loss provisions), may be included in CET1, up to 10 percent of the bank's common equity.

3. **In Brazil, a law (No. 12,838 of July 2013), was introduced to allow banks to convert DTAs arising from loan loss provisions into eligible tax credits (DTCs) when the bank's taxable income in any year is negative (loss) or when the bank is bankrupt or subject to extra-judicial liquidation.** The DTAs arising from other causes are not eligible for such conversion. The law allows banks that have eligible tax credits to claim compensation in the form of cash or securities issued by the central government. It is understood that one bank claimed compensation in lieu of DTCs for about R$36 million. The government has recently approved the payment of the DTCs to it.

4. **The Basel Committee's Regulatory Consistency Assessment Program (RCAP) has assessed the prudential capital adequacy regulations in Brazil as Basel III compliant.** As confirmed in the RCAP work on Brazil's capital framework, the Basel Committee recognizes such DTCs as capital in cases where the law supports this treatment. In practice, only a few Basel Committee members (including also Italy and Spain) have opted for this approach and these jurisdictions were affected significantly by the banking crisis in Europe. In Brazil, the DTCs arising from loan loss provisions amounting to R$146 billion are therefore included in CET1 capital and constitute about 25 percent of CET1 capital.

Annex III. The BCB's Risk Monitoring System

1. The BCB uses a range of data sources in its supervisory activity and monitoring of risks. In addition to the suite of prudential supervisory reports, it requires management information from supervised entities and also receives data from Trading Repositories (TRs). Reporting to a TR is mandatory in Brazil for most transaction types and for nearly all asset classes. In addition to financial transactions that are traded on and registered in authorized exchanges (CCP) and electronic trading platforms (equity, FX and derivative transactions), OTC derivative, spot foreign exchange, fixed income, and credit operation transactions must be reported. The main TRs operated by the BCB cover FX transactions, (Sisbacen—Sistema Câmbio), a central securities depository for government bonds (Selic), the credit information system (SCR) where all exposures by banks to individual domestic borrowers above R$200 are reported, credit information on domestic residents raising funds outside Brazil (RDE-ROF), and on loans which are originated for on-sale, such as auto loans (CIP-C3). In addition, there is a privately-operated TR ("B3") covering a range of transactions including private and government bonds, both exchange traded and OTC derivatives (i.e. swaps, futures and options), equities and FX.

2. Monitoring focuses on assessing the economic and financial condition and other risk dimensions, including areas such as balance sheet analysis, regulatory limits and solvency, including risk analysis such as credit, liquidity and market. Peer group analysis identifies outlier behavior. In addition to the supervisory information which is received mostly on a monthly basis from banks, surveillance, and monitoring are mainly supported by an intensive use of granular data received from TRs (liquidity and market risks) and TR-like (SCR). For example, credit risk analysis is supported by the monthly reports of credit transactions from the SCR. Liquidity risk surveillance is supported by daily data from Clearing and Custody entities. The stress tests framework integrates this data sources, which results in many useful outputs for both micro and macro monitoring oversight.

3. Data received populate standard analytical reports and monitoring ratios and indicators as well as being available for interrogation by staff who can create bespoke reports. An early warning system (EWS) generates automatic alerts for variations in various indicators and ratios such as delinquency, provisions, credit migration matrix, the condition of individual debtors, financial soundness indicators, liquidity risk, detection of atypical operations, and prudential limits.

4. One of the main developments in systemic risk analysis since the 2012 FSAP has been contagion analysis based on the development of a real economy network model using Brazilian Payments System data. The BCB analysis, looking at interconnectedness within the financial system and in the non-financial sector, as well impact on unemployment, aims to identify systemic consequences from events such as a bank's resolution, the bankruptcy of a large economic conglomerate, or reputational/governance issues.

5. The BCB applied contagion analysis most notably in the wake of the "Lava Jato" corruption investigation. A range of companies were reputationally tainted by the investigation of Petrobras, and the BCB sought to assess the financial system's resilience to possible defaults. By

analyzing payment system transactions, the BCB mapped a network of the real economy and estimated the degree of dependency between the companies involved. Conservative assumptions, were applied to trigger default of the core companies to analyze subsequent chain of defaults and contagion effects in the financial system stemming from the defaults and job losses in the real sector. The BCB was thus able to publicize the resilience of the system based on findings of moderate impact on bank capital. Similar exercises have been run to examine financial risk contagion effects from both real and hypothetical shocks.

Annex IV. Renegotiated and Restructured Loans in Brazil

1. Renegotiated household loans, as reported by banks, increased from 8 percent of total to 12 percent during 2014–16, while for companies the increase was from 4.1 to 9.7 percent of total loans over the same period. The increase in restructured loans was from 1.7 to 3 percent for households, and 0.8 to 1.9 percent for firms.

2. While renegotiation reflects any change of terms of contract, there can be two perspectives to restructuring ("forbearance"). On the one hand, "forbearance" may enable borrowers to overcome temporary financial difficulties, and may enable banks to maximize the recovery value through repayments or by disposal of the borrower's assets. Forbearance can thus be a tool for sound risk management of problematic loans, applied by banks to mitigate or even eliminate credit losses. Moreover, forbearance may limit negative macro effects by keeping fragile but viable businesses in operation. On the other hand, "forbearance" can place institutions in an even worse position if it is extended without careful consideration to the borrower's individual circumstances. This can be a cause for concern, since in the absence of a clear and prudent regulatory framework, banks may have the wrong incentives to resort to restructuring to overstate the quality of their credit portfolio and eventually their profitability and capital adequacy. In other words, without meaningful credit assessment and a sound business case, restructuring can be seen as a technique to disguise the deterioration of a loan portfolio. The mission's stress testing exercise made assumptions related to loan quality and adequacy of provisioning in the sensitivity analysis.

3. In Brazil, until recently, the regulatory framework for restructured exposures was unclear. This was addressed when the regulations for prudential classification of credit risk exposures were revised for the largest institutions from end August 2017. These revisions will become effective for other institutions from end February 2018. The new regulation provides a clear definition of restructuring (including classification as a problem asset), an articulation of prudential treatment of restructured exposures and a clear guidance for reclassification (upgrading) of a problem asset.

4. Previously, 'restructuring' was not defined, but 'renegotiation' was defined as any procedure or arrangement that modifies the contractual terms of a loan. The volume of renegotiated loans is informed by the Credit Information System (SCR). However, renegotiations in the past were understood in different ways by different financial institutions. Because of this, the BCB does not use renegotiations as an indicator of credit risk but the volume of restructured loans which are a subset of renegotiation. Restructured loans are estimated by an algorithm, which identifies nonperforming loans converted back to the performing status without past due debt being fully paid.

5. The regulations for restructured exposures in Brazil can be further improved to be consistent with the Basel Committee's Guidelines on the prudential treatment of problem assets. This would promote a better prudential discipline and comparability of the asset quality positions across institutions and across time. This could be done by establishing clear criteria for identifying forborne exposures and exit conditions from the forborne exposures category and clarifying the prudential treatment of repeatedly restructured exposures.

Annex V. Resolution Reform

1. The BCB has taken the lead in preparing a comprehensive draft law (the "Draft Law") that seeks to align Brazil's resolution regime with the international standards. The Draft Law—which has not yet been submitted to Congress—would overhaul the existing regime in certain key areas.

- ***Resolution mandate and proceedings.*** The Draft Law designates the BCB as the resolution authority for financial institutions licensed by it and for financial market infrastructures, while the CVM and SUSEP would be empowered, respectively, to resolve securities and insurance companies.

- ***Resolution and insolvency proceedings.*** The Draft Law contains two new proceedings—stabilization and compulsory liquidation. With the exception of the court-based bankruptcy procedure that will remain in place, these new proceedings will replace the existing regimes (i.e., temporary special administration, extra-judicial liquidation, and intervention) in their entirety. While stabilization is aimed at preserving the continuity of the firm under resolution, the triggers for stabilization and compulsory liquidation are the same, and the resolution authority has wide discretion to opt for either option.

- ***Resolution and recovery plans.*** While recovery plans are currently required under BCB regulation, the Draft Law seeks to provide for comprehensive recovery and resolution planning requirements, adapted to the (wider) tools which would be available under the new framework.

- ***Resolution powers.*** In the context of a stabilization proceeding, the BCB—as the resolution authority for banks—may order an administrator, appointed and overseen by it, to take certain measures, such as (i) a transfer of certain assets and obligations of the failed firm to a third-party acquirer, including a "transitional institution" (i.e. a bridge bank); (ii) establish subsidiaries or arrange for a spin-off of the failed firm; and (iii) convert certain categories of debt into equity.

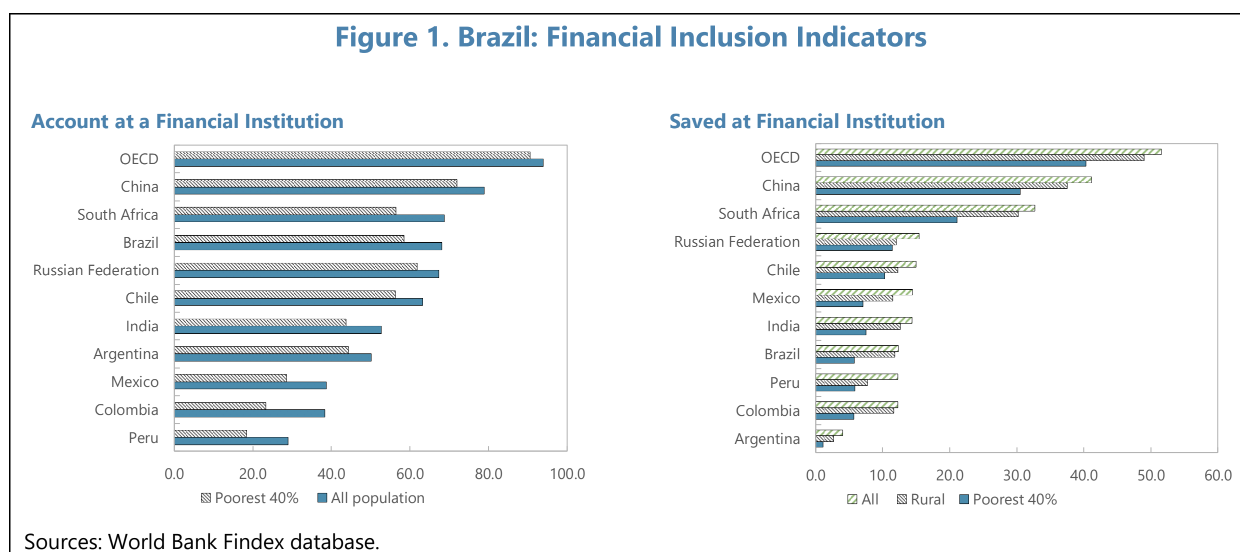
- ***Temporary public support.*** Currently, the fiscal responsibility law restricts the injection of public money into troubled financial institutions. The Draft Law removes this prohibition, subject to safeguards aimed at preserving the public interest.

2. Overall, while the above design features provided in the Draft Law represent a major improvement, the clarity of several provisions should be enhanced in order to operationalize the new regime (see paragraphs 47–49). Moreover, many gaps of the existing regime—such as the lack of autonomy of the BCB, the shortcomings in the mandate and operations of the FGD, and the absence of inter-agency arrangements for contingency planning—are not addressed in the Draft Law.

Annex VI. Financial Inclusion

1. Brazil has made significant strides toward financial inclusion (Figure 1). Over the past five years, the share of population with an active relationship with financial institutions increased by 21 percent reaching 138 million people, or 87 percent of the population aged 15 and above (BCB 2017). All 5,570 Brazilian municipalities have at least one point of access to financial services. More than half of all financial transactions are being made through digital devices using the internet. As a result, Brazil has one of the highest levels of bank account penetration among emerging economies—68 percent of adults in Brazil have an account. Factors contributing to this success include the expansion of a national correspondent banking network, consolidation of the credit union sector, and growth in microfinance and cooperatives and policies to increase incomes at the bottom of the pyramid.

Figure 1. Brazil: Financial Inclusion Indicators



Sources: World Bank Findex database.

2. Nevertheless, gaps remain in achieving the national financial inclusion objectives. Despite the recent growth in access to financial institutions, 6.4 percent of Brazilian municipalities in 2014 remain without any physical access to banking services, relying solely on correspondents and electronic service outposts. Moreover, access to finance varies significantly across Brazil's regions. In terms of usage of financial services, average savings rates among the Brazilian adult population (12.3 percent) is four times smaller than the OECD average, with Brazil's poor saving slightly less than half of the national average. Furthermore, small and medium enterprises (SMEs) are credit constrained, as are microenterprises. From the 8.7 million microenterprises registered in the Special Secretariat for Micro and Small Enterprises (SEMPE), only 19 percent have accounts in financial institutions and 8 percent have credit operations as of December 2016 (BCB 2017).

3. Banco Central do Brasil (BCB), has played a dominant role in promoting financial inclusion advancements in Brazil, defining financial inclusion as its strategic objective since 2004. As a principle regulator of the national payment system and its infrastructures, BCB allows non-discriminatory access to payment services and market infrastructures, and promotes

competition, financial inclusion, innovation, and interoperability. To encourage greater coordination and cooperation mechanism in development of national financial inclusion policies, BCB has partnered with a variety of government, business, and social sector stakeholders, including the Ministry of Finance and Ministry of Justice (improving the regulatory framework for microfinance and financial services delivery channels); Ministry of Communication (defining legal and regulatory framework for mobile payments); pension and private insurance regulators (encouraging diversification of financial services); and various research institutions such as IBGE and SEBRAE (analysis of financial services access and use).

