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MEXICO

FINANCIAL SYSTEM STABILITY ASSESSMENT

November 2016

This paper on Mexico was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on November 4, 2016.

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FINANCIAL SYSTEM STABILITY ASSESSMENT

November 4, 2016

Approved By
James Morsink and Robert Rennhack

Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited Mexico in May/June, 2016. The FSAP findings were discussed with the authorities during the Article IV Consultation mission in September 2016. More information on the FSAP may be found at http://imf.org/external/np/fsap/fssa.aspx.

- The Financial System Stability Assessment (FSAP) team comprised Ghiath Shabsigh (IMF Mission Chief) and Alfonso Garcia Mora (World Bank Mission Chief), Maria Oliva (IMF Deputy Mission Chief), Luisa Zanforlin (World Bank Deputy Mission Chief), Jorge Chan-Lau, Julian Chow, Darryl King, and Alexander Klemm (all IMF staff), as well as Carlos Barsallo, Jan Brockmeijer, Michael Deasy, Claire McGuire, David Scott (all IMF external experts), Leyla Castillo, Caroline Cerruti, Maria Teresa Chimenti, Mateo Clavijo, Catiana Garcia Kilroy, Valeria Garcia Salomao, Eva Gutierrez, Fedesvinda Montes, and Heinz Rudolph (all World Bank staff), John Wilson (IFC), Olivier Hassler, and Jose Rutman (World Bank external experts).

- The team met with the Governor of the Central Bank, the Deputy Finance Minister, heads of the supervisory agencies and the deposit guarantee scheme, top public officials in key ministries, staff in private and development banks, representatives of auditing and accounting professions, industry associations, other financial sector institutions, and large corporations.

- 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, legal risk, or risk related to fraud, are not covered in FSAPs.

- Mexico is deemed by the Fund to have a systemically important financial sector 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 Ghiath Shabsigh and Maria Oliva, with inputs from the IMF team.

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GLOSSARY

AML	Anti-Money Laundering
ATM	Automatic Teller Machine
Banxico	Banco de México
BU	Bottom-up
BU ST	Bottom-up Stress Test
CAR	Capital Adequacy Ratio
CEB	Comité de Estabilidad Bancaria—Banking Stability Committee
CEO	Chief Executive Officer
CESF	Consejo de Estabilidad del Sistema Financiero—Financial Stability Council
CET1	Common Equity Tier 1 Capital
CNBV	Comisión Nacional Bancaria y de Valores—Banks and Securities Supervisor
CNSF	Comisión Nacional de Seguros y Finanzas
CONDUSEF	Comisión Nacional para la Protección y Defensa de los Usuarios de Servicios Financieros (National Commission for the Protection and Defense of the Users of Financial Services)
CONEVAL	Consejo Nacional de Evaluación de la Política de Desarrollo Social
CONSAR	Comisión Nacional del Sistema de Ahorro para el Retiro
CPI	Consumer Price Index
DB	Development Bank
EBITDA	Earnings before Interest, Taxes, Depreciation, and Amortization.
ELA	Emergency Liquidity Assistance
FHC	Financial Holding Company
FSAP	Financial Sector Assessment Program
FX	Foreign Exchange
GDP	Gross Domestic Product
HQLA	High Quality Liquid Assets
IADI	International Association of Deposit Insurers
IGAE	Global Economic Activity Index
IMF	International Monetary Fund
IMSS	Instituto Mexicano del Seguro Social
IPAB	Instituto para la Protección al Ahorro Bancario—Deposit Insurer
ISSSTE	Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado
KA	Key Attribute
LCM	Ley de Concursos Mercantiles
LCR	Liquidity Coverage Ratio
MCM	Monetary and Capital Markets Department, IMF
MoU	Memorandum of Understanding
MXN	Mexican Pesos
NBFI	Non-Bank Financial Institution
Mbonos	Fixed Rate Bonds
NPL	Nonperforming loans

NSFR	Net Stable Funding Ratio
OECD	Organization for Economic Co-operation and Development
OTC	Over the Counter
P&A	Purchase and Assumption
PD	Probability of Default
PE	Private Equity
PFMI	Principles for Financial Market Infrastructures
PEMEX	Petróleos Mexicanos
PPP	Public Private Partnership
RAM	Risk Assessment Matrix
ROA	Return on Assets
ROE	Return on Equity
ROSC	Report on the Observance of Standards and Codes
RWA	Risk-weighted Assets
SHCP	Secretaría de Hacienda y Crédito Público—Ministry of Finance
SME	Small and Medium-size Enterprise
SOFOM	Multiple Purpose Financial Companies (Sociedades Financieras de Objeto Múltiple)
SPEI	Sistema de Pagos Electrónicos Interbancarios
SST	Simple, Standardized and Transparent Securitization
ST	Stress Test
TD ST	Top-Down Stress Test
TIE	Interbank Rate (Tasa Interbancaria de Equilibrio)
VaR	Value at Risk
WB	World Bank

EXECUTIVE SUMMARY

Mexico's economic fundamentals are strong. The medium-term outlook for the Mexican economy foresees steady growth underpinned by strong macroeconomic policies, broad reform initiatives, and relatively strong balance sheets. Key risks are external and include a United States (U.S.) growth slowdown, lower oil prices, and volatility in global financial markets. Related shocks could adversely impact the financial system through the deterioration of corporate and public balance sheets and reversal of capital flows leading to tightening financial conditions.

The financial system is broadly resilient, notwithstanding some weaknesses under certain adverse shocks. The solvency and liquidity stress tests of the banking system indicate that it can withstand severe adverse macro-financial shocks despite large capital losses in some cases. The insurance sector could endure a combination of interest rate, exchange rate, and equities market shocks. Pension funds are exposed to market risk, but liquidity risks are lower. The sensitivity analysis indicates that large listed corporations could broadly cope with adverse exchange rate, earnings, and interest rate shocks.

Significant progress has been achieved in strengthening financial sector prudential oversight but important gaps in the governance of the supervisory framework remain. In particular, significant deficiencies in operational independence, budget autonomy, and legal protection persist, and a fully functioning consolidated supervision framework is not yet in place. These gaps could undermine the effectiveness of prudential oversight, particularly in the face of new risks arising from the on-going transformation of Mexico's financial sector. Governance gaps were already mentioned in the 2012 FSAP conclusions (Annex II) and, in the current context are critical.

The financial sector safety net is solid but could be improved further. Banxico's liquidity operating framework is robust and liquidity regulation and the provision of emergency liquidity have been significantly upgraded since the last FSAP. Deposit insurance broadly conforms to best international practice, but there are a number of important concerns that need to be addressed, including governance gaps, multiplicity of mandates (payment and management of legacy debt and assets, deposit insurance and recapitalization of systemic banks), and the small size of the ex-ante resolution fund.

More work is needed to strengthen the resolution and crisis management frameworks. The special bank resolution regime has been strengthened, but still requires important enhancements in a number of areas, including, inter alia, extending it to cover financial holding companies (FHC) to ensure supervisors can manage adequately the true risks of the group, and ensuring the authorities' power to require banks to improve their resolvability. A formal contingency plan for dealing with a systemic crisis is still to be developed, and no process is in place yet to carry out a systemic crisis simulation exercise.

The establishment of the Financial Stability Council (CESF) was an important step towards a system-wide approach to managing risks to financial stability, but its role and standing

should be further enhanced. The CESF has fostered collaboration in the identification and assessment of risks to financial stability, but it should be further developed to become the main forum for communicating stability assessments and assessing the potential stability implications of the introduction or application of policy instruments.

Financial sector development challenges remain across a range of topics, notably access to finance and provision of long-term financing. The authorities have enacted a broad financial reform program to foster financial development and deepening, but results have yet to fully materialize. Credit to the private sector and households' use of deposit accounts are low, new loan origination by commercial banks has remained sluggish, and long-term financing is scarce. Further improvements to financial infrastructure could alleviate some of these issues, including, inter alia, improving credit and collateral registry and enhancing insolvency enforcement.

Development Banks (DBs) are playing an increasingly important role in fostering financial inclusion. A critical factor is to ensure that DBs are involved on a sustainable basis while avoiding market distortions and crowding out the private sector. Appropriate pricing policies and having in place a process to graduate beneficiaries that have reached a point where they can be served by the private sector are important considerations.

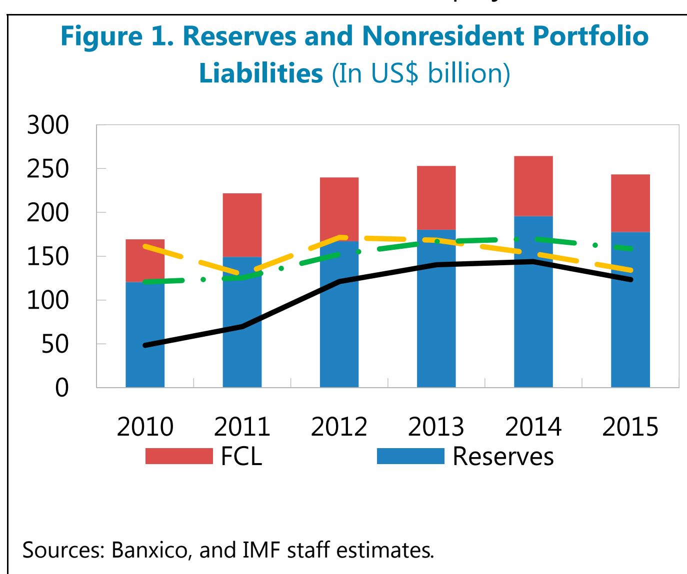
Table 1. Executive Summary Recommendations	
Institutional Arrangements and Governance	
Integrate all prudential supervision aimed at the safety and soundness of financial institutions, in one Prudential Supervisor, covering banks, securities, insurance firms, pension funds and other financial institutions.	Medium-Term
Amend relevant laws to (a) clearly establish financial stability as the primary objective for the new supervisor, other objectives (e.g., development) are secondary and should be narrowly defined; and (b) strengthen the governance of the supervisor and IPAB (e.g., composition of governing boards and the appointment and dismissal of senior personnel) and ensure their supervisory and budgetary independence.	Medium-Term
Financial Stability Policy Framework	
Establish more clearly the status of the CESF as the preeminent voice of its members regarding the assessment of financial stability risks.	Short-Term
Financial Sector Oversight	
Adopt a consolidated supervision framework that corrects for legal gaps on the CNBV's ability to perform consolidated supervision and strengthen the regulatory reporting framework for related party lending.	Short-Term
The corporate governance of development banks should be revised in line with international best practices in some key areas such as the composition of board members and mechanisms for the election of CEOs.	Short-Term
The definitions of "common risk" and "related party" should be enhanced, including explicit definition of "economic dependency" in exposures to corporations, provision for grouping loans that are collateralized by the same collateral, and explicit references to persons who, while not having a quantitative relationship with other borrowers, exercise significant control over them.	Short-Term
Review the role of Banxico in determining certain capital requirements. The CNBV, as the agency charged with the prudential supervision of banks, should assume sole responsibility for such functions.	Medium-Term
Streamline the regulation and supervision of "other financial institutions" to facilitate and promote consolidation and integration.	Medium-Term
Deposits Insurance, Crisis Management, and Resolution	
Transfer the legacy debt at IPAB to the sovereign balance sheet.	Medium-Term
Adopt legislation removing bail out options for shareholders and subordinated debt holders of systemic banks.	
Develop formal contingency plans and simulation exercises to deal with a systemic crisis.	Medium-Term
Development Banks	
Revise the strategy and objectives for development banks targets to include indicators of financial inclusion and private sector crowding-in, eliminating quantitative targets.	Short-Term
Pensions	
Increase the contribution rates to fully funded pension schemes to ensure higher replacement rates and reduce fiscal risk.	Short-Term
Small and Medium-size Enterprise Finance	
Create a credit registry to increase financial information available to lenders.	Medium-Term

BACKGROUND

A. Macro-financial Context

1. Economic fundamentals are strong, with a stable outlook for growth and inflation over the medium-term (Table 2). Mexico's economy grew, on average, by 2.5 percent per year since the last FSAP in 2012[1], supported by both external and domestic demand. Growth is projected to average about 2.4 percent in 2016–20, with higher external demand and structural reforms compensating the likely negative impact of tightening U.S. monetary conditions. Credit expansion to the private sector is strong, albeit from a small base, and has been broadly consistent with progress in financial deepening (see the 2016 Article IV Staff Report). The credible monetary policy framework has kept inflation subdued, with core inflation close to the 3 percent target since 2011 and headline inflation at target. Inflation is expected to remain low as pass-through from the peso depreciation is limited. The external sector position remains broadly consistent with medium-term fundamentals. The level of foreign exchange (FX) reserves remains adequate according to standard measures. The Flexible Credit Line (FCL) arrangement, renewed and extended to U.S. dollar 88 billion on May 27, 2016, provides additional insurance against tail risks (Figure 1).