4. To catalyze efforts aimed at promoting financial inclusion in Brazil, BCB launched the National Partnership for Financial Inclusion (PNIF)[1]. In 2015, PNIF launched the Plan for Strengthening Financial Citizenship, aimed at strengthening financial education, financial consumer protection and financial inclusion. The program also leverages on the existing financial inclusion initiatives, such as the PNIF and the National Plan for Consumption and Citizenship (Plandec)[2]. The financial citizenship program is one of the central bank's top priorities and its importance was further reinforced in its "Agenda BC+.[3]"

[1] The PNIF objectives aim at i) increasing the adequacy of the provision of financial services to the needs of the economy and the population; (ii) raising the level of financial education of the population, combating over-indebtedness; (iii) promoting savings; (iv) strengthening mechanisms to protect users of financial services; (v) encouraging the sustainable development of productive microcredit; (vi) ensuring stability and encourage the improvement of the correspondent model in the country; (vii) deepening knowledge of financial inclusion in Brazil.

[2] Plano Nacional de Consumo e Cidadania, proposed by decree 7963 of 2013, promotes best practices in consumer protection in Brazil through the integration and coordination of policies, programs and actions.

[3] Agenda BC+, launched in December 2016, aims at improving business environment and its efficiency by: i) lowering the cost of credit; ii) stimulating collateral development and use; iii) increasing the effectiveness and transparency of the monetary policy framework; and iv) promoting innovation.

Annex VII. Bank Solvency and Liquidity Stress Test Results

Table 1. Brazil: Bank Solvency Stress Test Results—Scenario Analysis

		CET1 capital ratio (in percent)				Banks not meeting the hurdle			Amount of capital shortfalls	
						Number		Share of assets		
		2017	2018	2019	2020	Total	End-2020	(in percent)	Billion R$	Percent of GDP
Baseline scenario	Benchmark (no adjustments)	13.6	12.5	11.9	11.4	1	1	20	6	0.1
	With adjustments	10.4	9.7	9.5	9.5	6	5	63	44	0.5
	Derecognition of DTAs	10.7	10.0	9.8	9.7	6	3	63	35	0.4
	Downgrading of problem loans	13.3	12.4	11.7	11.3	1	1	20	10	0.1
	With interbank contagion	13.6	12.5	11.9	11.4	1	1	20	6	0.1
Adverse scenario	Benchmark (no adjustments)	13.6	9.0	8.1	8.5	4	3	24	46	0.7
	With adjustments	10.4	5.9	5.0	5.5	7	6	65	136	2.0
	Derecognition of DTAs	10.6	6.1	5.2	5.8	7	6	65	126	1.9
	Downgrading of problem loans	13.3	8.8	7.9	8.3	4	3	24	53	0.8
	With interbank contagion	13.6	8.5	6.7	7.1	6	5	43	81	1.2

Source: IMF staff estimates.

Table 2. Brazil: Bank Solvency Stress Test Results—Scenario Analysis

	All	D-SIBs	Public	Private
Concentration risk				
Default of individual bank's largest borrowers				
The largest borrower	-1.8	-1.5	-2.9	-0.9
Five largest borrowers	-5.3	-4.1	-8.7	-2.4
Default of banking system's largest borrowers				
The largest borrower	-1.6	-1.3	-2.8	-0.5
Five largest borrowers	-4.3	-3.3	-8.0	-1.0
Market risk (market loss only)				
Bond yield spike by 700 basis points	-1.1	-1.1	0.0	-2.0
Equity price decline by 50 percent	-1.2	-0.3	-2.0	-0.5
Exchange rate depreciation by 50 percent	0.1	0.0	0.2	0.0
Commodity price decline by 50 percent	0.0	0.0	0.0	0.0
Exchange rate risk				
Exchange rate depreciation by 50 percent	-1.8	-2.0	-1.5	-2.2
Due to open position	0.1	0.0	0.2	0.0
Due to risk-weighted assets	-0.8	-0.7	-0.6	-1.0
Due to depreciation-induced credit loss	-1.1	-1.4	-1.0	-1.2
Interest rate risk				
Bond yield spike by 700 basis points	-3.5	-3.7	-2.7	-4.1
Market loss for the trading account	-1.1	-1.1	0.0	-2.0
Unrealized loss associated with AFS securities	-1.9	-1.9	-1.8	-1.9
Unrealized loss associated with HTM securities	-0.5	-0.6	-0.9	-0.2
Selic decrease by 200 basis points	-0.4	-0.3	-0.5	-0.3
Related to interest income	-0.5	-0.5	-0.6	-0.4
Related to credit loss	0.1	0.1	0.1	0.1

Source: IMF staff estimates.

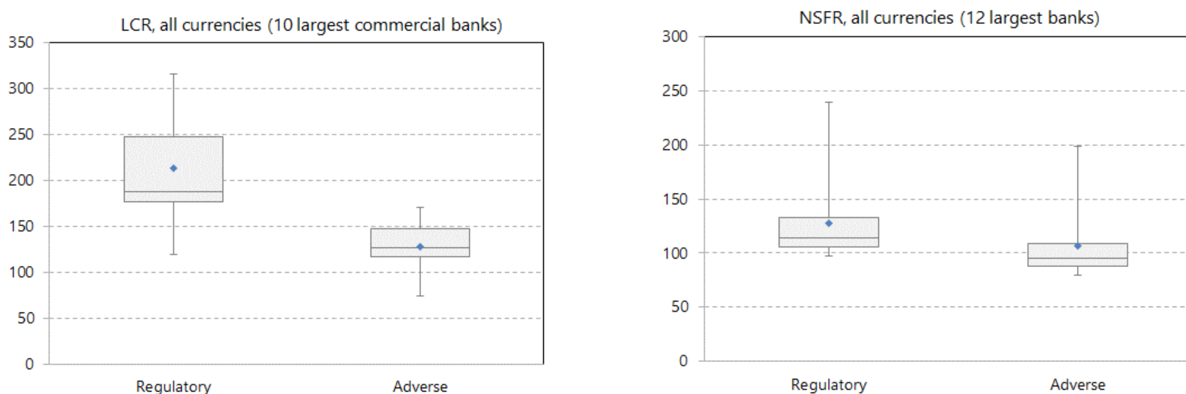
Table 3. Brazil: Bank Liquidity Stress Test Results

	Number of banks	Baseline (Regulatory) Scenario: Liquidity Ratio (%)	Baseline: Banks with inadequate liquidity buffers: Number	Baseline: Liquidity Shortfall: BRL billion	Baseline: Liquidity Shortfall: % GDP	Baseline: Liquidity Shortfall: % of banks' assets in sample	Adverse Scenario: Liquidity Ratio (%)	Adverse: Banks with inadequate liquidity buffers: Number	Adverse: Liquidity Shortfall: BRL billion	Adverse: Liquidity Shortfall: % GDP	Adverse: Liquidity Shortfall: % of banks' assets in sample
LCR-based analysis											
Total	12	248	0	-	-	-	145	1	30.6	0.5	0.4
Commercial banks	10	203	0	-	-	-	122	1	30.6	0.5	0.5
DSIBs	5	200	0	-	-	-	120	1	30.6	0.5	0.53
Non-DSIBs	5	231	0	-	-	-	144	0	-	-	-
NSFR-based analysis											
Total	12	116	2	1	0.02	0.02	98	6	289	4.6	4.8
DSIBs	5	111	0	-	-	-	91	4	277	4.4	5.8
Non-DSIBs	7	138	2	1	0.02	0.07	127	2	12	0.2	0.9
		Adverse Scenario (within 30-days)					**Adverse Scenario (within 180-days)**				
Cash-flow-based analysis											
Total	12										
o/w domestic currency		-	1	35.1	0.56	0.5	-	3	38.5	0.6	0.5
o/w foreign currency		-	2	29.9	0.48	2.5*	-	7	51.8	0.8	4.3*
DSIBs	5										
o/w domestic currency		-	1	35.1	0.56	1	-	1	35.1	0.6	0.6
o/w foreign currency		-	1	29.8	0.48	2.5*	-	4	51.1	0.8	4.24*
Non-DSIBs	7										
o/w domestic currency		-	0	0	0	0	-	2	3.4	0.1	0.2
o/w foreign currency		-	1	0.1	0	0	-	3	0.7	0	0.06*

Sources: BCB and IMF staff estimates.

Note: *Numbers are in % of foreign reserves.

Figure 1. Brazil: Bank LCR and NSFR Stress Test Results



Sources: BCB and IMF staff estimates.

Note: The box spans the interquartile range (ends of the box are the upper and lower quartiles), median is marked by a vertical line, and the whiskers are the two lines outside the box that extend to the highest and lowest observations. The blue dot is the mean.

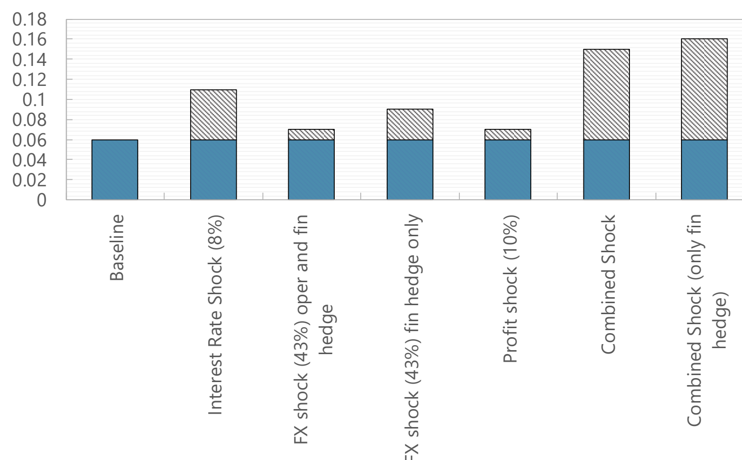
Annex VIII. Results of the Corporate Sector's Sensitivity Analysis

Figure 1. Brazil: Corporate Sector, Sensitivity Analysis

Macro-financial shocks could lead to increase in debt at risk, with companies particularly sensitive to interest rate and profitability shocks.

Sensitivity Analysis, Impact on Corporate Debt Servicing Capacity, Share of Debt at Risk, 2017Q3

(ICR based on net interest exepenses)



Sources: Capital IQ, BCB and IMF calculations.

Annex IX. Stress Test Matrix (STeM) for the Banking Sector: Solvency, Liquidity, and Contagion Risks

BRAZIL: BANKING SECTOR: SOLVENCY RISK			
Domain		Assumptions	
		Top-down by the authorities	Top-down by FSAP team
1. Institutional perimeter	Institutions included	• 12 largest banks	• 12 largest banks
	Market share	• 90 percent of banking system assets	• 90 percent of banking system assets
	Data and baseline date	• Supervisory data (balance sheet and income statement) • Data as of September 2017 • Consolidated data of prudential conglomerate	
2. Channels of risk propagation	Methodology	• Balance sheet approach • BCB methodology	• Balance sheet approach • IMF methodology
	Satellite models for macrofinancial linkages	• Satellite models to estimate pre-impairment income (by various components) and credit loss based on macrofinancial variables • Market loss is estimated based on detailed market exposure information that also includes derivative positions and yield curves	• Satellite models to estimate pre-impairment income (by various components) and credit loss based on macrofinancial variables • Market loss is estimated based on detailed market exposure information that also includes derivative positions and yield curves • No accrued interest income on nonperforming loans
	Stress test horizon	• 3 years (2017Q4–2020Q4)	
3. Tail shocks	Scenario analysis	• Two macrofinancial scenarios, agreed with the authorities • Each scenario describes key domestic variables (real GDP growth, inflation rate, unemployment rate, exchange rate, equity price, house price, interest rates, and credit growth), and global variables (real GDP growth, U.S. interest rates, and commodity prices) • Baseline scenario based on the October 2017 WEO projections • Adverse scenario featuring a severe double-dip recession together with a sudden stop to capital inflows; domestically, loss of confidence acting as a prominent factor and financial stress amplified by contagion due to intra-system linkages; externally, a challenging global environment owing to tight and more volatile global financial conditions and significant China slowdown • Under the adverse scenario, the Brazilian economy would contract for two years during 2018–19, with a cumulative decline in real GDP growth of 2 standard deviation over the 3-year horizon	

Domain		Assumptions	
		Top-down by the authorities	Top-down by FSAP team
	Sensitivity analysis	• N/A	• Single-risk factors include concentration risk, exchange rate risk, interest rate risk, and other market risk
4. Risks and buffers	Risks/factors assessed (how each element is derived, assumptions)	• Credit loss capturing all on-balance sheet loan portfolios; overseas exposures sharing the same credit risk as domestic exposures • Market loss based on valuation adjustments of banks' holding of debt securities and existing net open foreign exchange positions	• Credit loss capturing all on-balance sheet loan portfolios; overseas exposures not being modeled explicitly • Market loss based on valuation adjustments of banks' holding of debt and equity securities and existing net open foreign exchange positions • Loss due to interbank cross-exposures • Net interest rate income affected by compressed margins due to relatively higher funding costs
	Behavioral adjustments	• Quasi-static balance sheet assumption, with balance sheet growth driven by projected bank-level credit growth based on macrofinancial conditions • Banks can only accumulate capital through retained earnings; maturing capital instruments would not be renewed • No dividend payouts	• Quasi-static balance sheet assumption, with balance sheet growth identical to overall credit growth assumption and balance sheet composition remaining constant through the stress testing horizon • Banks can only accumulate capital through retained earnings; maturing capital instruments would not be renewed • Banks can pay dividends only if they record a positive post-tax net income and do not need additional capital
5. Regulatory and market-based standards and parameters	Calibration of risk parameters	• Point-in-time credit risk proxies • Marking-to-market for assessing market risk	
	Regulatory/accounting and market-based standards	• National regulatory framework based on Basel III, with all banks under the standardized approach • Hurdle rates based on minimum capital requirements (CET1, T1 and total capital) and applicable surcharges for D-SIBs; for the baseline scenario, hurdle rates also including prevailing conservation capital buffer	

Domain		Assumptions	
		Top-down by the authorities	Top-down by FSAP team
6. Reporting format for results	Output presentation	• System-wide capital shortfalls • Number of banks that fail to meet the hurdle and their assets share in the banking sector	

Banking Sector: Liquidity Risk		
Domain		Assumptions
		Top-down by the authorities and FSAP team jointly
1. Institutional perimeter	Institutions included	• Cash-flow analysis: 12 largest banks • LCR test: 12 largest banks (including the 8 banks currently subjected to the requirement) • NSFR test: 12 largest banks
	Market share	• 90 percent of banking sector assets
	Data and baseline date	• Supervisory data • Data as of September 2017 • Scope of consolidation: perimeter of individual banks
2. Channels of risk propagation	Methodology	• The FSAP liquidity stress testing exercise comprise three types of tests: (i) Cash-flow analysis using maturity buckets; (ii) LCR test; and (iii) NSFR test
3. Risks and buffers	Risks	• Funding liquidity risk (short-term liquidity outflows) • Market liquidity shock (asset price shocks and fire-sales)
	Buffers	• The counterbalancing capacity in all types of tests includes liquidity obtained from markets through asset sales (subject to certain haircuts) and from BCB's standing facilities. • Expected cash inflows are also included.
4. Tail shocks	Size of the shock	• The haircuts are calibrated consistent with the increase in government bond yields in the solvency stress test. • The run-off rates are calibrated to reflect scenarios of system-wide deposit runs and dry-up of wholesale funding. Parameters are chosen to match volatility of deposits and reputational risk events.