Figure 1. Reserves and Nonresident Portfolio Liabilities (In US$ billion)



Sources: Banxico, and IMF staff estimates.

2. Economic stability has been underpinned by strong macroeconomic policy frameworks, broad reform initiatives, and relatively strong balance sheets:

(a) Mexico has maintained a prudent fiscal stance, and is currently implementing a multi-year fiscal consolidation program, with the fiscal deficit (defined as public sector borrowing requirement) declining by 0.5 percentage points of gross domestic product (GDP) per year to 2.5 percent of GDP in 2018. The free-floating peso is the main shock absorber. Since mid-2014, the peso depreciated by close to 50 percent vis-à-vis the U.S. dollar driven by the decline in oil prices and spillovers from negative shocks in other large emerging markets. Furthermore, Mexico has maintained its open capital and current accounts, and its market-friendly and transparent regulations for foreign investment. By end-August 2016,

[1] Growth dipped in 2013 to 1.3 percent reflecting a weak external demand and a decline in construction caused by the new housing policy that led to the restructuring and downsizing of the largest home builders.

nonresidents held a third of all domestic government debt securities, and 60 percent of Mbonos (fixed rate bonds).

(b) A wide-ranging reform program was launched in 2013–14 covering the financial sector (Table 3), energy, telecommunications, anti-trust, labor markets, taxes, and education. The program aims at boosting potential growth, enhancing competition, reducing labor market frictions, encouraging investment, and strengthening the financial sector over the medium-term. Implementation is ongoing and full gains are still to unfold.

(c) Banks and nonfinancial sector balance sheets remain relatively resilient. On average, the banking system holds large buffers and households' debt is low (about 15 percent of GDP) with significant positive net financial assets. The debt maturity profile of large listed private corporations has largely been termed out, with FX debt risks largely offset by natural and financial hedges. Financial sector exposures to the housing market remain very limited.

3. The risks to Mexico's economic outlook are mostly external: a U.S. growth slowdown, a rise in trade protectionism, global financial market volatility, and lower oil prices. A negative U.S. growth shock would hurt Mexico's growth through strong trade links and a deterioration of investor confidence, possibly leading to capital outflows. A similar scenario would occur if there is a rise in protectionism in key export markets. Lower growth would weaken (a) bank and corporate balance sheets through rising non-performing loans and a loss in value of financial institutions' fixed rate security holdings; and (b) public finances, through higher borrowing costs. An increase in global financial market volatility could also lead to capital outflows, fueled by a loss in investor confidence even in the absence of a deterioration of Mexico's economic fundamentals. Lower oil prices would mainly affect Mexico by weakening its public finances and the current account balance. All these shocks would lead to a tightening of financial conditions and increasing the pressure on the exchange rate.

B. Financial Sector Context

4. Mexico's financial sector is bank dominated and relatively small compared with other emerging market (EM) peers (Figure 2).

- Financial sector assets amounted to 90 percent of GDP in 2015, with over half being commercial banking assets. Development banks activities have grown rapidly since the 2014 reforms reaching around 10 percent of financial sector assets by end-2015.

- The nonbank sector remains underdeveloped, but has been growing at a faster pace than banks in recent years. Pension funds, mutual funds, and insurance companies account for 30 percent of financial sector assets. Other financial intermediaries—brokerage firms, regulated and unregulated non-deposit-taking financial institutions (sofomes),[2] savings and credit institutions,

[2] These are financial institutions that perform operations such as leasing and factoring. A sofome cannot raise funds from public deposits. Sofomes account for only 1 percent of the financial system assets.

and deposit warehouses operating mostly in rural areas—are small but play an important role in microfinance and financial inclusion.

5. The commercial banking sector is highly concentrated. Despite the wide and diverse range of financial intermediaries, the industry remains concentrated around conglomerate structures—which usually include a bank, a pension fund, a brokerage company, an insurance company, and a mutual fund. The seven largest banks (known as G-7), all fully owned by financial groups, account for about 80 percent of total bank assets. Bank deposit concentration is also high, with the share of deposits by the largest depositors averaging 14 percent of total deposits in G-7 banks, and as high as 34 percent in one bank.[3]

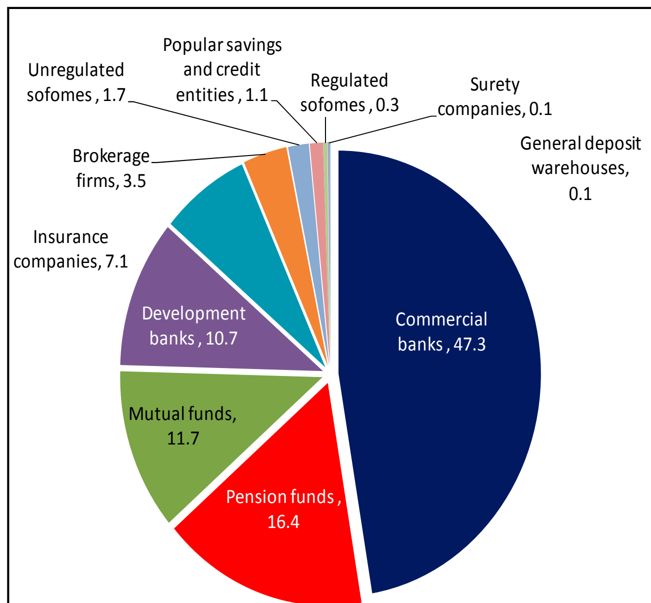
6. The sector has large foreign presence, but most activity remains local. Five of the G-7 banks are foreign subsidiaries of large global financial groups and account for about 65 percent of commercial banks' assets. Banks, including foreign subsidiaries, keep the bulk of operations in Mexico, with funding depending on domestic savings and uses directed mostly towards domestic lending and government securities. A memorandum of understanding (MoU), known as the "Convenio de Responsabilidad," and included in the 2014 financial group law assigns the holding (FHC) unlimited responsibility for the obligations of each group company, and the assumption of losses. This law also regulates financial transactions between the parent and the subsidiary, with substantive funding repatriation subjected to the authorities' approval and compliance with domestic regulations.

[3] Large depositors are defined as depositors with more than MXN 200 million in deposit accounts or that represent 0.5 percent of a bank's total liabilities.

Figure 2. Mexico's Financial System

Commercial banks continue to dominate.

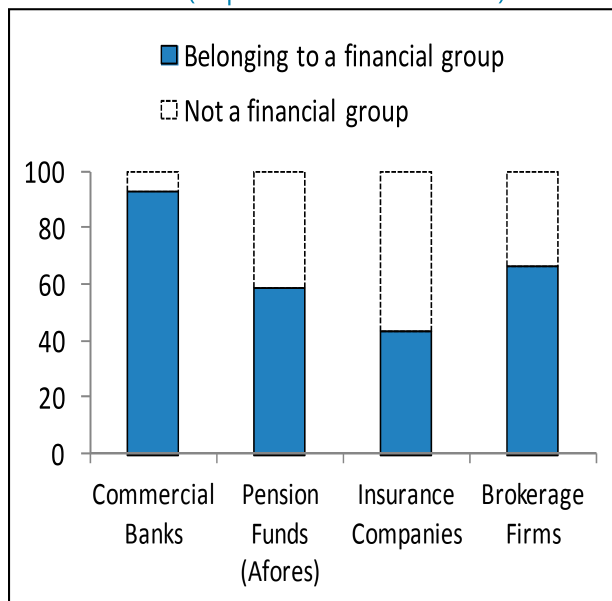
A. Financial Sector Structure



Source: Banxico.

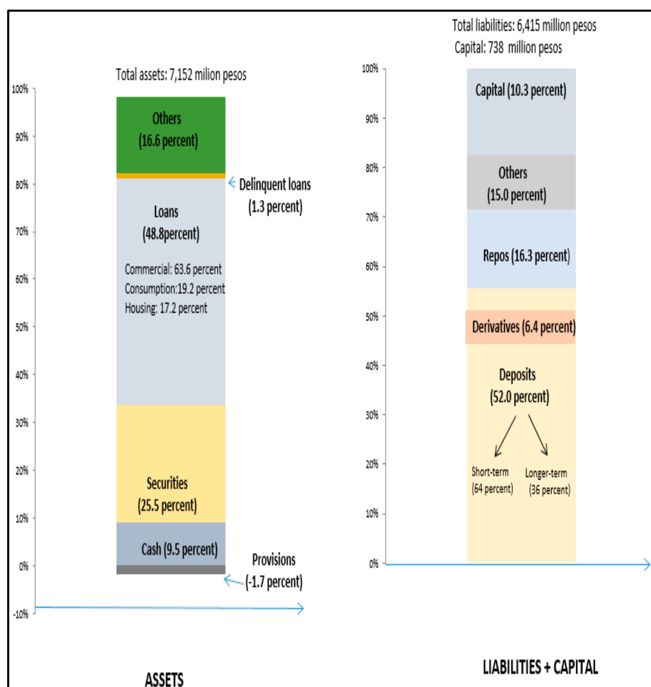
The share of financial conglomerates is high.

B. Share of Financial Groups
(In percent of total assets)



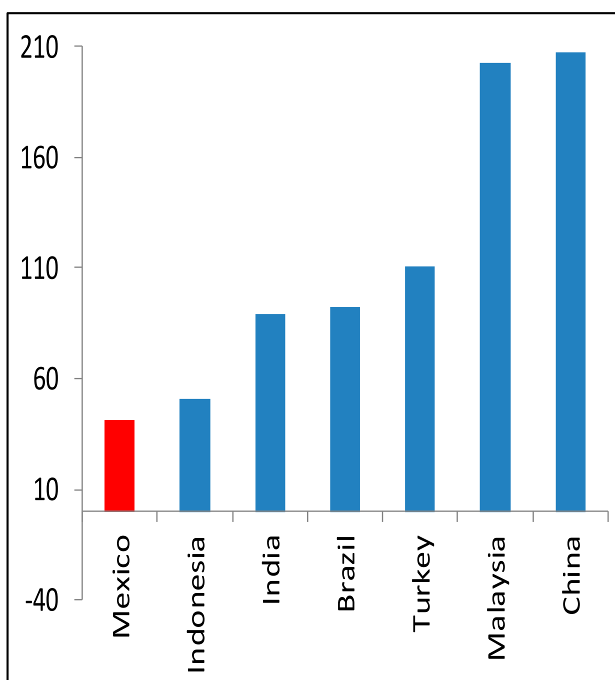
Source: Banxico.