Domain		Assumptions
		Top-down by the authorities and FSAP team jointly
5. Regulatory standards and parameters	Calibration of risk parameters	• Regulatory: haircuts and run-off rates based on regulatory LCR/NSFR parameters. • Stressed: more severe haircuts similar to the adverse scenario in the solvency stress tests and larger run-off rates to reflect more severe episodes of market and funding risks based on historical events.
	Regulatory standards	• For the LCR and NSFR tests, the hurdle is set to 100 percent. • For the cash-flow analysis, the hurdle is to have a non-negative cash balance.
6. Reporting format for results	Output presentation	• Number of banks that fail to meet the hurdle and their assets share in the banking sector • Bank-level survival period in days, number of banks that can still meet their obligations.

BANKING SECTOR: CONTAGION RISK		
Domain		Assumptions
		Top-down by FSAP team
1. Institutional perimeter	Institutions included	• 12 largest banks
	Market share	• 90 percent of banking sector assets
	Data and baseline date	• Supervisory data • Data as of September 2017
2. Channels of risk propagation	Methodology	• Interbank network analysis based on Espinosa-Vega and Solé (2010)
3. Risks and buffers	Risks	• Credit and funding losses related to interbank cross-exposures as a result of some bank defaults
	Buffers	• Banks' own capital
4. Tail shocks	Size of the shock	• Default threshold: banks would default if their CET1 capital ratios fall below 4.5 percent (regulatory minimum) • For the standalone exercise, each individual bank is assumed to default at the time • For the extended solvency stress testing exercise, the starting point is based on the solvency stress test results in the same period
5. Reporting format for results	Output presentation	• System-wide capital shortfall, bank-level capital shortfall • Number of banks that become undercapitalized • Evolution and direction of spillovers

Interconnectedness Analysis		
Domain		Assumptions
		Top-down by FSAP team
Cross-sectoral linkages	Data and methodology	• Approach: "Flow-of-funds" type of data collected BCB for the disaggregation of ten institutional sectors in the System of National Accounts of Brazil: non-financial corporations, government, financial sector, families and NPISH, rest of the world, BCB, other deposit-taking institutions, insurers and pension funds, other financial institutions, monetary investment funds and non-monetary investment funds. Financial instruments include deposits, debt securities, derivatives, equity and credit. • Sample: quarterly data between 2015Q1 and 2016Q4. • Methodology: Dees, Henry and Martin (eds) (2017), Castrén and Rancan (2014) and e Silva (2016).
Cross-border spillovers	Data and methodology	• Approach: Examine spillover risks between Brazil and the main relevant countries from a financial stability perspective across equity and FX markets and across sovereign CDS and bond/EMBI spreads. • Sample: Weekly observations between 2007Q4 and 2017Q4 in each series for Argentina, Brazil, Chile, China, Colombia, France, Germany, India, Indonesia, Japan, Mexico, Russia, South Africa, Spain, Turkey, United Kingdom and the United States. • Methodology: Demirer, Diebold, Liu and Yilmaz (2016) and Diebold and Yilmaz (2015).

Appendix I. Report on the Observance of Standards and Codes: Basel Core Principles for Effective Supervision

A. Introduction

1. This assessment of the current state of the implementation of the Basel Core Principles for Effective Banking Supervision (BCP) in Brazil has been completed as part of the 2018 FSAP update.[1] The FSAP update was undertaken by the International Monetary Fund (IMF) and World Bank (WB) and the BCP assessment mission took place from October 30th to November 21st, 2017. It reflects the regulatory and supervisory framework in place as of the date of the completion of the assessment. It is not intended to represent an analysis of the state of the banking sector or crisis management framework, which are addressed in other parts of the FSAP.

2. An assessment of the effectiveness of banking supervision requires a review of the legal framework, and detailed examination of the policies and practices of the institutions responsible for banking regulation and supervision. In line with the BCP methodology, the assessment focused on the Central Bank of Brazil (BCB) as the supervisor of the banking system, and did not cover the specificities of regulation and supervision of other financial intermediaries.

B. Information and Methodology Used for Assessment

3. It should be noted that the ratings assigned during this assessment are not directly comparable to previous assessments. The current assessment of the BCB was against the BCP methodology issued by the Basel Committee on Banking Supervision (BCBS) in September 2012. The authorities have opted to be assessed and graded on the essential and additional criteria. The last BCP assessment in Brazil was prepared in the course of the 2012 Financial Sector Assessment Program (FSAP). The BCP methodology has been revised since the last assessment took place and the revisions have led to some substantive changes.

4. In the 2012 revision of the CPs, the BCBS sought to reflect the lessons from the global financial crisis and to raise the bar for sound supervision reflecting emerging supervisory best practices. New principles have been added to the methodology along with new essential criteria (EC) for each principle that provide more detail. Altogether, the revised CPs now contain 247 separate essential and also additional criteria against which a supervisory agency may now be assessed. In particular, the revised BCPs strengthen the requirements for supervisors, the approaches to supervision and supervisors' expectations of banks. While the BCP set out the powers that supervisors should have to address safety and soundness concerns, there is a heightened focus on the actual use of the powers, in a forward-looking approach through early intervention.

5. The assessment team reviewed the framework of laws, rules, and guidance and held extensive meetings with authorities and market participants. The assessment team met officials

[1] This Detailed Assessment Report has been prepared by Katharine Seal, IMF and Damodaran Krishnamurti, World Bank.

of BCB, and additional meetings were held with the Ministry of Finance (MoF), auditing firms, and banking sector participants. The authorities provided a comprehensive self-assessment of the CPs, as well as detailed responses to additional questionnaires, and facilitated access to staff and to supervisory documents and files on a confidential basis.

6. **The team appreciated the very high quality of cooperation received from the authorities.** The team extends its warm thanks to staff of the authorities, who provided excellent cooperation, including provision of documentation and technical support.

7. **The standards were evaluated in the context of the sophistication and complexity of the financial system of Brazil.** The CPs must be capable of application to a wide range of jurisdictions whose banking sectors will inevitably include a broad spectrum of banks. To accommodate this breadth of application, a proportionate approach is adopted within the CP, both in terms of the expectations on supervisors for the discharge of their own functions and in terms of the standards that supervisors impose on banks. An assessment of a country against the CPs must, therefore, recognize that its supervisory practices should be commensurate with the complexity, interconnectedness, size, and risk profile and cross-border operation of the banks being supervised. In other words, the assessment must consider the context in which the supervisory practices are applied. The concept of proportionality underpins all assessment criteria. For these reasons, an assessment of one jurisdiction will not be directly comparable to that of another.

8. **An assessment of compliance with the BCPs is not, and is not intended to be, an exact science.** Reaching conclusions required judgments by the assessment team. Banking systems differ from one country to another, as do their domestic circumstances. Furthermore, banking activities are undergoing rapid change after the crisis, prompting the evolution of thinking on, and practices for, supervision. Nevertheless, by adhering to a common, agreed methodology, the assessment should provide the Brazilian authorities with an internationally consistent measure of the quality of their banking supervision in relation to the revised CPs, which are internationally acknowledged as minimum standards.

C. Preconditions for Effective Banking Supervision

9. **Since the last FSAP, Brazil has experienced a long and deep recession, with recovery now under way**. The recession has been marked by low levels of confidence and large declines in investment and private consumption. The new government has pursued a reform agenda and has had some success, for example passing a law to cap growth in federal noninterest spending in real terms. Structural problems remain a threat to fiscal sustainability, however, and the government's ability to deliver on social security reform, a crucial step toward securing fiscal sustainability, is uncertain. National elections are scheduled for 2018.

10. **The CMN is responsible for formulating the overarching monetary and credit policy**.[2] Together with the BCB, the CMN takes a central role in shaping macroprudential policies, working

[2] The individual responsibilities of the CMN and the BCB are defined in Law 4,595.

with Ministry of Finance (MF) and the other financial regulators. These agencies are the Securities and Exchange Commission of Brazil (CVM) for the securities market participants, the Superintendence of Private Insurance (Susep) for insurance companies, and the National Superintendence of Complementary Pension (Previc) for pension funds.

11. The BCB has the ability to design and implement tools to address vulnerabilities in financial stability areas, either directly or indirectly by supporting CMN policymaking. When it is done indirectly through the CMN, CMN Resolutions set the framework in general terms while BCB Circulars calibrate requirements or define methodological details. The other agencies and the MoF are also responsible for policy decisions supporting financial stability. In addition, there are bodies similar to the CMN for insurance and pensions, the National Council for Private Insurance (CNSP) and the National Council for Complementary Pensions (CNPC).

12. A high level consultative forum has been created for the coordination of supervisory policies among the financial regulatory agencies. This is the Committee of Regulation and Supervision of Financial, Securities, Insurance, and Complementary Pension Markets (COREMEC). COREMEC is composed of the four financial regulatory authorities (BCB, CVM, Susep, and Previc) who share a rotating presidency. COREMEC provides a space for the coordination of multi-agency supervisory and regulatory actions and information-sharing, though members' recommendations and advice are not binding on each other.

13. The BCB, CVM, Susep and Previc, as financial supervisors, are responsible for macro-prudential surveillance. However, the BCB takes a leadership position because of its capacity of receiving, processing and analyzing a significant amount of data and the bank-centric nature of Brazil's financial system and is widely perceived to have a financial stability mandate.

14. The Brazilian legal system is based on the civil law tradition. The Federal Supreme Court is the highest court in Brazil and is responsible for safeguarding the Constitution, as well as functioning as a court of review. The Superior Court of Justice (STJ) is the highest court of law for federal law matters.

15. The Federal Accounting Council (CFC) approves the Brazilian Accounting Norms (NBC), based on the International Standards on Auditing (ISA) issued by International Auditing and Assurance Standards Board (IAASB) as of end 2010. The BCB is the body that enforces audit standards when an external auditor is auditing a banking group. Also, the BCB is responsible for issuing the accounting norms for the banking sector, pursuant to the Banking Law and Law 11941 of 2009. Consolidated statements based on IFRS are required for publicly listed financial institutions to those subject to the requirement to establish an Audit Committee. The CMN has promoted an approximation with the international accounting standard in relation to individual financial and regulatory financial statements. The BCB has announced its commitment to revising the accounting of financial instruments with a view to enhancing convergence with IFRS 9.

16. Financial institutions are required to obtain an external auditor's opinion on the financial statements (Resolution 3,198). Only audit firms registered with the CVM may audit

financial statements of listed companies and financial institutions. CVM requires all members of the audit firms to be accountants (Instruction 308) and conducts periodic audits on the work of external auditors of listed or foreign entities. External Auditors are subject to regulations issued by the CMN and the BCB, as well as by those issued by CVM, CFC and Ibracon, when these are not in conflict with CMN or BCB rules (Resolution 3,198). Resolutions issued by the CFC establish the professional rules for the work of external auditors.

17. The BCB, is the sole resolution authority for non-state-owned banks and has the power to trigger resolution and apply resolution powers. State-owned (federal) banks are not subject to resolution. The resolution power is based on the "temporary special administration regime", "intervention" and "extrajudicial liquidation" prescribed in: Law 6,024, Decree-Law 2,321 and Law 9,447. The BCB's responsibility as resolution authority is under the Central Bank's strategic objectives, related to the pursuit of a solid and efficient financial system.

18. Emergency liquidity assistance can be provided to financial institutions at the BCB's discretion, with maturities up to 359 days. Such provision is subject to the Fiscal Responsibility Law (Complementary Law 101, Article 28, paragraph 2). However, when longer maturities of liquidity support are necessary, the BCB must liaise with the Ministry of Finance and the Government in order to set and approve specific legal provisions.

19. At the time of the assessment, a draft Bank Resolution Bill, prepared by BCB to align the Brazilian Resolution Framework to the *FSB Key Attributes of Effective Resolution Regimes*, was under consideration. The draft bill proposed a new resolution framework, to make existing tools, such as reorganization, good-bank/bad-bank policy, and liquidation, more effective. Additionally, the bill proposed new measures such as the creation of bridge banks.

20. Deposit insurance in Brazil is provided by the Credit Guarantee Fund (FGC) and by the Cooperative Guarantee Fund (FGCoop). Regulated by the CMN and BCB, these are private non-profit entities established to manage protection mechanisms for investors and depositors of financial institutions (multiple, commercial, development and investment banks, saving bank, finance companies, mortgage companies and savings and loan associations in the case of the FGC; and credit unions and cooperative banks in the case of the FGCoop). Recent regulation amended the FGC's statute including, among other aspects, restricting the insurance coverage in cases of institutional investors (Resolution 4,469). Similar regulation is being evaluated for the FGCoop, in order to allow the fund to act as a paybox and to offer liquidity assistance to associates.