C. Mexican Banks Balance Sheets
(December 2015)



Note: Sample includes banks belonging to financial groups.
Source: National Banking and Securities Commission (CNBV) and IMF staff calculations.

D. Commercial Banks' Total Assets
(In percent GDP)



Source: IMF Financial Soundness Indicators.

Financial System Soundness

7. Commercial banks appear to be sound and profitable (Figure 3 and Table 4a).

- At the end of 2015, total capital adequacy ratio (CAR) stood at 15 percent and liquid assets was about a third of total assets (around 35 percent of short-term liabilities).[4] In September 2015, all banks had met the minimum 60 percent liquidity coverage ratio (LCR) requirement, with a large number exceeding the 100 percent requirement that will apply from 2019 on.

- FX risk exposures associated with foreign currency lending are low; foreign currency loans account for only 13 percent of total loans in 2015, and the ratio of net open position in FX to Tier 1 capital is negligible (-0.2 percent).[5]

- The NPL to total loans ratio declined steadily from 3.2 percent in 2013 (a peak due to the large homebuilders' defaults) to 2.6 percent in 2015.

- Returns on equity averaged 17 percent over the last three years, with the spread between lending and deposit rates remaining high and stable, at around 10 percentage points.

8. DBs are well-capitalized and liquid. The CAR is high at 14.1 percent and the liquid assets to liquid liabilities ratio stood at about 120 percent by end-2015. DBs' NPLs have remained below 2 percent since 2010 and provisions cover about 260 percent of NPLs.

9. The non-banking financial sector appears to be robust, but small and confronted with important challenges. In particular,

(a) The pension fund sector's market and credit exposures are well managed but the scheme seems to be underfunded. Pension funds (SIEFOREs) are required to meet investment limits consistent with the risk tolerance levels assigned by CONSAR, the supervisory authority. However, the projected replacement rates under the fully funded scheme appear to be insufficient and the transition rule in place is to generate an abrupt reduction in the pension replacement rates of about 50 percent.[6] Initial calculations suggest that the expected replacement rates offered by the funded pension scheme range from 28 to 34 percent, but 80–100 percent under the Mexican Institute of Social Security's (IMSS) and Institute for Social Services and Security for State Workers (ISSSTE) pay-as-you-go scheme.

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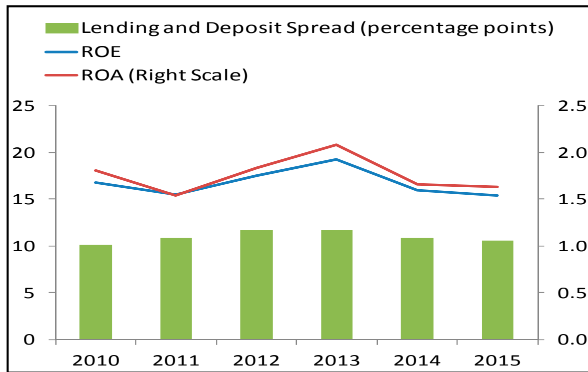
[4] Mexico's minimum capital requirement for each tier of capital is: 4.5 percent of common equity tier 1 capital (CET1); 6 percent of Tier 1, and 8 percent of total capital. Systemic banks are required to hold a supplemental capital of 2.5 percent of their risk weighted assets (conservation buffer). Since May 2016, systemic banks are required to build a capital surcharge ranging from 0.6 percent to 1.5 percent of their risk weighted assets over a four-year period.

[5] Banking sector exposures in foreign currency is limited by prudential regulations, including caps on net FX open positions (at 15 percent of Tier 1 capital) and liquidity requirements that limit currency mismatches.

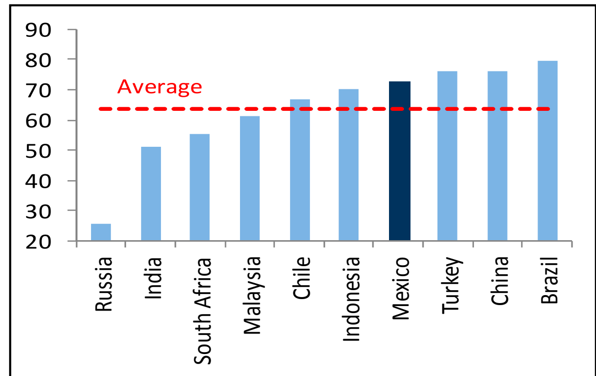
[6] Private employees who began working before mid-1997 and most public employees who enrolled prior to mid-2007 are grandfathered and may draw a pension under the previous defined benefit rule.

Figure 3. Mexico's Commercial Banks Performance

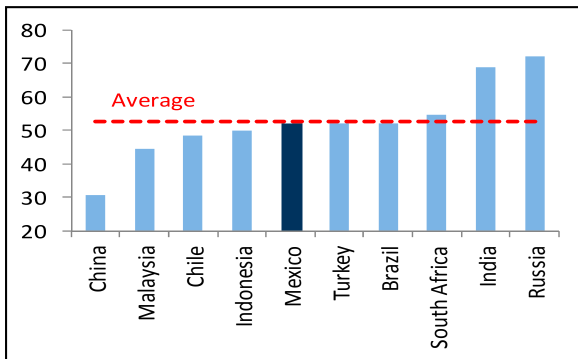
A. Return on Equity, Return on Assets, Lending-Deposit Spread
(In percent)



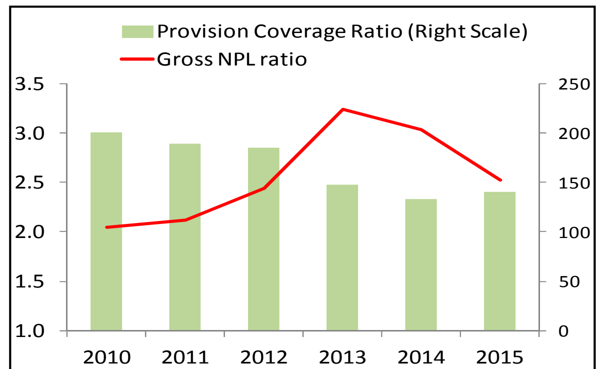
D. Interest Margin to Gross Income
(In percent)



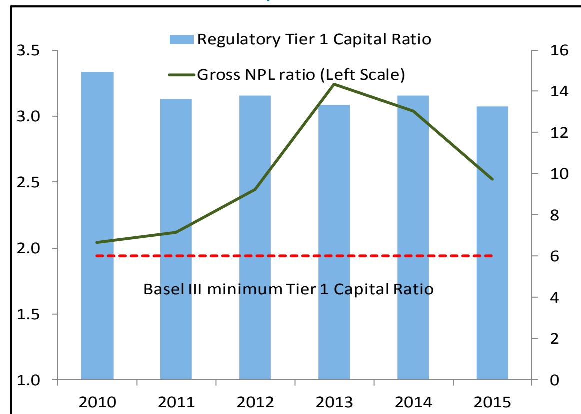
B. Non-interest Expense to Gross Income Coverage Ratio
(In percent)



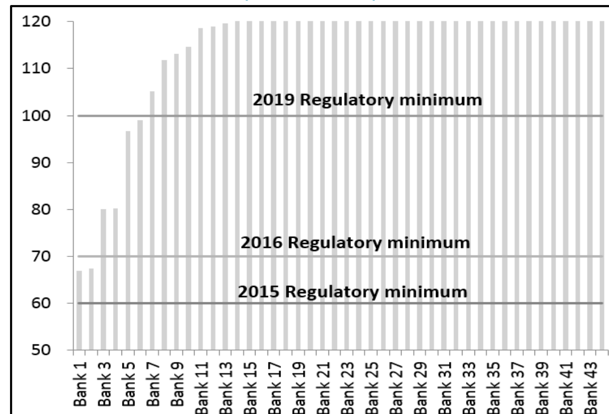
E. Gross NPLs and Provisions
(In percent)



C. Regulatory Tier 1 Capital Ratio
(In percent)



F. Liquidity Coverage Ratio
(In Percent)



Source: CNBV and Banxico.

(b) Mutual funds are highly concentrated in short-term sovereign and IPAB securities and are exposed to redemption risks. Assets under management have grown significantly in the last decade, from 5 percent of GDP in 2005 to 11 percent of GDP in 2015 (Figure 4). Client redemptions during the 2008 GFC had led to substantial withdrawals. Since then, other episodes of net outflows have been observed although smaller in size compared to 2008. The "circuit-breaker" mechanisms adopted by the authorities after the 2008 crisis to manage liquidity during periods of stress should make the system more resilient.

(c) The insurance sector is well-capitalized and liquid (Figure 5, Table 4b). Insurance companies' minimum capital guarantee coverage ratio (MCGCR) is at about 1.9 times in 2015; a technical reserve coverage ratio stands at 1.1 times; and the return on equity is 14 percent. The sector's liquid assets to current liabilities ratio stands at 3.5. Mexico introduced new regulations requiring the implementation of Solvency II-type risk-based capital and mark-to-market valuation of assets and liabilities.

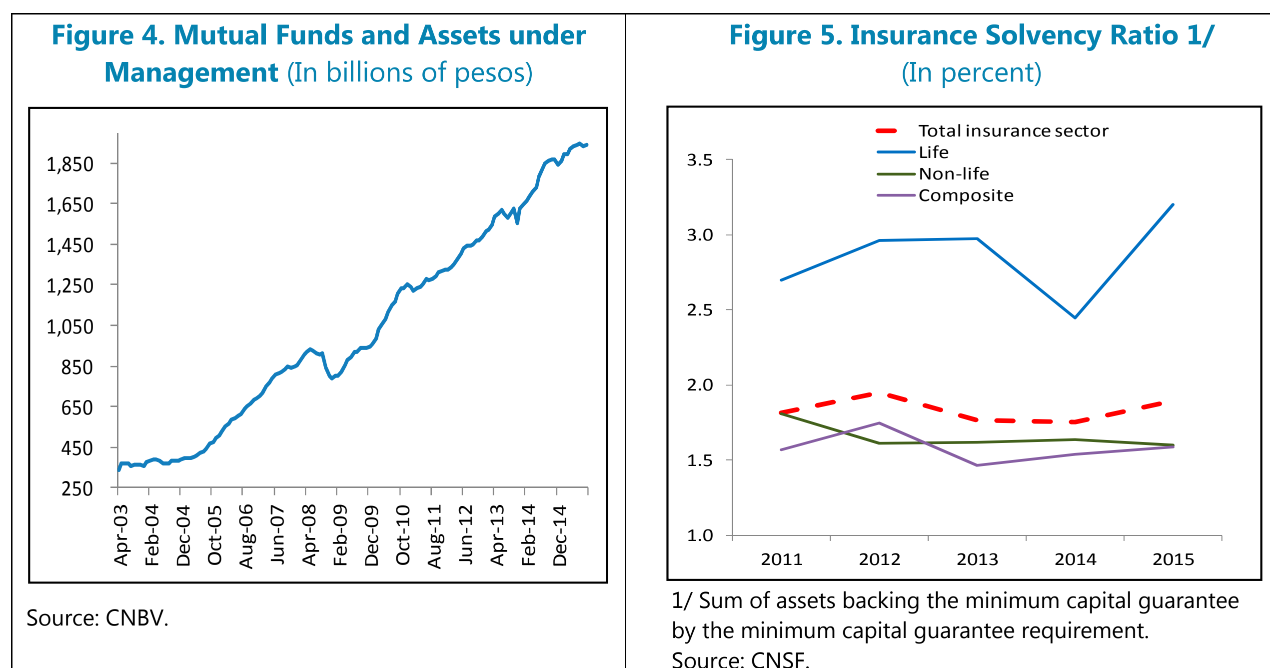


Figure 4. Mutual Funds and Assets under Management (In billions of pesos)

Source: CNBV.