21. Deposits and deposit-like instruments are covered by the FGC and the FGCoop up to R$250,000 per investor. Pay-out funds come from the contributions of associated institutions, credit rights subrogated by the FGC/FGCoop from associated institutions under resolution regime, as well as from the results of the services rendered by the FGC/FGCoop and the proceeds from investments made by them. Currently, the monthly ordinary contribution of associated institutions is set at 0.0125 percent of the balance of the guaranteed accounts. The FGC not only performs the role of pay box in an intervention or extrajudicial liquidation, but can provide financial support (e.g. loans, portfolio purchases, additional limit of insurance for certain affiliates' operations) in order to

support financial stability. The FGC can carry out these operations to promote the transfer of control, split, merger or other corporate reorganization as needed.

D. Main Findings

Objectives, Powers and Responsibilities (CP 1)

22. The Banking law clearly establishes the BCB as the entity with supervisory responsibility with a suite of tasks and powers. Further, the BCB's corrective powers are triggered (Resolution 4019) with the aim of ensuring the solidity, stability and regular operation of the National Financial System. Updated Federal legislation and regulations governing the financial sector are publicly available. While the BCB does not have the power to issue regulations independently, it sits on the body (the CMN) that issues the regulations and has the right of initiative for any new regulation in its sphere of responsibility and no practical impediment to regulatory development was identified.

Independence (CP 2)

23. The BCB does not have full, de jure independence from the government to conduct its activities, and there are important deficiencies in relation to the assessment of this principle. While the BCB appears to enjoy de facto operational independence, this is not a full substitute for independence that is confirmed in and backed by law, and is subject to due process of accountability. The legal protection for staff of the BCB is lacking. Brazil also falls behind good practice in that there is no fixed mandate for the term of the Governor, or for Board members. Also, the Governor can be dismissed from his/her position at the will of the President and there are no formal reasons for which dismissal can be made and no requirement for there to be a public disclosure of the reasons for dismissal. Ancillary points that should fall within the BCB's own discretion include budget and personnel decisions.

Cooperation, and Home-Host (Cps 3, 12 And 13)

24. At a domestic level, the wide scope of the BCB's supervisory authority means that coordination between relevant supervisory authorities is less complex than in some other jurisdictions. Similarly, cross border activity is not a major feature of the banking sector in Brazil. Cooperation and collaboration with local and foreign authorities are in place, nevertheless. Legal gateways for exchange of information are in place and the BCB has been careful to work on MoUs with relevant authorities to facilitate group wide understanding, in particular for the financial groups that are active across border. As host to one GSIB, the BCB is a member of the general and also core supervisory college. Although, as a non-EU supervisory authority, the BCB does not participate formally in the joint decisions required under EU legislation for the GSIB, its views are sought and taken into consideration. Relevant MoUs are also in place or are in the process of being agreed, in order to adapt to new elements of recovery and resolution, although not all the recovery and resolution architecture is yet complete in Brazil. The BCB places an emphasis on proactive and timely information sharing and of assistance when requested.

25. The BCB supervisory approach is focused on the concept of consolidation, but one important element is missing. The BCB methodology, backed by Resolution 4280, provides the supervisor with the scope to define and thus ensure that the "prudential conglomerate" includes all entities that are relevant to the understanding of the banking group. Coupled with the use of Contagion Risk analysis in the supervisory approach, the BCB obtains valuable insights into group risk. Importantly, this insight is not static but is maintained on a continuous basis as part of the overall continuous supervision.

26. The BCB does not, however, systematically obtain or assess an individual banking entity within a prudential conglomerate against prudential standards. The system, as currently designed and organized, means that the BCB has not communicated the expectation or established the requirement that an individual bank within the conglomerate is continuing to meet the prudential standards that were required of it for authorization. Also, without explicit monitoring, the BCB does not know if any individual bank within the conglomerate is continuing to meet the prudential standards that were required of it for authorization. In undertaking resolvability assessment and planning, the BCB will need to understand any obstacles to the transfer of liquidity and capital across the entities of a group, and to require changes to group structure if impediments are identified. Past experience in other jurisdictions has demonstrated that a banking entity cannot necessarily rely on prompt access to group capital or liquidity resources in time of stress, which puts a premium on solo supervision and the provision of information for any individual bank within a prudential conglomerate. It is appropriate for the BCB to make its expectations clear that prudential standards should be met and monitored at all times on a solo basis for any individual bank within a prudential conglomerate.

Permissible Activities, Licensing, Transfer of Ownership and Major Acquisitions (CPs 4 to 7)

27. Information on the identity and permitted activities of all entities operating under a banking authorization is clearly available. While no institution in Brazil may accept deposits, of any form, without an authorization from the BCB, no authority actively monitors whether there are institutions presenting themselves as banks without the necessary authorizations and this is an area for possible consideration.

28. The licensing, change of control and acquisition regime is comprehensive, tightly controlled and carefully operated. The BCB operates a comprehensive and careful licensing process and ensures that there is scrutiny of new board members or senior executives who join the institution even after the initial license has been granted. The powers of the BCB are very similar in respect of both initial authorisation and change of control. Similarly, the BCB's practices are also careful and attention is paid to determination of ultimate control of a banking entity or group. The BCB is also required it to authorize all acquisitions, significant or otherwise that are made by financial institutions. This feature provides the BCB with some advantages in monitoring the development or changes within a prudential conglomerate but some improvements would be beneficial. While trading activities are exempted from these requirements, the BCB is subject to an

excessive number of filings that it needs to consider, not all of which have relevance to the safety and soundness of the individual institution or the financial system more broadly.

Supervisory Approach, Techniques, Reporting and Corrective Actions (Cps 8 To 11)

29. The BCB has continued to develop its SRC methodology for assessing banks and has made some significant and valuable changes since the last assessment. The integration of the perspective of conduct supervision—termed a "hybrid twin peaks" model—as well as the recent decision to place a central emphasis on the role and execution of corporate governance in financial institutions are changes that have the scope to deepen the BCB's supervisory insight. The focus on corporate governance reflects leading good practice among international supervisors. The BCB has also formally segmented the banking sector into categories ranging from the DSIBs to the micro credits and cooperatives. This has facilitated policy reflection on the appropriate application of proportionate supervisory action, while ensuring that all institutions are assessed over a reasonable time horizon as well as ensuring that the system has flexibility to respond to emerging stress at individual institution level or at the system level.

30. Work on recovery and resolution is at an earlier stage and some supervisory progress is attendant on the passage of a new resolution bill. It will be important, when the bill is passed, for the BCB to finalize its internal guidance to make sure that there is a clear internal decision-making process that prompts timely decisions in order to avoid any undue delay in moving to recovery or resolution if needed.

31. The BCB has a well thought out supervisory strategy to enable it to target, management and monitor its supervisory processes. Supervisory planning is a proactive process, taking into account a range of sources, from the idiosyncratic needs of an institution to wider macro concerns. As noted by other international bodies, such as the FSB, the BCB has pioneered approaches to systemic risk monitoring by mobilizing its data resources and executing far-reaching contagion analyses. In the wake of the Petrobras and "lava jato" (car wash) scandals, the ability to communicate that the financial system was sound enough to withstand shocks was an important stabilizing tool.

32. Despite the considerable range of data resources, there are gaps in the BCB's supervisory data. In some risk areas, such as large exposures, the BCB has requested data only from significant banks and not as a routine requirement as it has re-created the counterparty concentrations in the financial institutions by using its own data, including the credit register and trade repositories. Related party transactions and country and transfer risk are not clearly defined and prudential data is not routinely sought. While the BCB obtains some data on an individual bank level, it does not require a full range of prudential information on a solo basis. The BCB approach to consolidation, which focuses primarily on the group and not the individual entity exacerbates some of the blind spots as is discussed in the context of consolidated supervision.

33. The extensive data bases and analytic capacity of the BCB are impressive. Access to the credit registry and trade repositories enables the BCB to cross check returns submitted by

conglomerates. By aggregating the exposures of the entities within the conglomerate from the registries and repositories, the BCB can even calculate prudential returns that are not submitted, such as large exposure profiles for the conglomerates. At the time of the FSAP, the assessors were not aware of any other supervisory authority with such capability.

34. The significant use of and reliance on the data capabilities of the BCB brings risk however, and the supervisor must avoid serving as a supplementary risk management function for the banking sector. A chief concern is that the banking sector becomes overly reliant on the BCB to identify all relevant risks, accumulation of risk and channels of contagion. While the BCB has this role at a systemic level, banks have their own responsibilities at the institution level. The financial institutions must be under the clear discipline and obligation to bring information proactively to the BCB whose role is to challenge the institutions, rather than perform their due diligence. The BCB is strongly encouraged to maintain its existing data requirements, and also its cross checking, but it is equally strongly recommended to add to the supervisory requirements. All banks should submit consolidated and solo prudential returns covering all the standard prudential data such as large exposures, related party exposure, problem assets. This requirement would signal an important onus on the financial institutions that they are responsible for monitoring and managing these prudential and risk dimensions.

35. The BCB has a range of powers and tools to impose corrective and remedial measures. Understandably, the BCB has nonetheless sought greater flexibility to tailor its supervisory actions to the specific concern as well as to expedite its processes. A range of graduated powers is as critical for supervisory authorities as strong powers. During the assessment, Provisional Measure 784 which provided the BCB with greater flexibility to tailor the supervisory action to the specific concern as well as to expedite its processes had lapsed and was replaced by a new Ordinary Law (13,506). In the period between the lapse of the Provisional Measure and the enforcement of the new law, the BCB retained its core powers to act, but lacked important flexibility, which is critical for supervisory authorities.

36. The BCB is attentive to real or potential deterioration in the condition and governance of an institution and is ready to use available tools to act at an early stage as well as to escalate its actions as needed. The overall timescales of process are a concern. While careful due process is essential, the overall timescales observed are a concern. One possible source of the lengthy timelines was the lack of graduated, escalation in instruments that has now been remedied by the new Ordinary Law 13,506.

Corporate Governance (CP 14)

37. The BCB has reoriented its supervisory approach to reflect the weight it places on sound corporate governance within financial institutions. Analytical internal documents in the BCB and discussions with banks were consistent with the emphasis that the BCB places on corporate governance. The BCB's attitude and work that it has undertaken to date is highly commendable. The corporate governance work is, however, still in progress. Some important components are not yet in place, notably including the fact that the critical Resolution on risk management and governance

(Resolution 4557) has only been in force for 6 months for the systemic banks and is not yet in force (until February 2018) for the rest of the banking sector. Corporate governance requirements differ for banking institutions that are listed or non-listed. It is strongly advisable that the BCB should have the power to require an institution that is authorized as a bank to create a board of directors, even when this institution is not a listed entity.

Prudential Requirements, Regulatory Framework, Accounting and Disclosure (CPs 15–29)

Capital Adequacy (CP 16)

38. Banks in Brazil are implementing the Basel III capital requirements and the capital rules have been assessed as compliant by the Basel Committee. As confirmed in the RCAP work on Brazil's capital framework, the Basel Committee recognizes DTAs arising from timing differences as capital in cases where the law allows banks to claim compensation from the government in the form of cash or government securities. Accordingly, in Brazil, the DTAs arising from loan loss provisions amounting to R$146 billion are included in CET1 capital and constitute about 25 percent of CET1 capital. Banks are on the transition path and expect to fully implement Basel III by January 1, 2019. While the definitions of capital, Pillar 1 capital requirements, and the SREP under Pillar 2 apply to banks in all segments, the Pillar 2 ICAAP apply only to S1 institutions, and a simplified ICAAP is planned to be introduced from 2018 for S2 institutions. Banks are required to maintain capital for interest rate risk in the banking book through a Pillar II requirement. At present the prudential capital requirements apply only at the consolidated level (at the level of the prudential conglomerate).

Risk Management (CP 15)

39. The regulatory and supervisory frameworks come together collectively to promote a comprehensive risk management culture and frameworks in the banks operating in Brazil. The regulations are comprehensive and explicitly establish detailed expectations for credit, market, operational and liquidity risk management frameworks and the related governance frameworks. A few key regulations were either issued or revised recently, which are yet to become operational for most banks at the time of the assessment. As a result, while the description presents a summary of the new or revised regulations, these are not yet effectively in operation or it is too early to be able to assess their effectiveness. These include the regulations on integrated risk management, stress testing, problem asset classification and reclassification, restructuring and forbearance, compliance function, internal audit function and outsourcing. While the work on recovery and resolution planning is progressing for the large banks, the stress testing and contingency planning requirements help in assessing the resilience and preparedness in the other banks.

Credit Risk Management (CPs 17 to 21)

40. The regulatory and supervisory requirements for credit risk management frameworks combine well to assure adequate and well-functioning frameworks in the supervised institutions. These requirements are supported by periodical monitoring and analyses of banks' credit risk exposures that equips the supervisors to challenge the banks' systems and verify the outputs or outcomes of the banks' risk management systems. At the same time, there are a few areas that can be improved.

41. The regulatory and supervisory frameworks for early identification and management of problem assets and for management of concentration risks are largely in place. The regulatory frameworks for the above areas are in transition and need to stabilize. The areas for improvement for management of problem assets include need for comprehensive explicit definition of exposure from a credit risk management perspective, clear norms for reclassification of assets to lower risk categories, explicit adoption of expected loss approach for all exposures, harmonization of norms for classification and provisioning irrespective of maturity, norms for collateral eligibility and valuation for determining provisioning for problem exposures. The BCB monitors banks' exposures to concentration risk on the basis of the data and information available to it from the credit registry; daily data received from clearing houses, CCPs and trade repositories; and data received from the government agencies, including revenue authorities. However, the absence of an explicit reporting requirement from banks on their exposures to various types of risk concentrations such as name, sector, geographical and risk mitigant concentrations, lack of explicit guidance on how exposures should be aggregated from a concentration risk perspective, and lack of guidance or database on inter-sector correlations or correlations among geographic regions or credit risk mitigants can pose challenges to the accuracy and effectiveness of the monitoring.

42. Law and regulations initially prohibited lending to and investing in some related parties, but now these restrictions have been removed. In this background, the BCB needs to review and revise the regulatory and supervisory frameworks to align them closer to the Basel norms. The key areas for improvement suggest a need for more comprehensive definitions of related parties and related party transactions, establishment of an aggregate prudential limit for exposure to related parties, explicit governance requirements, explicit and focused supervisory (prudential) reporting requirement for transactions with and exposure to related parties and the application of the prudential requirements at the level of the solo bank(s) also within the prudential conglomerates.

43. The requirements under laws and regulations on management of country and transfer risks by financial institutions is subsumed under the regulations for risk management and for credit risk management. As a result, some of the key elements are not explicit or are not in full alignment with the Basel framework. The description of country risk established in the regulations is at variance from the Basel definition, which is wider than the default of the counterparty. The current description and the supervisory approach are adopting an 'immediate risk' perspective (direct exposures) instead of a more comprehensive "ultimate" risk perspective (direct and indirect exposures). The regulatory framework is yet to explicitly require banks to establish policies and

procedures for identifying, measuring, monitoring and managing country and transfer risks. It does not provide specific guidance or establish specific requirements for the measurement, grading and providing for exposure to country and transfer risks and for the periodical reporting of these exposures to the BCB.

Management of Other Risks (CPs 22 to 25)

44. The regulatory and supervisory frameworks for the management of market risks, interest rate risk in the banking book (IRRBB) and liquidity risk are in place and effective. While market risk is not significant at a system level, it is significant for several S3 and S4 institutions. Given the potential challenges to establishing a robust governance framework in these institutions, particularly when they are unlisted there is a case for more frequent review of the market risk management frameworks in these banks, than may be determined by their supervisory cycle. While gaps can be noticed in the area of regulations relating to management of IRRBB, these have been adequately addressed with the clear articulation of the framework for measuring and reviewing banks' exposures to IRRBB, the introduction of conservative requirements for such measurement taking into account the Brazilian interest rate environment, the requirement for all banks to hold capital for IRRBB exposures, and with the issue of improved regulations in 2017. The liquidity coverage ratio set by the BCB complies with the Basel standards. The supervisors monitor the liquidity situation in the banks on almost a daily basis, including implications of potential stress from market risk situations. The multiple liquidity monitoring tools and methodologies deployed by the BCB provides the supervisors an assurance of the banks' ability to meet their respective liquidity needs. They are able to draw additional comfort with the qualitative assessment of the banks' liquidity risk management frameworks undertaken through the ongoing and continuous supervision approach.

45. The regulatory framework of operational risk management was initially established in 2007 to support the qualitative requirements of the Basel II framework, which has been further improved recently. The main areas of improvement achieved through the recent revision include those pertaining to IT risk, outsourcing, business continuity planning and compilation of operational risk loss data. While these are helpful, it may take a while for the new initiatives to bear fruit. The supervisory framework has been evolving over the period. The BCB has been pursuing with the banks to improve their operational risk loss information systems and databases, but is yet to establish periodical regulatory reporting by the banks on their internal loss data and operational risk events.

Internal Control and Audit (CP 26)

46. The regulatory framework for internal control and audit has been recently improved and has come into operation from 31 December 2017. The regulatory framework prior to the revisions place the responsibility of establishing the internal control systems and ensuring their effective functioning on the board of directors and senior management in the banks. Part of the responsibility was also cast on the audit committee in the banks. In Brazil, unlisted banks are not required to establish a board of directors (non-executive), need not establish audit committee when

they are small, and shareholders can constitute the senior management. Of the 116 unlisted banks, 41 have established Board of Directors. Of the remaining 75 banks accounting for about R$540 billion in total assets (6.8 percent market share), 46 are foreign owned banks (5.8 percent market share). At the same time, compliance function is not mandatory for banks. Collectively, these features can undermine the effectiveness of the internal control and internal audit functions in the unlisted banks. While the revised regulations can help, it may take a while for the new initiatives to bear fruit. BCB's supervisory practices aim at evaluating the effectiveness of compliance and internal audit functions in supervised institutions, including small ones, observing the supervisory cycle established for each of these institutions.

Financial Reporting, External Audit, Disclosure and Transparency (CPs 27 & 28)

47. The supervised institutions in Brazil regularly publish information on a consolidated and, where appropriate, solo basis that is easily accessible and fairly reflects their financial condition, performance, risk exposures, risk management strategies and corporate governance policies and processes. The publications are mainly in the form of audited financial statements along with the accompanying notes, that are in compliance with the IFRS and the BR-GAAP, and the Pillar 3 disclosures that are placed on the respective institution's websites in an easily accessible place. Banks' financial statements are audited by independent external auditors who are required to perform the audits in compliance with the international auditing standards, and the audited financial statement are published along with the explanatory notes and auditors' opinion at least at half-yearly intervals, both at solo and consolidated levels. Laws, regulations and the supervisor ensure appropriate governance arrangements are in place in the financial institutions for overseeing the external audit function.

Abuse of Financial Services (CP29)

48. The BCB has introduced changes and enhancements in its oversight of AML/CFT since the last FSAP. Among these changes, the "twin peaks" approach has facilitated coordination between prudential and conduct supervision; a new committee on punitive administrative processes has been created and staffing levels for AML/CFT have been increased. More efforts are required to reduce time between detection of deficiencies and punitive action. The BCB is aware of this and has certain changes in hand. Also, the next cycle of onsite inspections for the major institutions will move beyond examining the overall adequacy of documentation and processes into the effectiveness of KYC and the monitoring, analysis, selection and report procedures and tools used by the banks. Revised supervisory guidance on AML/CFT is expected to be issued by end 2018. These supervisory components are important for AML/CFT supervision to graduate beyond compliance checks.

E. Authorities' Response to the Assessment

49. The Brazilian authorities wish to express their support for the Financial Sector Assessment Program (FSAP), which is a valuable contribution to the enhancement of supervisory practices in the many jurisdictions assessed. The case of Brazil is no different.

Brazil appreciates the effort that the FSAP staff have invested in this task, as well as the insights gained during the discussions.

50. The authorities also wish to express their entire agreement with the staffs' views on the necessity of improvements in the Brazilian framework. Two good examples of such instances regard CP 2 (Independence, accountability, resourcing and legal protection for supervisor) and the recommendations concerning resolution practices and regulation (as mentioned in the assessment of CP 8 – Supervisory approach), and, in these cases, authorities express their full commitment in adopting the necessary steps in the directions suggested by the FSAP.

51. While the authorities acknowledge the excellent quality of the inputs provided by the assessors, and our full commitment in adopting the necessary steps in most of the recommendations suggested by the FSAP, we would like to provide some different views held by those involved with supervision in Brazil regarding some of the comments (and respective grades).

52. One example is regarding, CP 10 (that was graded Compliant). The FSAP pointed out the necessity to put the onus and responsibility for monitoring and managing the prudential and risk dimensions squarely on financial institutions. But in fact, the onus and responsibility to measure, monitor and manage risks is already fully on banks, as stated by the extensive regulation issued by the CMN and the BCB. They are subject to: (i) a continuous supervision cycle aimed at identifying vulnerabilities in their risk management, and (ii) to supervisory actions and sanctions in case they fail to comply with the regulatory requirements. From the on-site supervision perspective, the Risk and Controls Assessment System (SRC) dedicates extensive analyses on the assessment of the inherent risks and their related controls. The main focus is to evaluate how the banks measure, monitor and manage risks. Our supervisory actions have stated this very clear message, over the years. From the off-site perspective, several monitoring tools and significant amount of information at disposal of the BCB allows supervision to keep a close watch on regular banks' activities while providing an independent view about the figures of the banks. This understanding is corroborated by the positive findings in the last FSB Peer Review of Brazil[3], which praises the "pioneering work carried out on trade reporting and its use in systemic risk monitoring".

53. The Brazilian authorities are committed to further improve the policies and practices of supervision. Nonetheless, please find below comments on the recommendations by the FSAP staff.

Corrective and Sanctioning Powers and Abuse of Financial Services (CPs 11 and 29)

54. The authorities have a different view from the staff on the following points.

[3] FSB Review Report, April 19, 2017, available at www.fsb.org/2017/04/peer-review-of-brazil/.

- First, according to the staff, the BCB should implement measures, such as additional inspections to the continuous cycle of supervision to improve supervision on smaller banks.
- However, the BCB believes that its remote inspection methodology has been designed for addressing all the steps required in a full inspection. It includes collecting evidence of the appropriate functioning of systems and controls. During the assessment, the examiner may interact with the institution's management in order to require additional reports, databases or any other information deemed necessary.
- In the last few years, this methodology has allowed the BCB to liquidate some FX brokers without conducting any additional supervisory activity. Those liquidations were decided based only on information obtained in remote inspections, through which serious violations were detected and sufficient evidence was collected.
- Furthermore, the overall design of the process (continuous supervision for higher risk and remote inspections for lower risk institutions), is aligned with the FATF/GAFI's risk based approach.
- Second, staff believe that the BCB should consider a more disciplinarian approach than moral suasion.
- It is important to highlight that moral suasion is used in Brazil as a complementary measure and does not prevent the use of corrective and/or sanctioning measures whenever deemed appropriate.
- Third, the authorities highlight that the recent legislation on sanctioning and corrective powers has provided supervisors with new tools that will increase the speed of execution of supervisory actions. Law 13,506, passed on November 13, 2017, introduced changes in the procedures required for sanctioning administrative processes, which shall contribute to improving the timeliness of sanctioning procedures.
- These timelines are, in fact, being reduced, but corrective actions are already taken in a reasonable timeframe, even before the initiation of sanctioning processes. We consider that priority given for corrective action is appropriate because of its proven efficiency in ceasing irregular conducts.

Consolidated Supervision (CP 12)

55. The determinant for Brazil not to be considered "compliant" with this Core Principle was the fact that prudential regulations in Brazil do not reflect the expectation that the individual institutions within a Prudential Conglomerate should also observe individually the prudential requirements.

56. In this regard, it is important to highlight that the staff concluded that it is unlikely that a solo bank would experience extensive deterioration before the multiple monitoring

tools of the BCB could detect a problem. In addition, the staff recognized that the Brazilian banking system is largely domestic and that the BCB receives and monitors a significant amount of information on a sub-consolidated and on a standalone basis, acting if necessary.

57. Moreover, it is worth mentioning that the BCB supervisory work also includes the analysis of each group's structure, their business models and relevant functional activities and business lines. Consequently, areas within individual institutions of the conglomerate are thoroughly examined under a risk-based approach.

58. Nonetheless, in light of this FSAP recommendation, the BCB will review the application of its prudential regulatory framework and make changes as deemed necessary. This review will be based on a risk-based and cost-effective approach, taking into account the proportionality criteria.

Corporate Governance (CP 14)

59. The authorities generally agree with the assessment of the framework of corporate governance, but highlight that several recent improvements in this field were not entirely taken into account by the FSAP staff. The staff have not taken into account these new measures, arguing that they have not been in effect long enough to produce verifiable results. The authorities, on the other hand, believe that the examples that follow present sufficient evidence to the contrary.

60. Resolution 4,557, of 2017, for instance, established risk management requirements for financial institutions following a proportionality approach, whereby requirements vary in accordance with the segmentation introduced by the Resolution 4,553 of 2017. Compliance with the new framework has been required for internationally active and systemic banks since August 2017. For other institutions, compliance has been required since February 2018.

61. Resolution 4,557, in addition, consolidated and improved requirements already in place for risk management in previous regulations concerning operational risk (Resolution 3,380 of 2006), market risk (Resolution 3,464 of 2007), credit risk (Resolution 3,721 of 2009) and liquidity risk (Resolution 3,988 of 2011). Requirements regarding the audit committee were established in Resolution 3,198 of 2004, while the remuneration policy, including the requirement of a Remuneration Committee, were introduced by Resolution 3,921 of 2010. In fact, many features of Resolution 4,557 were already part of supervision manuals and were therefore required by supervisors before the regulation came into force.

62. The supervisory process incorporates not only current local standards, but also international best practices and recommendations. Prior to the publication of the supervisory guidelines in March 2018, in accordance with the regulatory requirements, institutions were informed of supervisory expectations concerning corporate governance through the supervision cycle.

63. With respect to the constitution of a board of directors, according to the Brazilian corporate law (Law 6, 404 of 1976,) only publicly held companies are required to constitute boards. However, 41 non-listed banks constituted boards of directors responding to recommendations of supervision. In the absence of a board of directors, senior management must assume the board's responsibilities relative to risk management and capital management, as established by Resolution 4,557.

64. Listed and unlisted banks that have a board of directors hold 93 percent of the total assets and 95 percent of total deposits of the Brazilian financial system as of September 2017.

65. Of the 75 banks that do not possess a board of directors, 46 (6 percent of system assets and 4 percent of system deposits) are foreign-owned institutions whose governance structures are monitored by their parent companies. The remainder (1 percent of system assets and 1 percent of system deposits) consists of very small institutions, the largest one being a cooperative bank.

Problem Assets, Provisions and Reserves (CP 18)

66. The authorities share most of the views of the FSAP staff in this matter. Nonetheless, there are some points that deserve more clarification.

67. According to Brazilian regulations, financial institutions are required to adopt an expected loss approach for assessing the amount of provisions.

68. Resolution 2,682 of 1999 establishes minimum provisioning levels according to the number of days past-due, clearly establishing that provisions shall be sufficient to cover the expected credit losses in any situation, i.e., even when a financial institution opts to use the number of days past-due as the sole criterion for risk classification of loans below fifty thousand of Brazilian reais.

69. In this sense, the Brazilian provisioning framework is substantially different from IAS39, which requires provisions only for defaulted or almost-defaulted exposures, thus being closer to the IFRS9 standard.