Figure 5. Insurance Solvency Ratio 1/ (In percent)

1/ Sum of assets backing the minimum capital guarantee by the minimum capital guarantee requirement.
Source: CNSF.

Household, Corporate, and Sovereign Leverage

10. Household leverage is relatively low compared to other EM peers, but consumer loans are rising. Bank lending to household accounts for 37 percent of total loans, and 60 percent of these are non-revolving personal loans and credit cards. The remaining are housing loans. In the last five years, credit card and non-revolving personal loans have grown at a compounded annual rate of 15 percent, slightly higher compared to housing loans (12 percent compounded annual growth rate). The rapid growth in consumer loans could risk higher NPLs, especially in times of economic weakness. A mitigating factor is that household leverage remains low relative to other EMs, and has risen only slightly from 13 percent of GDP in 2008 to 15 percent of GDP in 2015.

11. The largest publicly-traded corporations appear to be sound despite higher leverage and high FX debt (Figure 6). While corporate leverage of the largest 50 traded companies has increased in recent years and its well-above 2008–09 levels, it is moderate at the aggregate level relative to other EMs. Interest coverage ratios also remained adequate, and the maturity profile of debts has largely been termed out as corporations took advantage of easy access to global capital markets to refinance their debts, typically at fixed rates. Most companies appear to have adequate cash buffers. Foreign currency debt accounts for about half of their total debt but, currently, some of these risks are minimized by "natural" hedges from foreign currency revenues and derivatives. On average, foreign currency revenue accounts for about 30 percent of total revenue for the largest 50 companies. Most companies use plain vanilla derivatives to hedge their foreign currency bonds and project financing debts close to their maturity. Some companies also hedge part of their mismatches in FX inflows and outflows through short term 6 to 12-month currency forwards.

12. Nonetheless, commodity-related corporations are vulnerable. The mining sector is susceptible to declines in commodity prices and global demand, and PEMEX suppliers are coping with PEMEX delayed debt payments. Commercial banks' exposure to this sector remains small (i.e., 6 percent of total loans) and their gross sectoral NPL ratio is very low at 0.1 percent.

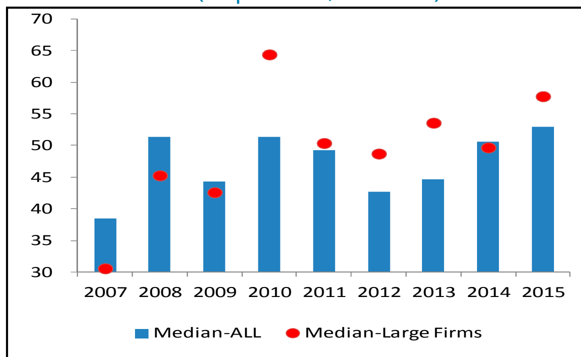
13. Nonresidents hold large shares of local currency sovereign debt. Commercial banks' holdings of government bonds are large relative to their balance sheet but small as a share of the sovereign debt portfolio (less than 5 percent). Larger holders of Mexican sovereign debt are nonresidents, pension funds, and mutual funds. In the event of a sharp capital flow reversal, residents would have little room to absorb significant amounts of debt securities. Banks have been reducing their market-making activities, especially those that are part of international groups and subjected to strict home-country regulation. Pension funds follow long-term strategies, and would likely only make limited use of the opportunity to pick up securities cheaply. Mutual funds are mostly in the money markets. They could play a larger role, if investors were to switch toward more debt funds, but given the conservative profile of most mutual fund investors, it seems unlikely.[7]

[7] In a tail event of disorderly pressures in domestic securities markets and capital flows reversal, the authorities have a number of tools to prevent disorderly market conditions, including discretionary foreign exchange interventions, targeted liquidity provision, and debt duration management.

Figure 6. Mexico's Corporate Sector

Corporate leverage has increased, particularly large firms…

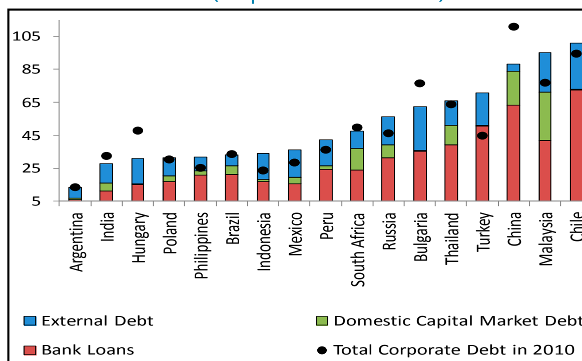
(a) Total Debt to Total Equity
(In percent, median)



*Based on a sample of 119 firms. Large firm is the top 25th percentile of the sample, based on firms' asset size.

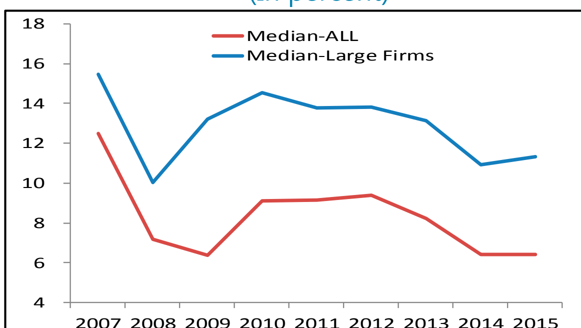
… but it is in line with other emerging markets.

(b) Total Nonfinancial Corporate Debt
(In percent of GDP)



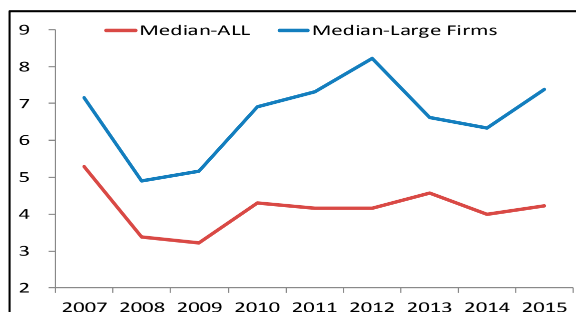
Profitability has weakened in line with the slowing economy

(c) Return on Equity
(In percent)



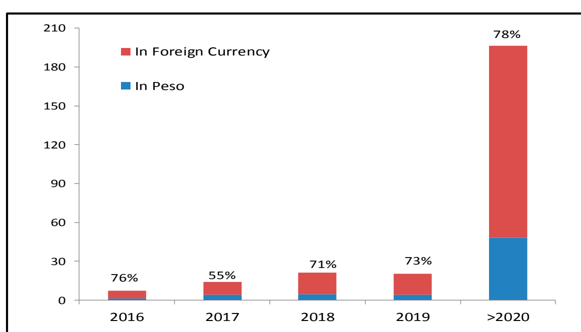
… but interest coverage remains strong, at the median.

(d) Interest Coverage Ratio
(Earnings in multiples of interest expense)



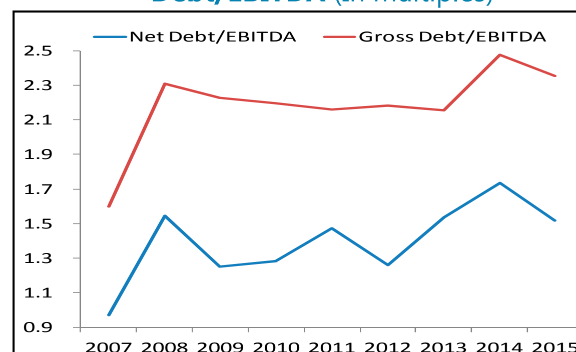
Corporations have termed out their bond maturity, but exposure to FX debt is high …

(e) Maturity Profile of Nonfinancial Corporate Bonds (In U.S. dollar billions)



… ample cash buffers would help near term debt service.

(f) Median Net Debt/EBITDA and Net Debt/EBITDA (In multiples)



Sources: Bloomberg External Debt Statistics and FSIs.

Challenges Ahead

14. The development of Mexico's financial sector can bring significant gains but also more risks and challenges. Mexico's economy has been benefiting from the strengthening of the sector and, with the support of sound economic management and strong fundamentals, further gains are expected. However, the globalization and the deepening of the financial sector will give rise to new and more complex risk exposures that could undermine the soundness of the financial system, with adverse economic impact:

- Mexico's financial sector is rapidly integrating into the global financial system, and at a faster pace than many of its EM peers (especially in Latin America). The Mexican peso is the tenth most traded currency in the world and the first among emerging markets, and it is a benchmark for large EM currencies. Mexican sovereign instruments are trading in major sovereign bond indexes including the World Government Bonds Index (WGBI) and the JP Morgan's Government bond EM index. Inclusion in major indexes has encouraged nonresidents large participation in the peso-denominated sovereign debt market (see ¶13), which surged after 2010. Mexican securities are also actively trading offshore.

- The financial deepening reform agenda is ambitious. A comprehensive financial reform plan was approved in January 2014 with the objective of increasing the financial sector's contribution to economic growth and access to finance (Table 3). The reform relied on four main pillars: (a) increase competition in the financial sector by inhibiting anti-competitive practices; (b) encourage credit through development banks by strengthening their legal framework, objective and operating capacity; (c) expand credit through private financial institutions by enabling a more systematic evaluation of commercial bank credit and a more efficient channeling towards productive activities; and (d) maintain a stable and solid financial system. Apart from strengthening the banking sector buffers and adopting a resolution and liquidation framework, the reform gave a more proactive role to development banks in credit allocation and enhanced the protection of financial service consumers.

FINANCIAL SECTOR RESILIENCE

A. Banks

15. The resilience of Mexico's banking sector was assessed using solvency and liquidity stress tests (ST) and interconnectedness risk analysis. Banxico and the CNBV, in close coordination with the FSAP team, conducted bottom up (BU) and top down (TD) stress tests covering at least 80 percent of the commercial banks' assets and used two sets of simulated adverse macroeconomic scenarios designed in line with Mexico's key risks and transmission channels (Annex I, Table 3) over a five-year horizon during 2016 Q–2020 Q4 (Annex I subsection A and Annex I, Tables 1 and 2).

- The BU solvency exercises assumed (i) a V-shaped scenario where the economy recovered rapidly from the initial shocks and that resembled the 2008–09 financial crisis; and (ii) a U-shaped protracted recession with a less severe initial shock than the V-shaped scenario set but with a slower recovery. The TD solvency STs used Banxico's probabilistic approach, in which a bank's CAR is calculated for each single scenario in the set.

- The liquidity STs were based on the LCR framework introduced under Basel III in 2010 and revised in 2013.

- Interconnectedness risk focused on how shocks arising from the failure of one firm propagated through the financial system. Direct exposures between banks and other nonbank financial institutions (NBFIs) constituted the main contagion channel.