70. The expected credit loss (ECL) framework has been continuously reinforced since Resolution 2,682 of 1999. Resolution 3,721 of 2011 established that the credit risk management structure must ensure provisioning levels compatible with the incurred credit risk. Taken together, these regulations allowed supervision to require provisioning for all on- and off-balance sheet credit risk exposures. Resolution 4,557 clearly establishes that, concerning credit risk, the integrated risk management structure must guarantee that provisions are sufficient to cover all expected credit losses.

71. Draft versions of regulation intended to replace Resolution 2,682 of 1999 have been submitted to public consultation. The proposed rules aim to reduce asymmetries between local accounting regulation and IFRS9. Final rules are expected to be published in 2018 and will also

clarify how concepts of Resolution 4,557 of 2017 and IFRS9 harmonize with each other. FSAP recommendations regarding collateral eligibility and valuation and reclassification of problem assets will be taken into consideration in the final version of the regulation.

72. Regarding the definition of exposure, Resolution 4,557 adopts a comprehensive approach, according to which management requirements for credit risk (including the assessment of provisions) apply to any exposure that meets the risk definition, irrespective of its legal form or accounting denomination.

73. With respect to the lack of an explicit definition for credit risk exposure as well as the lack of an explicit command for provisioning exposures other than those mentioned in Resolutions 2,682 and 4,512, these gaps will be addressed by the regulation that will implement IFRS9 in Brazil.

74. Regarding credit risk governance, responsibilities of the board of directors were addressed in Resolution 3,721 of 2009 and in Resolution 4,557. These regulations establish, as responsibilities of the board, the approval and review of risk management policies and strategies and the implementation of the prompt correction of any deficiencies in the risk and the capital management structures. The board of directors periodically receives management reports that must comprise, among other aspects, the evaluation and estimation of the performance of the assets exposed to credit risk, including their classification and provisions, as well as information on material exposures characterized as problem assets, including their characteristics, track record and recovery expectations.

75. Regarding the FSAP recommendation of introducing periodical reporting on asset classification and provisioning, the authorities believe that reporting requirements on supervision tasks have been addressed. As a matter of fact, the credit bureau´s instructions demand that each operation’s record informs the adoption of restructuring practices as defined in Resolution 4,557 and Circular Letter 3,819 of 2018. This information is already received from systemically important institutions since April 2018 and for the others, it will be received starting in September 2018.

Concentration Risk and Large Exposure Limits (CP 19)

76. The Brazilian authorities generally agree with this assessment, only pointing out that the comprehensiveness or effectiveness of the supervisory monitoring of large exposures is sufficiently clear. The supervisor receives, on a monthly basis, reports from the largest banks, taking into account the concept of connected counterparties. The BCB is also able to monitor large exposures using connected counterparties through its wide-range supervisory tools and procedures.

77. Nevertheless, the authorities agree that the definition of exposure, the definition of connected counterparties, and the calculation method to aggregate exposures should be improved. The gaps will be fully addressed by a new regulation that will replace Resolution 2,844 of 2001, in order to comply with the recommendations established in BCBS 283 document

("Supervisory framework for measuring and controlling large exposures"). For the purpose of the large exposures limit, all exposures used in the calculation of capital requirement will be considered. This regulation is expected to be fully implemented according to the Basel timeline.

78. On February 9, 2018, a consultative document on this regulation was published on the website of the Central Bank of Brazil. The proposal was available for comments by March 20, 2018. Meanwhile, the Financial System Monitoring Department has conducted a detailed study on the impacts of the new framework. One of the conclusions of the study was that the information on large exposures already gathered by the BCB does not significantly differ from data to be collected and reported by banks under the new approach.

79. Supervisors, therefore, do have enough information to challenge banks on their management of concentration risk and large exposures limits. Banks are currently seeking to improve their systems in order to be prepared for the BCB's scrutiny and to enhance their capacity to measure concentration risk and adopt remedial action in case of breaches of the prudential requirement.

80. Compliance with regulatory limits is monitored, on a monthly basis, by the Financial System Monitoring Department. Furthermore, the BCB is updating the Report on Operational Limits (DLO), received from banks, to follow the latest BCBS recommendations for large exposures, by including additional requirements for financial institutions. This measure will meet the FSAP recommendation of introducing explicit periodical reporting by banks on concentration risk exposures.

81. The BCB is also committed to continuously improving its supervisory guidance or databases that enhance the assessment of concentration risk. Information on correlations among economic sectors or geographic regions will be broadened and produced regularly through automatic procedures. However, the authorities underscore that they have enough data on credit risk mitigants, as well as a comprehensive database of almost all connected parties. For the latter, authorities are confident that the upcoming enhancements from the new regulation will solve the gaps pointed out by the FSAP.

Transactions with Related Parties (CP 20)

82. The authorities in general concur with the assessment related to Core Principle 20, but believe that it is important to highlight some points that moderate significantly the judgment on this topic.

83. Granting of loans to related parties was prohibited until Law 13,506 of 2017 came into force. In that context, supervisors assessed other exposures and risks arising from transactions with related parties by means of various mechanisms, among which:

- Regular information gathering of detailed accounting information for monitoring purposes, allowing the identification of significant changes and atypical transactions (including transactions with related parties) and

- On-site examinations to verify the existence of a formal segregation of duties (for mitigation and appropriate handling of conflicts of interest) and to assess potential conflicts of interest regarding related parties.

It is important to highlight new supervisory procedures, related to risk monitoring and to exposures with related parties, under implementation by the BCB, among which:

- Requirement for the Board of Directors to ensure that transactions with related parties are properly reviewed, regarding the risks and restrictions involved;

- Evaluation of the contagion risk arising from transactions with related parties that are out of the prudential conglomerate, as well as the policies adopted to control these transactions.

84. The aforementioned Law 13,506, of 2017, amended the existing legislation, permitting loans to related parties, provided they are carried out under market conditions. The law includes a significant portion of those parties listed in the footnote to CP 20 in its definition of "related party". Resolution 4,636 of 2018 (and, before that, Resolution 3,750 of 2009), which establishes procedures for disclosing information about transactions with related parties, uses a definition of related parties closely aligned with the definition used in CP 20.

85. In spite of the fact that the existing treatment is adequate for the evaluation of risks arising from transactions with related parties, we recognize the need for adjustments in regulation and supervision in order to comply with the recommendations presented by the FSAP. In this sense, the improvements will encompass prudential limits to be applied to a broader range of transactions with a wider set of counterparties. These requirements will focus not only on prudential conglomerates, but also on the relevant individual entities.

86. With respect to the introduction of periodical focused reporting by supervised institutions on the exposures, transactions, exceptions and write-offs, Brazil intends to follow the recommendation.

Country and Transfer Risks (CP 21)

87. The authorities concur with some points raised in the assessment, however, strongly disagree with the relevance that staff assigned to country and transfer risks. Brazil FX exposure is very low in the financial institutions' balance sheets. Therefore, the Brazilian authorities are of the view that the concerns pointed out by the FSAP are overstated.

88. Since 2009, Brazilian laws and regulations include country and transfer risks as elements of credit risk, and, thus, require financial institutions to establish policies and procedures for identifying, measuring, monitoring and managing them accordingly. In this

sense, these risks must be considered in the framework and, when relevant, in the stress testing process.

89. Although the authorities understand that the financial system could benefit from specific guidance or requirements regarding country and transfer risks, it is important to consider that these risks are not deemed relevant in the Brazilian financial system. The majority of financial institutions exhibit very low levels of exposure to such risks. The regulatory choice was to formally define country and transfer risks as components of credit risk, as well as to establish broad risk management requirements that would apply to all financial institutions. Supervisors assess the sufficiency and adequacy of the risk management in the Risk and Controls Assessment System (SRC), which includes a specific evaluation of elements for country and transfer risks.

90. Country and transfer risks are established as components of credit risk by Resolution 4,557 and, therefore, such risks are subject to all applicable requirements, including the ECL framework and stress testing process. Notwithstanding the aforementioned low exposure to those risks, the authorities concurs with the recommendation to introduce more explicit requirements. These issues will also be addressed in the regulation that will replace Resolution 2,682 and implement IFRS9 requirements for Brazilian banks.

91. Regarding the definition of country and transfer risks, he BCB supervisory process includes indirect exposures in default risk by considering that a local debtor may face financial difficulties due to events abroad. Nonetheless, the BCB intends to review Resolution 4,557 of 2017 in order to make it clearer.

92. The authorities also agree with the recommendation of introducing prudential reporting requirements to monitor the banks' exposure to these risks and will adopt the necessary measures to implement these requirements.

Operational Risk (CP 25)

93. The authorities are of the view that current supervisory practices are in line with the guidelines of BCP 25.

94. Due to the nature of operational risk, supervisory requirements on operational risk management in Brazil are constantly evolving and very frequently incorporate items not explicitly required in the regulations. For example, the BCB has IT expert supervisory teams since 1996 and has required banks' compliance with features of the ISACA´s COBIT framework since 2000. In addition, supervisors closely monitor the risk exposure of banks, specially of those systemically important, and all operational risk management requirements are commensurate with the nature and the complexity of products, services, activities, processes and systems of institutions.

95. Regarding the internal loss database of operational risk events, supervision has specifically focused on this important feature of operational risk management and has

demanded banks, mainly the D-SIBs and ASA banks, to collect data and adequately react to it. In addition, the BCB is currently working, along with the industry, on a project imposing periodical regulatory reporting by the banks on their internal loss data and operational risk events.

96. Resolution 4,557, of February 23, 2017, which provides for the implementation of the structure for risk management, consolidated the different risk management requirements that had been in place since 2006 and updated the operational risk management requirements for banks in Brazil. The regulation takes into account the post-crisis new principles and many of the supervisory practices already in place. Therefore, from the authorities' perspective, this regulation is complemented by the described Brazilian supervisory practices, adequately covering the criteria of this Core Principle, including those related to operational risk data and reporting mechanisms to supervisors.

97. In addition, it is worth noting that the National Monetary Council issued, on April 26, 2018, Resolution 4,658, which establishes the requirements for cybersecurity policy, including minimum requirements on outsourcing storage and data processing and on outsourcing cloud computing. This regulation, therefore, already covers the recommended improvements related to cyber risks and prompt reporting of cyber threats.

Internal Control and Audit (CP 26)

98. The assessment points out that not all banks are required to establish a board of directors or an audit committee. In this regard, we have to consider that, as of November 2017, from a total of 135 banks, 107 either have a board of directors or are foreign-owned banks. The remaining 28 banks comprise only 1 percent of the market share, as measured by assets.

99. The assessment states that regulations permit internal audit to be part of the internal control function. It also states that the compliance function is not a requirement and the requirements for the internal audit framework are not sophisticated enough.

However, it also acknowledges that Resolutions 4,588 and 4,595, which respectively updated requirements for the internal audit function and regulated the compliance function, are helpful in this respect and will bear fruit in due time. These Resolutions, which came into force on December 31, 2017, introduced more prescriptive requirements, in line with the documents "Compliance and the Compliance Function in Banks", issued by the BCBS in 2005, and "The Internal Audit Function in Banks", issued by the BCBS in 2012. Furthermore, many features of these regulations were already part of supervision manuals and were therefore required by supervisors and observed by banks. In fact, they represent a consolidation of rules and practices already in place.

Table 1. Brazil: Summary Compliance with the BCPs	
Core Principle	**Comments**
1. Responsibilities, objectives and powers	The Banking law clearly establishes the BCB as the entity with supervisory responsibility with a suite of tasks and powers. Further, the BCB's corrective powers are triggered (Resolution 4019) with the aim of ensuring the solidity, stability and regular operation of the National Financial System. All laws and regulations are published in the Federal Official Gazette of Brazil. Updated Federal legislation is accessible to the public through a variety of means, among which the site of the Presidency of the Republic of Brazil: www.planalto.gov.br. Regulations issued by the CMN and the BCB are accessible to the public through the BCB site: www.bcb.gov.br. While the BCB does not have the power to issue regulations independently, it sits on the body (the CMN) that issues the regulations and has the right of initiative for any new regulation in its sphere of responsibility and no practical impediment to regulatory development was identified.
2. Independence, accountability, resourcing and legal protection for supervisors	The BCB does not have full, *de jure* independence from the government to conduct its activities, and there are important deficiencies in relation to the assessment of this principle. The legal protection for staff of the BCB is lacking. Brazil also falls behind good practice in that there is no fixed mandate for the term of the Governor, or for Board members. Also, the Governor can be dismissed from his/her position at the will of the President and there are no formal reasons for which dismissal can be made and no requirement for there to be a public disclosure of the reasons for dismissal. While the BCB appears to enjoy *de facto* operational independence, this is not a full substitute for independence that is confirmed in and backed by law, and is subject to due process of accountability. Ancillary points that should fall within the BCB's own discretion include budget and personnel decisions.
3. Cooperation and collaboration	The BCB has clear powers to exchange information with relevant authorities both domestically and abroad. Relevant MoUs are in place or are in the process of being agreed, in order to adapt to new elements of recovery and resolution, and the BCB places an emphasis on proactive and timely information sharing and of assistance when requested.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
4. Permissible activities	Information on the identity and permitted activities of all entities operating under a banking authorization is clearly available on the BCB website. Furthermore, no institution in Brazil may accept deposits, of any form, without an authorization from the BCB. There is no direct prohibition on use of the word "bank," except in some particular cases (e.g. credit cooperatives), though trade boards are responsible for registering corporate entities and assessing the "truthfulness" or veracity of the name. No authority actively monitors whether there are institutions presenting themselves as banks without the necessary authorizations.
5. Licensing criteria	The BCB operates a comprehensive and careful licensing process and ensures that there is scrutiny of new board members or senior executives who join the institution even after the initial license has been granted.
6. Transfer of significant ownership	The powers of the BCB are very similar in respect of both initial authorisation and change of control. Similarly, the BCB's practices are also careful and attention is paid to determination of ultimate control of a banking entity or group.
7. Major acquisitions	The BCB operates under a at tight legal regime which requires it to authorize all acquisitions, significant or otherwise that are made by financial institutions. While trading activities are exempted from these requirements, the BCB is subject to an excessive number of filings that it needs to consider, not all of which have relevance to the safety and soundness of the individual institution or the financial system more broadly.
8. Supervisory approach	The BCB has continued to develop its high quality SRC methodology for assessing banks and has made some significant and valuable changes since the last assessment. One is through the introduction of its twin peak model so that the perspective of the prudential and conduct supervisory processes can be integrated into the overall view of the financial institution. Another is through the recent decision to place a central emphasis on the role and execution of corporate governance in financial institutions. Thirdly, the BCB