Solvency Tests

16. Overall, Mexico's banking sector seems to be resilient. Large commercial banks remained adequately capitalized in the BU ST (i.e., above the 8 percent minimum regulatory capital requirement applied to total capital) and no large commercial bank failed the TD ST. A protracted recession was more damaging to the banking system than a V-shaped recession, with the impact of the shocks partly offset by higher net interest rate margins (from higher interest rates) and a rebalancing of the loan portfolio consistent with the credit growth assumptions envisaged in the scenarios (Annex I, Table 2).

17. Large commercial banks remained adequately capitalized in the BU ST, and no large commercial bank failed the TD ST, despite large capital losses in some cases. Higher probability of defaults (PDs) led to higher credit losses and associated loss reserves, reducing the banks' ability to generate earnings and affecting ROE and ROA negatively. The fall in earnings, however, was offset by higher interest margins, and the initial high levels of CARs helped banks withstand the shocks. Moreover, the BU ST allowed banks to rebalance their balance sheet dynamically, reducing their credit exposures in response to negative shocks and the corresponding risk-weighted assets (RWAs), which helped supporting CARs. Keeping the balance sheet static by not allowing banks to reduce exposures could reduce CARs by as much as 1¼ percentage points. Initially, the BU ST set the risk weights (RW) for different asset classes constant. Adjusting RWs to reflect changes in the PDs of the banks' loan portfolios could reduce the system CAR by as much as 6 percentage points and caused one of the G-7 banks to fail, with its CAR failing to a low of 7¼ percent. The TD system-wide results were driven by the good performance of the G-7 banks, none of which failed the ST regardless of whether the CAR calculations assumed fixed or PD-adjusted RWs.

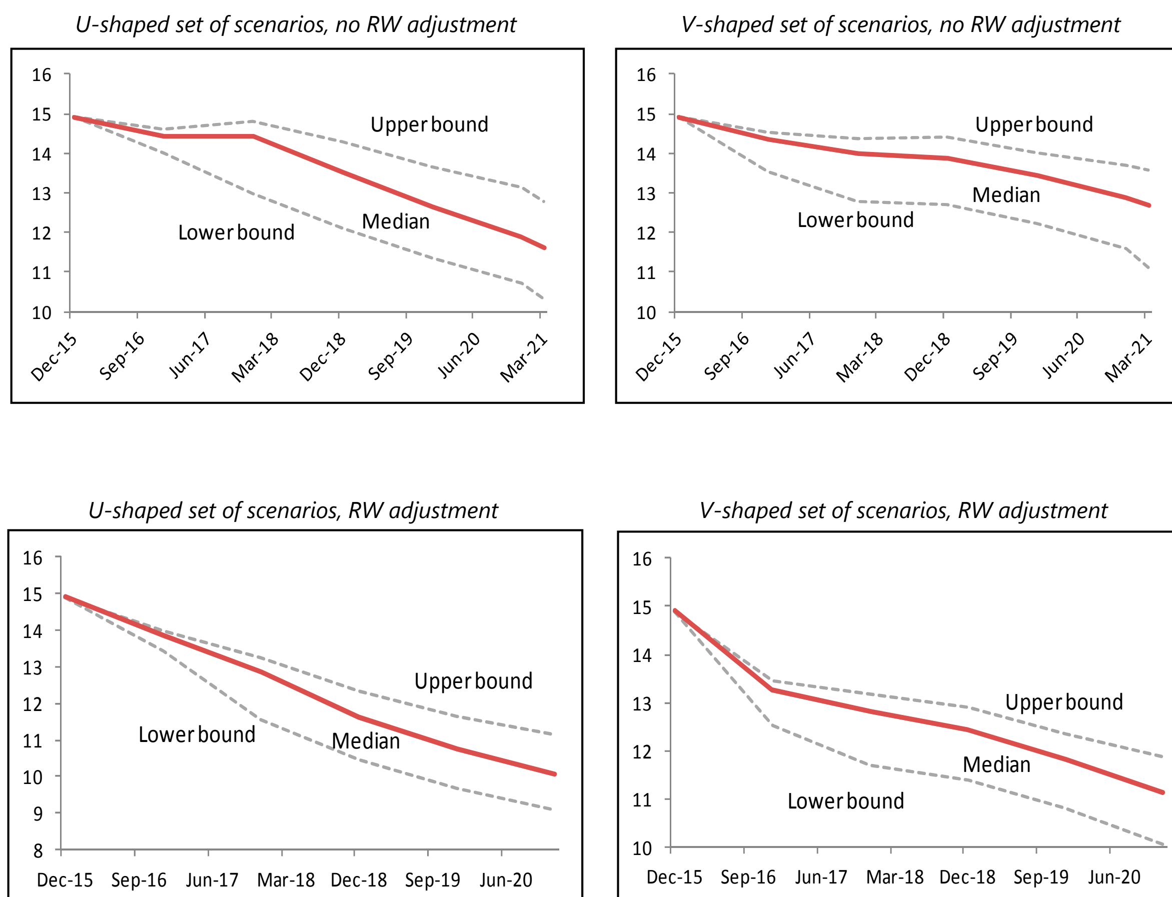
18. However, small commercial banks suffered larger CAR declines in the TD STs.[8] Although no bank failed in either scenario, some banks' capital requirements to total capital declined by more than 30 percent at the end of the third year of the TD ST. By the end of the fifth year of the ST, five banks (20 percent of the banking system assets) failed in the U-shaped set of

[8] BU STs were not performed on the small banks.

scenarios; and two banks (7 percent of banking system assets) failed in the V-shaped set of scenarios. The five-year results are subject to high uncertainty, and counterintuitive behavior of PDs in the TD ST scenarios beyond the three-year horizon (Figure 7).

Figure 7. System-Wide Capital Adequacy Ratio Distribution Across Scenarios in Top-Down Stress Test

(In percent)



Source: Banxico and staff calculations.

Liquidity Tests

19. All G-7 banks enjoyed ample liquidity in domestic currency and foreign currency, but some small banks appeared to face foreign currency liquidity needs.[9] The ST LCRs of the G-7 banks met (or exceeded) the regulatory threshold (Annex I, Table 3) even if applying the LCR 2010 test with a 10 percent run-off rate on stable deposits (instead of the standard 5 percent run off rate applied on the 2010 LCR tests). The banking system also performed well when inflows and outflows were consolidated across all significant currencies. Potential liquidity problems appeared, however,

[9] The average liquidity coverage ratio (LCR) of G-7 banks stood at 208 percent by end-2015.

when the LCRs were calculated for foreign currency holdings. A few small banks (about 4 percent of total bank assets) ST LCRs fell below 10 percent and 8 percent in the LCR 2013 and LCR 2010b tests respectively. In the latter test, the banks below the 29 percent median ST LCR level represented 15 percent of the system's assets. HQLAs deposited abroad, ample domestic currency liquidity, and deep and liquid FX markets in Mexico would further expand the buffers banks could use to meet FX-denominated obligations in case of stress.

Interconnectedness Risk

20. Interconnectedness risk appears to be manageable, as it affects only small firms. The exercise encompassed a broad sample of firms and direct exposures (Annex I, subsection B). Brokerage houses appeared to be the most affected even though their size is relatively small and are not considered to be sources of systemic risk. During 2015, banks and brokerage houses' assets breaching the regulatory minimum standards fluctuated from a low 4½ percent of their total assets to a high 8 percent of total assets. The affected banks were small, each holding on average about ½ percent of assets in the system. The reduction in interconnectedness risk, which affected a record high of 20 percent of assets in the system during 2008–09, is partly explained by banks' lower exposures to foreign financial institutions in response to stricter regulatory limits on net open positions in foreign currency.

B. Development Banks

21. The three largest development banks could also withstand adverse shocks. Under the two V-and U-shaped scenarios, the CNBV's BU ST found their CARs remained above the 8 percent regulatory minimum total capital. One of the banks, however, would see its CAR fall below 10½ percent, the regulatory level prompting regulatory intervention. In the event of capital shortages, however, the authorities' policy is to redistribute the excess capital in developments banks at the aggregate to ensure all individual banks comply with the regulation.[10] This burden-sharing mechanism was used in the past to recapitalize a troubled bank.

C. Non-Banking Financial Institutions

22. Insurance companies and pension funds could endure a number of large market shocks. They are heavily invested in debt instruments, equities, and foreign exchange securities. Shocks emanating from macroeconomic weaknesses and external volatility will affect insurance solvency requirements and pensions' investment limits, and could potentially spill over to the domestic capital market. The sensitivity analyses conducted jointly with the authorities covered the ten largest insurance companies with about 80 percent of the total insurance assets, and 73 pension funds covering all assets under management. The analyses found these institutions and funds to be resilient to the market shocks (single shocks on interest rate, exchange rate, and equity

[10] The authorities also indicated that even if one or more development banks were to face capital shortages, as long as there was excess capital at the aggregate level for the development banking sector, the capital could be redistributed among the banks facing capital shortages to ensure all firms were adequately capitalized.

market, as well as combined shocks) albeit with certain pockets of vulnerability. Regulatory mechanisms in place should prevent forced selling during volatile market conditions that could further exacerbate market disruptions and add pressures.

23. Insurance investment portfolios were found to be well diversified, generally resilient to market risks, but sensitive to interest rate shocks. Under the simultaneous shock scenario, solvency ratios increased because revaluation losses in mark-to-market securities were largely offset by exchange rate gains from a peso depreciation. When isolating the interest shock, solvency ratios were projected to decline due to the relatively large holdings of fixed income peso denominated securities. But even in that case, only two to four insurers were found to face shortfalls of up to 3.7 percent of assets, which could be corrected by rebalancing the portfolio towards lower risk assets or re-insuring liabilities.

24. Pension funds' performance appeared to be aligned with risk tolerance, but their net asset value (NAV) could decline to close to the 2007–08 crisis levels. If all shocks were to materialize simultaneously, the sensitivity analysis found that the aggregate NAV could decline by 6 to 10 percent, compared to the 16 percent decline during the GFC. Interest rate shocks caused the largest NAV decline, with the FX depreciation gains on FX-denominated assets offsetting the decline. In addition, pension funds were found to be less sensitive to liquidity risks. Under current legislation, pension fund managers are not obliged to sell assets in volatile times. The confidence level of the regulatory value-at-risk (VaR) limits adjusts automatically, and there is a six-month regularization period to restore compliance. Moreover, market-to-market losses are unrealized unless shocks are permanent and assets are sold. Nevertheless, the system has room for improvements, including adopting a long-term strategic benchmark-based approach that favors stable long-term investment strategies.

D. Corporate Sector

25. The largest 50 publicly listed corporations also displayed resilience to large shocks, and spillovers to the banking sector appeared to be low. The sample's market capitalization represented 34 percent of GDP and 30 percent of all corporate debt.[11] The exercise considered three alternative scenarios on how companies dealt with debt risks in their balance sheets: (i) "natural" hedging; (ii) "natural" and financial hedging; and (iii) no hedging. Shocks to the exchange rate and interest rate were severe. In a worst case scenario of no exchange rate hedging, interest coverage ratio for six companies would fall below 1, implying some possible difficulties for these companies to serve their debt interest payments on time. Their debts, however, account for only 6.6 percent of total corporate sector debt and about 1 percent of total bank loans; a default would only translate into a small increase in the gross corporate NPL ratio (from 0.02 to 0.22 percentage point).