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
8. Supervisory approach	has formally segmented the banking sector into categories ranging from the DSIBs (segment 1) to the micro credits and cooperatives at segment 5. This has facilitated policy reflection on the appropriate application of proportionate supervisory action, while ensuring that all institutions are assessed over a reasonable time horizon as well as ensuring that the system has flexibility to respond to emerging stress at individual institution level or at the system level. No formal distinction of process is made between publicly owned banks and privately-owned banks. The BCB has begun work on recovery and resolvability, a component in the revised 2012 BCP methodology that affects several CPs (including CPs 3, 8 and 13). This work is not yet complete and is reflected in the grade of this CP only. Because the new resolution bill had not been passed at the time of the assessment, a number of the BCB's new internal regulations and procedures were still pending. The BCB is, however, recommended to ensure that it designs a clear decision-making process to avoid any undue delay in moving to recovery or resolution if needed.
9. Supervisory techniques and tools	As the FSB has noted "Brazil stands out among its FSB peers for the pioneering work it has carried out on trade reporting and its use in systemic risk monitoring" (April 2017). This monitoring has been used in support of financial stability at system level and also at individual institution level. The BCB has very clearly expended considerable efforts in mobilizing an extremely wide range of primary transaction data—credit register and trade repositories for example--to support the activity of the on and offsite supervisors in the area of contagion risk most particularly. The BCB has a well thought out supervisory strategy to enable it to target, manage and monitor its supervisory processes. Supervisory planning is a proactive process, taking into account a range of sources, from the idiosyncratic needs of a conglomerate to wider macro concerns, identified through COMEF or COREMEC. The supervisory manual provides a clear guide to support both quantitative and qualitative tasks.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
10. Supervisory reporting	The BCB obtains a very wide range of data from the supervised entities and both the on-site (DESUP) and offsite (DESIG) departments have access to a suite of analytical tools and resources to scrutinize the data and carry out comparative studies and investigations. The assessors were able to see a number of these tools in operation. Although this principle is marked compliant, there are some gaps in the BCB approach as the principle asks the supervisor to obtain and analyze information from banks on both a solo and a consolidated basis. While the BCB obtains some data on an individual bank level, it does not require a full range of prudential information on a solo basis. This specific topic is graded in CP12 on consolidated supervision so please see also comments there. In any case, without clear knowledge of the solo bank it is not possible to determine, for example, if it continues to meet its conditions for authorization on an ongoing basis, or may be unduly reliant on other parts of the conglomerate for support. It is clear that the in view of the extensive data bases, such as the credit registry, and analytic capability of the BCB, the supervisors are able to cross check returns submitted by conglomerates and even to recreate prudential returns that are not submitted, such as large exposures for the conglomerates by aggregating the exposures of the entities within the conglomerate from the registries and repositories. At the time of the FSAP, the assessors were not aware of any other supervisory authority with such capability. Nevertheless, although the BCB is encouraged strongly to maintain its existing data requirements it is equally strongly recommended to add to them by ensuring all banks also submit solo prudential returns covering all the standard prudential data such as large exposures, related party exposure, problem assets. This requirement would signal an important onus on the financial institutions that they are responsible for monitoring and managing these prudential and risk dimensions. The financial institutions must be under the discipline and obligation to bring information proactively to the BCB rather than rely on the BCB to cross check and, by any other name, act as a supplementary risk management function for the bank.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
11. Corrective and sanctioning powers of supervisors	The BCB has a wide range of powers and tools to impose corrective and remedial measures. During the assessment, Provisional Measure 784 which provided the BCB with greater flexibility to tailor the supervisory action to the specific concern as well as to expedite its processes had lapsed and was replaced by a new Ordinary Law (13,506). In the period between the lapse of the Provisional Measure and the enforcement of the new law, the BCB retained its core powers to act but lacked important flexibility, which is critical for supervisory authorities. Based on the assessors' review of materials, the BCB is attentive to real or potential deterioration in the condition and governance of an institution and is ready to use available tools to act at an early stage as well as to escalate its actions. While careful due process is essential, the overall timescales observed are a concern. One possible source of the lengthy timelines was the lack of graduated, escalation in instruments that has now been remedied by the new Ordinary Law 13,506.
12. Consolidated supervision	The BCB methodology that ensures a prudential conglomerate includes all entities that are relevant to the understanding of the banking group and the use of Contagion Risk analysis in the supervisory approach yield valuable insights into group risk. The BCB does not, however, systematically obtain or assess an individual banking entity within a prudential conglomerate against prudential standards. In practical terms it is unlikely that a solo bank would be likely to experience extensive deterioration before the multiple monitoring tools of the BCB detected a concern, but responsive as the BCB is, this is a reactive and not a proactive stance. The system, as currently designed and organized, means that the BCB has not communicated the expectation or established the requirement that an individual bank within the conglomerate is continuing to meet the prudential standards that were required of it for authorization. In undertaking resolvability assessment and planning, the BCB will need to understand any obstacles to the transfer of liquidity and capital across the entities of a group, and to require changes to group structure if impediments are identified.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
12. Consolidated supervision	Although the Brazilian banking system is largely domestic, it has some cross-border features in respect of some of the DSIB, and even within a purely domestic context, experience in other jurisdictions has demonstrated that a banking entity cannot necessarily rely on prompt access to group capital or liquidity resources in time of stress, which puts a premium on solo supervision and the provision of information for any individual bank within a prudential conglomerate. As argued in other principles it is necessary for financial institutions with banking authorizations to recognize the onus is on them to provide the BCB with information and not rely on the BCB to gather and assess such information independently. Equally, as this CP indicates, it is appropriate for the BCB to make its expectations clear that prudential standards should be met and monitored at all times on a solo basis for any individual bank within a prudential conglomerate.
13. Home-host relationships	The BCB has made efforts to establish effective communication with its peer authorities in the context of both home and host supervision. The banks with whom the assessors met spoke highly of their experience of international coordination by the BCB. Some aspects of the BCB's supervisory approach could be enhanced, in terms of formal communication with the supervised banks and frequency of cross border supervisory college meetings where the Brazilian bank has systemic subsidiaries in the host jurisdiction. Although the BCB's work on recovery and resolution planning with its banks is not yet fully completed, this component of CP13 is graded in CP8.
14. Corporate governance	The BCB has reoriented its supervisory approach (SRC and targeted on-site inspections) to reflect the weight it places on sound corporate governance within financial institutions. Analytical internal documents in the BCB and discussions with banks were consistent with the emphasis that the BCB places on corporate governance. The BCB's attitude and work that it has undertaken to date is highly commendable. The corporate governance work is, however, still in progress. Some important components are not yet in place, notably including the fact that the critical Resolution on risk management and governance (Resolution 4557) has only been in force for 6 months for the systemic banks and is not yet in force (until February 2018) for the rest of the banking sector.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
15. Risk management process	The regulatory and supervisory frameworks come together collectively to promote a comprehensive risk management culture and frameworks in the banks operating in Brazil. The frameworks are required to be compliant with the key elements of risk management (identify, measure, monitor and manage) and also are required to be comprehensive in scope to cover all material risks, in proportion to their materiality, and the risk profile and systemic relevance of the institutions. This is achieved in some degree with the adoption of the segment approach. The regulations are comprehensive and explicitly establish detailed expectations for credit, market, operational and liquidity risk management frameworks and the related governance frameworks. While the work on recovery and resolution planning is progressing for the large banks, the stress testing and contingency planning requirements help in assessing the resilience and preparedness in the other banks.
16. Capital adequacy	Banks in Brazil are implementing the Basel III capital requirements and the capital rules have been assessed as compliant by the Basel Committee. Instead of a full deduction, Basel III allows DTAs that arise from temporary differences (such as loan loss provisions to be included in CET1 capital, up to 10% of the bank's common equity. In Brazil, law (No. 12,838 of July 2013), allows banks to convert DTAs arising from loan loss provisions into eligible tax credits (DTCs) when the bank's taxable income in any year is negative (loss) or when the bank is bankrupt or subject to extra-judicial liquidation. The DTAs arising from other causes are not eligible for such conversion. The law allows banks that have eligible tax credits to claim compensation in the form of cash or securities issued by the central government. As confirmed in the RCAP work on Brazil's capital framework, the Basel Committee recognizes such DTCs as capital in cases where the law supports this treatment. In Brazil, the DTCs arising from loan loss provisions amounting to R$146 billion are included in CET1 capital and constitute about 25 percent of CET1 capital. Banks are on the transition path and expect to fully implement Basel III by January 1, 2019. While the definitions of capital, Pillar 1 capital requirements, and the SREP under Pillar 2 apply to banks in all segments,

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
16. Capital adequacy	the Pillar 2 ICAAP and the Pillar 3 disclosures apply only to S1 institutions, and a simplified ICAAP is planned to be introduced from 2018 for S2 institutions. All banks are required to maintain capital for interest rate risk in the banking book, but not as a binding requirement. At present the prudential capital requirements apply only at the consolidated level (at the level of the prudential conglomerate). BCB is yet to establish thresholds with reference to which it might trigger a supervisory action.
17. Credit risk	The regulatory and supervisory requirements for credit risk management frameworks combine well to assure adequate and well-functioning frameworks in the supervised institutions. These requirements are well supported by periodical monitoring and analyses of banks' credit risk exposures that equips the supervisors to challenge the banks' systems and verify the outputs or outcomes of the banks' risk management systems. At the same time, as can be seen in this CP and the other credit risk related CPs, there are a few areas that can be improved, and these have been specified in the relevant credit risk related CPs.
18. Problem assets, provisions, and reserves	The supervisory framework for determining that the supervised institutions have adequate policies and processes for early identification and management of problem assets and the maintenance of adequate provisions is largely in place. In the absence of explicit reporting by banks, BCB can be seen as estimating the size of NPLs from exposure perspective and from 'renegotiation' perspective. Absence of explicit requirement to adopt expected loss approach for all types of exposures, combined with absence of explicit guidance on eligible collateral and valuation thereof for provisioning for problem exposures can pose challenges to assessing adequacy of provisions held by banks. The regulatory framework that lays out the minimum requirements for the identification, measurement and provisioning for problem assets is in transition and needs to stabilize. Resolution 4557 of 2017 addresses some of the regulatory gaps. In addition, there is a need for comprehensive definition of exposure, clear norms for reclassification of assets to lower risk categories, explicit adoption of expected loss approach for all types of exposures, harmonization of norms for classification and provisioning irrespective of maturity, norms for collateral eligibility and valuation for determining provisioning for problem exposures.

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
19. Concentration risk and large exposure limits	The operating regulations for concentration risk for most banks (S2 to S5) have a few gaps, which can give rise to variations and bank level discretion while implementing the risk management framework to address concentration risk. The key gaps have been addressed in the Resolution 4557 of 2017, that has already become effective for S1 banks from August 2017 and will become effective for the other banks from February 2018. While some banks may be already in compliance with the revised requirements, system-wide implementation will, understandably take some more time. There are a few additional areas where the lack of clarity may be introducing distortions in implementation. In the absence of (a) an explicit definition of exposure for assessing compliance with prudential exposure limits and how exposures should be aggregated from concentration risk perspective, (b) explicit reporting from banks on their exposures to single or connected counterparties, (c) comprehensive database of all connected parties - through control and through economic interconnectedness, and since the assessment of name concentration is undertaken by the BCB, it is unclear how comprehensive or effective this monitoring can be. Also, in the absence of (a) an explicit reporting from banks on their exposures to economic sectors, geographic regions, and credit risk mitigants; (b) guidance or database on inter-sector correlations or correlations among geographic regions or credit risk mitigants; the supervisors are not able to challenge the assessment of concentration risks and their management by the banks.
20. Transactions with related parties	The key variances from the Basel norms are non-inclusion of all types of related parties within the prudential purview, absence of an explicit and complete definition of related party transactions for prudential purposes, the absence of a prudential limit on banks' aggregate exposure to related parties, the gaps in the governance requirements, absence of explicit requirement for policies and processes for related party transactions, the absence of explicit and focused supervisory (prudential) reporting requirement for transactions with and exposure to related parties and application of the prudential requirements at the level of the prudential conglomerates and not at the level of the solo bank(s) within the conglomerates. These collectively result in significant gaps in the prudential regime for transactions with related parties. The BCB strives to monitor related party transaction by reviewing extensively the periodical accounting information received from the supervised entities, SCR database, the database on market transactions

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
20. Transactions with related parties	received from the TRs and the Unicad database. Given the gaps in the definition of related party and the definition of related party transactions, and the absence of a dedicated off-site supervisory (prudential) report on related party exposures, it is unclear that the universe of the database that is reviewed by the BCB is complete. For example, some transactions that may not be reflected in the above databases are transactions with related parties that are outside the list specified in law or regulations; sale and purchase of assets that are outside the scope of the TRs, and the service contracts with related parties. The supervisory routines prescribed in the supervisory manual, with reference to assessment of inherent risks and control risks pertaining to credit risk do not explicitly articulate a focus on related party exposures and related party transactions and the governance requirements that are relevant for such exposures and transactions.
21. Country and transfer risks	The requirements under laws and regulations on management of country and transfer risks by financial institutions is not explicit. It is subsumed under the regulations for risk management and under credit risk management. The description of country risk established in the regulations is at variance from the Basel definition, which is wider than the default of the counterparty. The current description and the supervisory approach are adopting an 'immediate risk' perspective (direct exposures), and do not take into consideration the "ultimate" risk perspective (direct and indirect exposures). Banks are yet to be explicitly required to establish policies and procedures for identifying, measuring, monitoring and managing country and transfer risks. The BCB is yet to issue specific guidance or establish specific requirements for the measurement and grading of exposure to country and transfer risks and for the periodical reporting of these exposures to the BCB. There are no explicit requirements for establishing provisions for country and transfer risk exposures. These need to be viewed along with the absence of supervisory information system that tracks and monitors the exposures from an ultimate risk perspective, the risk grading of these exposures and the provisions held by the banks for these risks.
22. Market risk	On the basis of the off-site inputs, the Supervisors are able to determine the market risk exposures of banks on almost daily basis and pursue with them as required, both from a market risk perspective and from a funding