[11] The exercise focused on the largest publicly-listed corporations. It is estimated that 68 percent of the labor force works in small and medium enterprises (SMEs) but they create less than 40 percent of Mexican value added (OECD 2013 data). Data limitations prevented the extension of the analysis to the SME sector

MICRO- AND MACRO-PRUDENTIAL OVERSIGHT

26. Significant progress has been achieved since the 2012 FSAP in strengthening financial sector prudential oversight but a number of important gaps remain, including lack of progress in strengthening the governance arrangements of the supervisory agencies and IPAB.

A. Financial Sector Oversight and Regulations

Governance and Institutional Arrangements

27. There has been no progress on the governance framework of the supervisory agencies since the last FSAP. The CNBV's and IPAB continue to lack operational independence, budget autonomy, and legal protection, and are encumbered with multiple mandates. In particular:

(a) The CNBV Board members are ex-officio, with five out of 13 CNBV Board members being directly appointed by the SHCP and other five members being indirectly under SHCP's control. The posts have no defined terms, and the reasons for the dismissal of board members or the president are not clearly specified.

(b) The CNBV lacks autonomy on its own budget, which is approved by the SHCP and subject to fiscal measures adopted by the federal government. A salary freeze has been in place for well over a decade resulting in unusually high staff turnover raising concerns regarding quality of supervision and institutional continuity.

(c) The legal protection framework for supervisors is limited at present and does not provide statutory immunity to the supervisors for the lawful performance of their duties.

(d) The agencies focus on financial stability has been diluted by multiple objectives including, inter alia, developmental and consumer protection responsibilities.

28. The supervisory framework governance needs to be strengthened significantly to support Mexico's financial sector standing domestically and globally and to effectively mitigate new emerging risks. Safety and soundness of the supervised institutions should be the primary mandate for the supervisor; other mandates should remain secondary and narrowly defined. Governance boards need to be composed of independent members with clear rules and process for the appointment and dismissal of senior personnel. The supervisor should have the capability to use the tools needed to ensure the stability of the financial system by exercising its judgment and powers, including with respect to licensing, on-site inspections and off-site monitoring, sanctioning and enforcement. Finally, budgetary independence allows the supervisor to plan its budget and to allocate resources according to its established priorities under its mandate, and to take the necessary measures to ensure the adequacy and quality of its staff.

29. Consideration should be given to integrating all financial supervisory functions into one agency. All prudential supervision, aimed at the safety and soundness of financial institutions,

should be integrated in one Prudential Supervisor, covering banks, securities, insurance firms, pension funds and other financial institutions.[12] In the context of Mexico's rapidly evolving and increasingly complex financial sector and the dominant role played by large and diversified financial conglomerates, an integrated supervisor would be more effective in ensuring the soundness of the financial system and mitigating current and new risks. While some costs would be entailed in merging agencies, an integrated supervisor would be able to pool in the expertise needed to supervise a rapidly evolving and more complex financial system, carry out effective consolidated supervision as barriers to information sharing and cooperation from different line supervisors come down, and limit regulatory arbitrage. An integrated and more independent supervisor should also have more clout in implementing its policies and be able to make better contribution to the financial stability assessment and macroprudential policy setting within the CESF.

Banking

30. Since the last FSAP, Mexico's banking sector supervision and regulatory framework has significantly improved. Measures include: adoption of a risk-based framework approach to supervision, the strengthening of financial groups' legal framework with more restrictive limits to related party transactions, the implementation of the Basel III framework in 2013, and the adoption of a special resolution regime for banks.

31. Despite the progress, there is scope for further improvements. Regulatory gaps need to be addressed with respect to corporate governance rules for banks; the definitions of large exposure, common risk and related parties; and liquidity rules for development banks. The role of Banxico in determining certain capital requirements should be reviewed and the CNBV should assume the sole responsibility for these functions.[13] Additional improvements in the risk-based supervision are needed, including updating the risk assessment and rating system. Gaps in the legal framework continue to limit the CNBV's ability to perform effective consolidated supervision, which hinders supervisors' assessment of the true situation of the bank as part of the holding company. If the tail risks identified in the stress test (RAM in Table 5) were to materialize, there is a risk that contagion effects throughout the group may not be detected early in the process as inter-agency cooperation to establish procedures to systematically monitor banking groups is lagging. Finally, the accounting and auditing framework for banks should be strengthened by requiring banks to adopt IFRS, in line with all other listed companies, with accompanying powers for the supervisor to be able to ask for tax deductible prudential provisions beyond IFRS 9 (IAS 39) requirements.

[12] Conduct supervision, aimed at consumer protection and integrity of markets, is performed by a separate Conduct Supervisor (CONDUSEF). It promotes financial transparency and education to help users make informed decisions on profits, costs, and risks of products and services provided by the Mexican financial system. The consolidation of the supervisory agencies together with the existing separate Conduct Supervisor would result in a twin-peak arrangement.

[13] This recommendation should be implemented in line with the strengthening of the CNBV's independence.

Securities Supervision and Capacity Constraints

32. The 2014 reforms introduced new securities regulations and supervisory powers to the CNBV, except in the derivative markets. The new Law clearly defines the CNBV's responsibilities and regulatory and supervisory enforceable oversight powers over a broad range of entities but with an important exception: derivatives. The derivatives market regulation relies on general provisions encompassing the SHCP, Banxico and CNBV. Furthermore, a law for OTC derivatives is not yet in place, which could impair the enforcement by the CNBV of current regulations in this area. The CNBV is to formally start applying strengthened risk-based supervision in the securities area for intermediaries in 2017.

33. A strengthened risk-based supervision on securities for intermediaries is to be in place in 2017. Risk methodologies and procedures were revised with the support of the World Bank, and work is to cover: (i)an institutional report on surveillance activities; (ii) a risk matrix and risk-based supervision procedures; and (iii) grading to signal the importance of the findings.

34. The CNBV has enhanced disclosures to the public, but it is not enough. Under the new legislation, the CNBV is obligated to disclose publicly, via its Webpage, the imposition of administrative sanctions. But, the CNBV's internal regulatory process setting out its responsibilities, powers and priorities has not been formally shared with market participants, who also are not aware with the CNBV´s top regulatory priorities for 2016 or its 2014–18 strategic plan and targets.[14]

35. While the framework has been significantly enhanced, staffing constraints could impair implementation of these new improvements, including of new instruments. The CNBV allocates less than 8 percent of its staff to securities markets' activities. Retention of qualified experienced staff, particularly at senior levels, challenging, with wages remaining frozen for over a decade. The lack of oversight capacity constitutes a major risk also in this area.

Payment Systems

36. The assessment of the payments systems focused on Sistema de Pagos Electronicos Interbancario (SPEI). The system is a central part of Mexico's payment and securities settlement infrastructure, processing large-value and retail payments alike, and currently supports 15 different types of payments. SPEI was began operations in 2004 and is owned and operated by Banxico. Payments volumes processed by SPEI have been growing by an annual average rate of 32 percent over the past five years, and in 2015, SPEI processed transactions for the equivalent of 10 times the country's GDP.

[14] The CNBV's 2016 five priorities are: (i) open architecture fund distribution; (ii) a second stock exchange; (iii) secondary rules applicable to brokerage houses; (iv) stock exchange rules; and (v) new rules applicable to central counterparties. The 2014–18 internal strategic plan has three strategic lines: (i) strengthening the processes at the CNBV by optimizing the supervision and enforcement; (ii) implementing the financial reform by issuing the regulation and to adapt the functions and structure of the CNBV to implement the financial reform; and (iii) procuring the solidness and development of the financial system in line with best international practices.

37. SPEI largely observes the Principles for Financial Market Infrastructures (PFMI), but could benefit from few enhancements. SPEI is supported by well-founded legal basis and sound governance arrangements. It has developed a comprehensive risk management approach with an emphasis on operational risk management. Business continuity and information security policies are shaped according to internationally-accepted commercial standards. There are, however, areas that can be improved. These include, inter alia, strengthening of the collateral haircut methodology in extreme market conditions, enhancing transparency by establishing participants' formal consultation mechanism, articulating the risk-based access requirements and establishing specific procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meet, these requirements.

B. Financial Stability and Macroprudential Framework

38. Mexico has been moving towards a system-wide approach to the identification and mitigation of financial stability risks. The Financial System Stability Council (CESF), established by Presidential Decree in 2010 and law in 2014, brought together the SHCP, Banxico, and other financial sector supervisors, to identify and analyze potential risks to the financial system, and recommend policies, including macroprudential policies, to mitigate them. The CESF does not itself have powers to implement measures or take actions; instead, it relies on its members, whose mandates all contribute towards the overarching objective of financial stability, and that are, in general, technically sound and well equipped to assess major systemic risks. The SHCP, with the Minister chairing the meetings, has strong influence in the proceedings.

39. Nonetheless, the macro-prudential policy framework does not clearly assign the responsibility for the identification and mitigation of potential systemic risks. Macro-prudential instruments have been applied in the course of time by various authorities based on their respective legal mandates, but there is no clearly assigned authority to prepare and execute macroprudential policy in the pursuit of overall financial stability.[15]

Effectiveness of Arrangements

40. The CESF has helped strengthen coordination and collaboration in the identification and assessment of potential risks to financial stability, but has been less effective in policy formulation. The arrangement has provided a dedicated platform for such exchanges, with the published Annual Report and Quarterly Press Releases being the result of collaboration on risk analyses to the Mexican financial system. But it is less clear how effective the CESF has been in formulating recommendations that have resulted in improved financial stability policy. The public statements and press releases provide limited insight in the deliberations within the CESF and precise recommendations.

[15] On October 2012, for instance, Banxico required banks to request its authorization to transfer assets abroad or conduct other operations between banks and relevant related parties if exceeding 25 percent of basic capital. In 2009–10 CONSAR increased the limits to the VaR for pension funds' portfolios during periods of high volatility.

41. Multiplicity of communication channels can affect the clarity of the message. There is considerable overlap between the CESF Annual Report and reports published by its members. This is particularly the case with the overall risk outlook in the Annual Financial System Report published by Banxico, and the Quarterly Reports on Public Finances issued by SCHP.

Strengthening the Macroprudential Framework

42. The CESF as the overarching platform to further financial stability should be strengthened further, with greater assurances that the recommendations will not be subject to undue political considerations. The CESF is a strong manifestation of the collective commitment to financial stability by the Mexican authorities. This role can be reinforced by assigning to the CESF the responsibility not only for monitoring and assessing emerging systemic vulnerabilities, but also for formulating the appropriate macroprudential policy response. Such an arrangement need not necessarily entail direct control by the CESF over macroprudential tools, but could take the form of enhanced recommendations to the authority who "owns" the tool in question. The forcefulness of recommendations could be strengthened by making them public and in some cases by adopting a "comply or explain" approach.

43. Increased responsibility for the CESF should be accompanied by greater assurances that the recommendations will not be subject to undue political considerations. In order to help build confidence, it is essential that decisions are taken purely on grounds that contribute towards ensuring financial stability. Even in the absence of political interference, it is important to avoid the perception that the arrangements might be prone to such influence.

FINANCIAL SECTOR SAFETY NETS AND CRISIS MANAGEMENT

A. Safety Nets

Liquidity Framework

44. Measures are in place to help reduce the likelihood of liquidity stress across the financial system and deal with it should it arise. Banxico has an extensive database of financial exposures and conducts network analysis on a monthly basis. Systemic liquidity risks in Mexico's well-regulated, bank-centered, and active financial markets were assessed across a number of areas: Banxico's liquidity management; liquidity regulation applied to banks and emergency liquidity assistance; short-term money markets; mutual funds; government securities markets; and the foreign exchange market.

45. Banxico's liquidity operating framework in normal times fully supports the efficient pricing and distribution of liquidity. Banks have certainty about day-to-day liquidity conditions and have access to a collateralized overdraft in the event of operational problems. However, collateral pressure could arise in light of increasing demands on HQLA, combined with the high foreign

ownership of government securities. The Banxico could consider broadening the collateral framework to mitigate increased financial risks through higher haircuts.

46. Liquidity regulation and the provision of emergency liquidity has been significantly upgraded since the last FSAP.

(a) *Mexico is implementing the LCR in line with the international agreed timetable*. In 2016, the required compliance is 70 percent; all major banks and most banks are above 100 percent. It is expected that the LCR will eventually be applied in foreign currency but for the moment they remain subject to a stringent foreign currency liquidity metric. Banks must also provide annually, a Liquidity Contingency Plan to the CNBV, detailing the sources of funding and procedures for dealing with liquidity stress.

(b) *Banxico' s contingent liquidity arrangements have been upgraded since the last FSAP*. The arrangements include: (i*) the Standing Additional Ordinary Liquidity Facility*, which, once requested, the facility is automatic and provided against a broader range of collateral and can be rolled over on a daily basis; and (ii) *the Emergence Liquidity Assistance Facility* (ELA). For the latter, internal protocols have been established with no public commitment to provide ELA, thereby minimizing moral hazard, and such assistance will be assessed and provided on a case-by-case basis.

Deposit Insurance

47. The deposit insurance framework, managed by IPAB, broadly conforms to best international practice. The current limit allows for coverage of approximately 99 percent of depositors but only 55 percent of total deposits in the system. IPAB is also the resolution authority and has close cooperation with other members of the financial safety net. In 2014 the Banking Act was amended to provide IPAB with greater powers to manage both its deposit insurance and resolution functions. IPAB has authority to issue government guaranteed debt to the markets up to 6 percent of its member institutions' liabilities without formal executive approval.

48. IPAB is a strong institution, but its effectiveness is undermined by multiple mandates and limited resources. It has a culture of cooperation with other safety net players, strong performance in the recent handling of a small bank failure, ongoing planning for potential financial institution resolutions, and openness and transparency in its operations and reporting. However, IPAB has been tasked with managing legacy assets, repaying legacy debt, insuring depositors, acting as the resolution authority, and injecting resolution funding to banks deemed systemic. In addition, the current reserve level for the deposit insurance fund is small by international standards at approximately 1 percent of insured liabilities. At present, operating under multiplicity of objectives, IPAB's priorities in case of funding needs for the resolution of a systemic bank or the payment of insured depositors in a small or medium bank, are not clearly defined. Actions should be taken to transfer the legacy debt to the government's budget, and to find a workable resolution funding formula that protects IPAB's deposit insurance fund from depletion by resolution funding for systemic banks.

B. Resolution and Crisis Management Framework and Resolution Regime

49. Mexico's bank resolution regime has significantly improved since the last FSAP. The 2014 financial sector reform strengthened the special bank resolution regime by incorporating clear and shorter timeframes for resolution action, clarifying the role of courts and removing resolution actions suspensions, and expanding IPAB's powers, among other measures.

50. However, the system still requires important enhancements in a number of areas. These include: extending the special resolution regime to cover the FHCs, strengthening the authorities' power to require banks to make changes to improve their resolvability (e.g., the issuance of loss-absorbing capacity tools), and conduct purchase and assumptions transactions with third parties, developing guidelines for systemic determinations, clarifying internal guidelines on the timely entry into resolution process to avoid delays, improving the quality and scope of banks' recovery plans. The lack of specific provisions for conglomerates on prevention, management, and resolution, could significantly increase the costs of a crisis.

Contingency Plans for Systemic Crisis

51. There is no formal contingency plan for dealing with a systemic crisis, nor a systemic simulation exercise to assess the authorities' ability to deal with a systemic crisis. IPAB undertakes its own simulation exercises but there have been no regular system-wide crisis simulation exercises testing the effectiveness of the authorities' cooperation and their ability to coordinate and communicate effectively in times of crisis. A systemic crisis contingency planning and simulation exercise agenda should be pursued as part of normal business practice.

Insolvency Proceedings and Creditor Rights

52. The financial reform has brought major changes in the Mexican insolvency framework. The Mexican insolvency model is federal in nature, both in its application and Courts jurisdiction. The 2014 amendments to the Mercantile Law ("Ley de Concursos Mercantiles") introduced many reforms, in line with past recommendations. These included: the reduced influence of related parties in the voting process in a reorganization plan; a procedural consolidation of large corporate groups in insolvency; a filing by reorganization by debtors in cases of imminent insolvency; and first priority post-commencement financing for distressed businesses.

53. However, the insolvency regime does not support preserving going-concern value and is rarely used, and the enforcement of secured interests remains a challenge. The regime continues to be quite complex and discourages the use of insolvency proceedings, and the use of creditor committees and creditor meetings is virtually non-existent. Although the 2014 reform added out of court enforcement remedies for security interests in deposit accounts, court-based enforcement is still the norm, and judicial proceedings still do not differentiate between immovable and movable collateral.

ANTI-MONEY LAUNDERING AND COMBATING THE FINANCING OF TERRORISM

54. The coexistence of a sophisticated financial sector and a large cash-based informal sector could potentially pose significant challenges in the implementation of the AML/CFT. The IMF will conduct an AML/CFT assessment of Mexico during February/March 2017.

FINANCIAL SECTOR DEVELOPMENT PRIORITIES

55. Access to finance and long term financing remain primary challenges for a large segment of the economy. Despite its income and level of development, Mexico's private sector credit to GDP ratio is just about 30 percent, and is one of the countries in Latin America and peer emerging markets (e.g., Russia, Turkey, South Africa) with the lowest number of adults holding an account at a financial institution, obtaining credit, and owing debit cards (Findex 2014). Furthermore, financial services' provision is concentrated in urban areas, with only 29 percent of the poorest Mexican population having an account, compared to an average of 50 percent in Latin America. The authorities' efforts at closing the gap have focused on enhancing the role of DBs to expand credit and financial services, in particular to SMEs and public infrastructures, through first and second tier lending and guarantees and establishing quantitative credit targets.[16]

56. The important role that development banks may have in fostering financial inclusion and deepening, needs to be done on a sustainable basis, generating the right incentives. To ensure effectiveness, sustainability, and to avoid creating market distortions, authorities may implement relevant changes to the current policy, focusing on financial inclusion, crowding in private sector, ensuring sustainability when pricing programs, and gradually phasing-out from those beneficiaries that can already be served by the private sector. Finally, opportunities to increase coordination by sharing services and merging institutions should be explored.

57. Further improvements to financial infrastructure would foster access, leveraging the impact of development banks. The financial reform introduced important reforms to the financial infrastructure framework, notably related to credit information, insolvency framework and enforcement of mobile guarantees. Further actions to make the movable collateral registry fully operational and to test the new framework are needed. The creation of a credit registry would further facilitate entrance of firms that exploit credit information.

58. The regulatory framework and policies for infrastructure financing could be further enhanced to facilitate mobilization of resources and broaden the investors' base. While very positive progress has been made, further efforts are needed. This process would benefit from introducing more flexible instruments such as infrastructure debt funds, broaden the investor base,

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[16] These targets may have generated perverse incentives by competing directly with the private sector through lower interest rates and reducing incentives for DBs to exit from lending operations.

emphasizing the use of guarantees provided by development banks instead of direct lending, and promoting the off-loading of mature infrastructure assets of SOFIs.

59. Steps are needed to ensure the sustainability and competitiveness of the pension system. In particular, current contribution rates for IMSS workers are significantly below OECD countries' prevailing levels. A sunset clause should be put on the accumulation of defined benefits, in line with OECD recommendations. These reforms would smooth the replacement rate trajectory, reduce fiscal deficits from the transition generation, and provide funding for universal pension rights, a measure pending the Senate's approval. The annuity market is formed by four players, two of which hold three quarters market share. New entrants would make this market more competitive and sustainable.

60. Domestic capital markets are unevenly developed with a very liquid government bond market but shallow corporate debt and equity markets. Government bond markets are deep and well-diversified in terms of range of instruments and maturities, providing liquidity in all relevant benchmarks. The strong presence of foreigners supported the yield curve lengthening and secondary market liquidity. However, corporate equity and bond markets are still not a reliable source of long-term financing as they are small, expensive and illiquid. For instance, equity markets amount to only 38 percent of GDP, are less dynamic than in peer countries, and are tilted towards large enterprises and family owned corporations. The development of hybrid capital markets instruments, via private equity funds, could provide a promising venue for much needed mature infrastructure investments. There is significant scope to broaden existing debt instruments to include infrastructure debt funds, covered bonds, and standardized securitization bonds to appeal to a larger range of private sector investors.

Table 2. Selected Economic, Financial, and Social Indicator

I. Social and Demographic Indicators

GDP per capita (U.S. dollars, 2015)	9,452	Poverty headcount ratio (% of population, 2014) 1/	46.2
Population (millions, 2015)	121.0	Income share of highest 20 percent / lowest 20 percent (2012)	11.1
Life expectancy at birth (years, 2015)	74.9	Adult illiteracy rate (2012)	5.8
Infant mortality rate (per thousand, 2015)	12.0	Gross primary education enrollment rate (2012) 2/	104.7

II. Economic Indicators

					Proj.	
	2012	2013	2014	2015	2016	2017
	(Annual percentage change, unless otherwise indicated)					
National accounts (in real terms)						
GDP	4.0	1.4	2.2	2.5	2.1	2.2
Consumption	4.7	2.0	1.8	3.0	2.0	1.8
Private	4.9	2.1	1.8	3.1	2.2	2.2
Public	3.5	1.0	2.1	2.3	0.5	-0.6
Investment	5.9	-2.0	3.0	3.3	-0.6	0.2
Fixed	4.8	-1.6	2.9	3.8	-0.5	0.2
Private	9.0	-1.6	4.9	6.3	2.4	5.2
Public	-9.0	-1.3	-4.9	-6.8	-15.1	-29.3
Inventories 3/	0.3	-0.1	0.0	-0.1	0.0	0.0
Exports of goods and services	5.8	2.4	7.0	9.0	2.1	5.7
Imports of goods and services	5.5	2.6	6.0	5.0	1.3	4.0
External sector						
External current account balance (in percent of GDP)	-1.4	-2.5	-2.0	-2.9	-2.9	-2.8
Exports of goods, f.o.b.	6.1	2.5	4.4	-4.2	-5.2	7.7
Export volume	5.9	1.7	7.1	8.2	1.6	5.8
Imports of goods, f.o.b.	5.7	2.8	4.9	-1.2	-3.7	7.3
Import volume	5.6	2.5	6.2	5.3	1.5	4.0
Net capital inflows (in percent of GDP)	4.6	5.5	4.6	2.9	2.9	2.9
Terms of trade (improvement +)	0.2	0.4	-1.3	-5.6	-1.6	-1.3
Exchange rates						
Real effective exchange rate (CPI based, IFS)						
(average, appreciation +) 4/	-2.8	6.1	-1.0	-10.1	-12.1	...
Nominal exchange rate (MXN/USD)						
(average, appreciation +) 5/	-6.0	3.0	-4.1	-19.2	-15.3	...
Employment and inflation						
Consumer prices (average)	4.1	3.8	4.0	2.7	2.8	3.4
Core consumer prices (average)	3.4	2.7	3.2	2.4	3.0	3.2
Formal sector employment, IMSS-insured workers (average) 6/	4.6	3.5	3.5	4.3	3.7	...
National unemployment rate (annual average)	4.9	4.9	4.8	4.4	4.1	3.9
Unit labor costs: manufacturing (real terms, average) 4/	-2.6	1.0	-1.2	1.7	3.8	...
Money and credit						
Financial system credit to non-financial private sector	11.0	9.5	8.9	14.0	13.7	11.7
Broad money (M2a) 7/	8.7	8.3	10.2	7.9	9.8	8.7
Public sector finances (in percent of GDP) 8/						
General government revenue	23.9	24.3	23.4	23.3	22.5	21.2
General government expenditure	27.7	28.0	28.0	27.3	25.5	24.1
Overall fiscal balance (public sector borrowing requirements)	-3.8	-3.7	-4.6	-4.1	-3.0	-2.9
Gross public sector debt	43.2	46.4	49.5	54.0	56.3	56.3
Memorandum items						
Output gap	0.9	-0.3	-0.5	-0.4	-0.5	-0.5

Sources: World Bank Development Indicators; CONEVAL; National Institute of Statistics and Geography; National Council of Population; Bank of Mexico; Secretariat of Finance and Public Credit; and IMF staff estimates.