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
22. Market risk	liquidity perspective (arising from interplay between market and liquidity risks). While market risk is not significant at a system level, it is significant for several S3 and S4 institutions. These gains added significance given the potential challenges to establishing a robust governance framework in these institutions, particularly when they are unlisted. While the regulatory framework has been recently improved with the issue of Resolution 4557 of 2017, which will become fully effective for all institutions from February 2018, they lack explicit and clear articulation of the norms and minimum requirements, including governance elements, pertaining to shifting of instruments from and to the trading book.
23. Interest rate risk in the banking book	Gaps can be noticed in the area of regulations relating to risk management framework for IRRBB, including governance and board or senior management oversight requirements. However, these have been adequately addressed from at least three fronts: with the clear articulation of the framework for measuring and reviewing banks' exposures to IRRBB and the introduction of conservative requirements for such measurement taking into account the Brazilian interest rate environment; the requirement for all banks to hold capital for IRRBB exposures; and with the issue of the Resolution 4557 of 2017 which has become effective for S1 banks from August 2017 and will be effective for the other banks by February 2018. The BCB is already in the process of reviewing and revising the regulatory and supervisory frameworks for IRRBB, to align closer to the Basel norms and expectations (BCBS IRRBB - April 2016). This is expected to be completed in early 2018.
24. Liquidity risk	The regulatory requirement (LCR) set by the BCB complies with the Basel standards. The supervisors monitor the liquidity situation in the banks on almost a daily basis, including implications of potential stress from market risk situations. The multiple liquidity monitoring tools and methodologies deployed by supervision provides the supervisors an assurance of the banks' ability to meet their respective liquidity needs. They are able to draw additional comfort with the qualitative assessment of the banks' liquidity risk management frameworks undertaken through the ongoing and continuous supervision approach.
25. Operational risk	The regulatory framework of operational risk management was initially established in 2007 to support the qualitative requirements of the Basel II framework when it was introduced. This was less prescriptive, but this has been largely addressed with the issue of Res. CMN 4557, which is effective

Table 1. Brazil: Summary Compliance with the BCPs (continued)	
Core Principle	**Comments**
25. Operational risk	for S1 banks from Aug 2017 and will be effective for the other banks from Feb 2018. The main areas of improvement achieved through CMN 4557 include those pertaining to IT risk, outsourcing, business continuity planning and compilation of operational risk loss data. While these can help, it may take a while for the new initiatives to bear fruit. The supervisory framework has been evolving over the period. As most banks had implemented the framework before 2010, recent examinations focused on the development of operational risk models in DSIBs or on important elements of the framework, such as the internal loss data collection, scenario analysis and management and regulatory reports, in order to assess incremental changes in the framework and developments in quantification. While the BCB has been pursuing with the banks to improve their operational risk loss information systems and databases, it is yet to establish periodical regulatory reporting by the banks on their internal loss data and operational risk events.
26. Internal control and audit	The regulatory framework prior to the issue of the Resolutions CMN 4595 and CMN 4588, was focused on the internal controls in the supervised institutions. The regulations place the responsibility of establishing the internal control systems and ensuring their effective functioning on the board of directors and senior management in the banks. Part of the responsibility was also cast on the audit committee in the banks. In Brazil, unlisted banks are not required to establish a board of directors (non-executive), need not establish audit committee when they are small, and shareholders can constitute the senior management. Of the 116 unlisted banks, 41 have established Board of Directors. Of the remaining 75 banks accounting for about R$540 billion in total assets (6.8% market share), 46 are foreign owned banks (5.8% market share). Regulations permit internal audit to be part of the internal control function with the requirement that internal audit will report to the senior management. At the same time, the compliance function is not a requirement and the requirements for the internal audit framework is less sophisticated. Collectively, these features can seriously undermine the effectiveness of the internal control and internal audit functions in these banks. The Resolutions CMN 4595 and 4588 become effective on 31 December 2017. While these can help, it may take a while for the new initiatives to bear fruit. Drawing on the

Table 1. Brazil: Summary Compliance with the BCPs (concluded)	
Core Principle	**Comments**
26. Internal control and audit	requirements of Resolution 2,554 of 1998, BCB has been supervising financial institutions' "internal controls system", which comprises the internal controls, compliance and internal audit functions. BCB's supervisory practices aim at evaluating the effectiveness of compliance and internal audit functions in supervised institutions, including small ones, observing the supervisory cycle established for each of these institutions.
27. Financial reporting and external audit	The financial statements prepared and published by the financial institutions are in compliance with the Cosif (Brazil GAAP) and the IFRS. These statements are audited by independent external auditors who are required to perform the audits in compliance with the international auditing standards, and the audited financial statement are published along with the explanatory notes and auditors' opinion at least at half-yearly intervals, both at solo and consolidated levels. Laws, regulations and the supervisor ensure appropriate governance arrangements are in place in the financial institutions for overseeing the external audit function.
28. Disclosure and transparency	The supervised institutions in Brazil regularly publish information on a consolidated and, where appropriate, solo basis that is easily accessible and fairly reflects their financial condition, performance, risk exposures, risk management strategies and corporate governance policies and processes. The publications are mainly in the form of published audited financial statements along with the accompanying notes, that are in compliance with the IFRS and the BR-GAAP, and the Pillar 3 disclosures that are placed on the respective institution's websites in an easily accessible place.
29. Abuse of financial services	The BCB has introduced changes and enhancements in its oversight of AML/CFT since the last FSAP. Among these changes, the "twin peaks" approach has facilitated coordination between prudential and conduct supervision; a new committee on punitive administrative processes has been created and staffing levels for AML/CFT have been increased. The BCB differentiates between banks subject to continuous oversight and those, perceived to be less risky, to which it applies a remote inspection process. Enhancement to supervisory processes are not yet complete. More efforts are required to reduce time between detection of deficiencies and punitive action. The BCB is aware of this and has certain administrative changes in hand. Also, the next cycle of onsite inspections will move beyond examining the overall adequacy of documentation and processes into the effectiveness of KYC and the monitoring, analysis, selection and report procedures and tools used by the banks. Supervisory guidance on AML/CFT is expected to be issued by end 2018.

Table 2. Brazil: Recommendations to Improve Compliance with the BCPs	
Reference Principle	**Recommended Action**
Principle 2	Confirm the legal independence of the BCB. Confirm the legal protection for staff of the BCB when acting in good faith. Institute a fixed mandate for the term of the Governor, and for Board members, ensuring also that there is a timing overlap of appointments to avoid a wholesale change whenever a new president is elected. Ensure that the reasons for the dismissal of the Governor and member of the BCB Board are enshrined in law and, if there is a case of dismissal, that the reasons must be made public.
Principle 4	Introduce active monitoring of whether there are institutions presenting themselves as banks without the necessary authorizations, in order to reduce any opportunity a fraudulent entity may have to mislead customers.
Principle 7	Introduce a *de minimis* threshold for acquisitions by financial institutions in the Banking Law. Further, it would be valuable if such an amendment ensured the BCB held continuing discretionary powers to examine an acquisition below the threshold if deemed necessary.
Principle 8	Ensure that forthcoming supervisory manuals, to be finalized after new legislation on resolution, deliver a clear approach that avoids any undue delay in taking decisions on recovery or resolution.
Principle 10	Introduce and monitor prudential requirements for all banks on both solo and consolidated basis, amending its reporting requirements as needed to cover all prudential risk areas, including, for example, submissions on large exposures, related party transactions and exposures, and performance of problem assets.
Principle 11	Revise supervisory manuals and implement practices, when legislation is passed to provide the more nuanced corrective action and sanctioning powers (which were in the Provisional Measure 784) to ensure a timely and assertive application of supervisory measures, and escalation, when deficiencies are identified in financial institutions.
Principle 12	Introduce supervision of all authorized banks on both a solo and consolidated basis.

Table 2. Brazil: Recommendations to Improve Compliance with the BCPs (continued)	
Reference Principle	**Recommended Action**
Principle 13	Ensure a formal feedback to the banks following any meeting of a supervisory college. Consider annual supervisory colleges for any domestic bank which has a cross border establishment that is systemic to the host jurisdiction.
Principle 14	Grant the BCB the clear power to require an institution that is authorized as a bank to create a board of directors, even when this institution is not a listed entity.
Principle 16	BCB should require the individual banks within the prudential conglomerate to also comply with the capital requirement at the solo level. BCB can also consider requiring the prudential conglomerates to ensure adequate distribution of capital within the different entities in the conglomerate according to the allocation of risks. BCB should consider establishing thresholds by reference to which it might trigger supervisory action, preferably before breach of the minimum requirements.
Principle 18	A few areas where there is scope for further improvement include: (a) a clear definition of exposure that explicitly includes treatment of off-balance sheet exposures, investment in securities, and other amounts due from counterparties, including guidance on how each type of exposure should be treated for measuring and reporting of problem assets or non-performing exposures, and how they should be treated for provisioning purposes; (Ref. BCBS D403, April 2017); (b) issue clear norms for reclassification of problem assets and restructured assets as performing and reclassification (upgrading) of assets from one level to the other; (Ref. BCBS D403, April 2017); (c) explicit requirement to adopt an expected loss approach to all types of exposures while assessing provisioning requirement; (d) harmonise norms for classification and provisioning irrespective of maturity period of the exposures; (e) establish explicit norms for collateral eligibility and valuation for determining provisioning for problem exposures; (f) clearly articulate board responsibilities for oversight of the identification, measurement and management of problem assets; (g) introduce periodical reporting on asset classification and provisioning;

Table 2. Brazil: Recommendations to Improve Compliance with the BCPs (continued)	
Reference Principle	**Recommended Action**
Principle 19	Introduction of explicit and clear definition of exposure for assessing compliance with prudential exposure limits and how exposures should be aggregated from concentration risk perspective; Review/revision of the exemptions and eligible collaterals that off-set exposure; Review/ revise the prudential exposure limits for (a) federal public sector entities; (b) state and state public sector entities and (c) municipality and municipal public sector entities; Revise the reference for the prudential limits from total regulatory capital to Tier 1 capital; Apply the prudential limits to the solo bank within the prudential conglomerates; Enhance currently available supervisory guidance and/or establish benchmark(s) for other types of concentrations (sector, geographic region, credit risk mitigant, etc.), introduce explicit periodical reporting by banks on concentration risk exposures.
Principle 20	Introduce enhanced and explicit requirements for Board oversight of related party exposures and transactions; An explicit definition or articulation of list of "related parties", to include at least those mentioned in the footnote to the CP; An explicit definition or articulation of the "related party transactions" for prudential purposes, to include at least those mentioned in the footnote 69 to the CP; Introduction of prudential limit for aggregate exposures to related parties that are at least as conservative as the limits for connected counterparties; Introduction of periodical focused reporting by the supervised institutions on the exposures, transactions, exceptions and write-offs; Application of the prudential framework for related party exposures and related party transactions to the solo bank(s) within the prudential conglomerate; and Appropriate corresponding improvements to the supervisory manual.
Principle 21	BCB should revise the definition of country risk to fully align with the Basel definition, explicitly adopt the 'ultimate risk' approach to these risks, consider issuing explicit regulations on identification, measurement, monitoring and management of these risks, including guidance on grading these risk exposures and provisioning therefor as a distinct risk from counterparty risk, extend the ultimate risk approach to the risk exposures of the bank's branches and group entities abroad, introduce appropriate prudential reporting requirements to monitor the banks' exposure to these risks; make appropriate corresponding improvements to the supervisory manual and apply the regulatory and supervisory elements pertaining to these risks to the solo banks within the prudential conglomerates.

Table 2. Brazil: Recommendations to Improve Compliance with the BCPs (concluded)	
Reference Principle	**Recommended Action**
Principle 22	Review market risk management frameworks in relevant S3 and S4 banks, at more frequent intervals than may be determined by their supervisory cycle; Issue explicit norms and guidance for shifting of exposures from and to trading book.
Principle 25	Areas for improvement can include: issue of clear guidance to banks for standardized compilation of internal loss database, including data on operational risk events, and their periodical reporting to the BCB; Issue regulations focused on cybersecurity, including prompt reporting on significant cyber threats; advise banks to report significant OR events of all types with minimum loss of time.
Principle 26	BCB should devote greater attention to the internal control, compliance and internal audit functions in unlisted banks, to review their effectiveness, and take appropriate corrective measures, where warranted.
Principle 29	Consider proactive measures, such as additional inspections in the non-priority bank segment, which may be seen as a potentially softer target for abuses, to signal that all sectors of the market are under scrutiny. Consider a more disciplinarian approach in corrective actions. The timeliness of action following the detection of a deficiency should be targeted as a priority area for improvement. Also, a move towards automatic fines, or more rapid escalation processes to severe measures (suspension of business activity or loss of authorization), could communicate that there is no tolerance for failures that could lead the institution, or the financial system more widely, open to abuse. Complete operational processes to ensure that the BCB has access to the database of the Brazilian Federal Revenue Office to cross check and confirm information on beneficial owners. Access to this information was granted, following the assessment mission, and the BCP team were informed that some operational arrangements needed to be concluded.