1/ CONEVAL uses a multi-dimensional approach to measuring poverty based on a "social deprivation index," which takes into account the level of income; education; access to health services; to social security; to food; and quality, size, and access to basic services in the dwelling.

2/ Percent of population enrolled in primary school regardless of age as a share of the population of official primary education age.

3/ Contribution to growth. Excludes statistical discrepancy.

4/ 2016 based on data available through February 2016.

5/ 2016 based on data available through May 2016.

6/ 2016 based on data available through March 2016.

7/ Includes public sector deposits.

8/ Data exclude state and local governments and include state-owned enterprises and public development banks.

Table 3. 2013–14 Financial Sector Reform—Selected Key Measures

Measures	Explanation
Enhanced sanctions	BOM can impose administrative sanctions (with max and min defined limits) to infractions such as failing to share information to the BOM and/or obstruct BOM's work
Expanded supervision	BOM is authoritzed to conduct onsite supervision of financial intermediaries as stand alone or in coordination with other supervisory authorities. CNBV's supervisory responsibilities are expanded to securities firms and others.
Sofomes	The regulatory and supervision framework was enhanced, with the obligation to register at Condusef and share of up-to-date information to BoM and CNBV too.
Strengthening CONDUSEF	Creation of a bureau for financial institutions and an arbitration system in financial matters.
Enhancing past legislation on creditors' propery rights	New legislation addressing the 2000 Bankrupcy Law loophols on creditors' property rights (e.g., intercompany liabilities, director and manager responsibility)
Founding of specialized commercial-law courts at the federal level	Reform to reduces obstacles to expediency in the judicial process to recover collateral, illustrated by the possibility for debtors to choose the court level and select assets to be seized.
Banking resolution/liquidation framework	Approval of rules for the authorities to manage the resolution or liquidation of banks in cases of liquidity squeezes and insolvency. The framework encompasseslending of last resort with equity shares as collateral, bank contingency plans for adverse scenarios, and ring-fencing actions, for example, in the case of majority shareholder problems. An expedient bank judicial liquidation process and a legal framework for transfer of assets and liabilities are established.
Basel requirements	Basel III capital requirements are now mandatory and procedures for applying liquidity requirements were set.
Financial System Stability Board	Its existence is now recognized by Law

Source: Banxico and IMF Staff.

Table 4a. Financial Soundness Indicators 1/

(In percent)

	2010	2011	2012	2013	2014	2015	June 2016
Commercial Banks							
Ownership							
Number of banks							
of which: Affiliates of foreign financial entities	15	15	15	14	13	13	...
of which: Controlled by local individuals	21	22	23	27	27	27	...
of which: Controlled by non-financial entitties	5	5	5	5	5	4	...
Number of banks under liquidation process	-	-	-	-	1	-	...
Concentration (%)							
Share of assets of largest bank	82.2	82.7	81.6	82.7	81.2	81.6	...
Share of assets of the largest seven banks	82.2	79.7	77.9	78.9	81.2	79.2	...
Capital Adequacy							
Regulatory capital to risk-weighted assets	16.8	15.7	15.9	15.5	15.8	15.0	14.8
Regulatory Tier 1 capital to risk-weighted assets	14.9	13.6	13.8	13.5	13.9	13.3	13.3
Capital to assets	10.7	10.3	10.6	10.4	11.0	10.5	10.4
Asset Quality							
Nonperforming loans to total gross loans	2.3	2.4	2.5	3.4	3.1	2.6	2.4
Provisions to Nonperforming loans	200.0	191.1	185.5	147.6	132.7	140.1	145.1
Earnings and Profitability							
Return on assets	1.8	1.6	1.8	2.0	1.7	1.6	1.7
Return on equity	16.6	15.5	17.5	18.6	15.9	15.5	16.5
Interest Margin to Gross Income	70.9	72.3	72.1	70.1	72.1	73.0	73.4
Spread Between Reference Lending and Deposit Rates *(percentage points)*	10.2	10.9	11.7	11.7	10.9	10.6	10.0
Trading income to total income	4.4	3.4	4.8	7.5	4.0	3.3	4.0
Liquidity							
Liquid assets to total assets	41.6	39.5	36.2	35.9	35.4	34.6	32.4
Liquid assets to short-term liabilities	56.4	53.0	49.6	47.5	46.5	45.5	43.3
Customer deposits to total (noninterbank) loans	94.4	89.7	88.5	88.7	89.5	87.7	88.1
Exposure to FX Risk							
Net Open Position in Foreign Exchange to Tier 1 Capital	n.a.	n.a.	11.9	17.4	-0.7	-0.2	...
Foreign-Currency-Denominated Loans to Total Loans	10.3	12.4	11.1	10.9	12.2	13.3	13.2
Foreign-Currency-Denominated Liabilities to Total Liabilities	10.8	14.1	12.2	12.3	15.7	16.7	15.8
Derivatives							
Gross asset position in financial derivatives to capital	56.5	77.5	77.1	73.5	56.0	61.0	69.1
Gross liability position in financial derivatives to capital	55.6	79.6	76.1	72.7	59.6	65.1	74.9
Development Banks							
Regulatory capital to risk-weighted assets	15.5	14.6	14.9	14.2	14.0	14.1	...
Return on assets	0.8	0.7	0.7	0.4	0.5	0.3	...
Return on equity	9.4	8.5	8.9	5.5	7.0	4.0	...
Nonperforming loans to total gross loans	1.2	1.0	0.8	1.2	1.2	1.1	...
Provisions to Nonperforming loans	363.7	416.4	438.7	286.3	257.6	261.6	...
Total liquid assets to total liquid liabilities	196.9	176.0	192.5	176.9	142.3	120.5	...
Household Sector							
Household Debt to GDP	12.6	12.7	13.6	14.1	14.2	15.0	16.0
Household Debt to Income	18.4	18.7	20.3	20.5	20.6	21.7	...
Residential Real Estate Loans to Total Loans	n.a.	n.a.	16.5	16.9	16.8	16.2	16.2
Residential Real Estate Prices (percent year-over-year chang	n.a.	n.a.	n.a.	4.1	5.1	8.3	8.0

Sources: Banco de Mexico, CNBV

1/ End of period, unless otherwise noted.

Table 4b. Insurance Sector Soundness Indicators

	2011	2012	2013	2014	2015
Capital Adequacy					
Solvency Ratio	1.81	1.95	1.76	1.75	1.90
Capital/Total Assets	15.8	15.7	14.7	13.8	12.9
Capital/Technical Reserves	21.0	20.6	19.0	17.6	16.3
Return on Asset	2.3	2.8	2.5	2.4	1.8
Return on Equity	14.3	18.0	16.8	17.6	14.1
Asset quality					
(Real estate+Unquoted Equities +Debtors)/total assets	4.8	4.6	4.6	4.6	4.2
Debtors/(Gross Premium + Reinsurance Recoveries)	23.8	22.7	23.2	24.7	24.3
Equities/Total Assets	7.8	8.6	8.6	8.9	8.5
Reinsurance and Actuarial Issues					
Risk Retention Ratio (net premium/gross premium)	82.3	83.2	82.6	83.8	82.8
Technical Reserves Coverage Ratio	1.08	1.10	1.09	1.07	1.08
Net Technical Reserves/Average of net claims paid in the last three years	42.4	43.7	43.6	52.3	54.3
Net Technical Reserves/Average of net premium received in the last three years	39.3	37.1	38.0	42.0	45.5
Liquidity					
Liquid Assets/Current Liabilities	3.8	3.9	3.8	3.6	3.5
Sensitivity to Exchange Rate Risk					
Net open foreign exchange position/ Capital	3.1	1.2	2.0	3.2	2.8

Source: CNSF.

Table 5. Risk Assessment Matrix

Source of Risk	Overall Level of Concern	
	Likelihood of Severe Realization in 1–3 years	**Expected Impact on Financial Stability**
Global market volatility fueled by the decompression of spreads.	***High*** Turmoil in emerging markets, including a slowdown in China, could trigger portfolio rebalancing and capital outflows in search for safe heavens. Pressures on the peso, the main shock absorber, could trigger further domestic market volatility and weaken investors' confidence.	***Medium*** A disorderly selling of government bonds held by non- residents and large funds, in particular, could amplify liquidity pressures in the domestic market, and exacerbate price corrections. Country risk ratings would be revised, country risk premia widen, and funding costs increase. Commercial banks' profitability would be eroded by asset quality decline, rising defaults, and contraction of lending to the economy. Pressures on corporate, banks and to lesser extent households would increase as a result of higher refinancing risks and costs, and lower growth. [Portfolio reallocations towards high risk-return assets and under-regulated sectors.] *Policy response*: Exchange rate adjustment, provision of liquidity, and implementation of the macro prudential policy toolkit to manage incipient bubbles in particular markets. Maintain strong fundamentals.
Weaker global economic growth than expected, particularly in the U.S.	***Medium*** From the trade channel, lower exports would reduce Mexican growth. This would reduce corporate earnings and thereby expose banks' lending to them. Lower growth would also weaken the public finances, putting upward pressure on the interest rate. From the financial channel, a negative medium- term growth outlook in the United States and Mexico could reduce investors' appetite for peso-denominated instruments, and a disorderly adjustment of the peso/dollar could not be ruled out.	***High*** Banks' earnings would be affected by a reassessment of corporate exposures, market liquidity pressures, and capital outflows reducing access to external funding. Confidence could be eroded, triggering foreign portfolio funds' outflows. Lower capital inflows with banks and institutional investors' having to absorb more sovereign debt, would result in the crowing out of credit to the private sector. *Policy response*: Keep FX flexibility, with temporary interventions to smooth excessive volatility. In addition, in the short-term continue monitoring vulnerabilities associated with a sudden decline in liquidity and stand ready to intervene by providing temporary liquidity where buffers allow. In the medium-term, deepen domestic capital markets to support domestic liquidity.
Protracted low oil prices	***Medium*** The lower fiscal revenues would add pressures on PEMEX's already weak finances, and for additional fiscal adjustment efforts. The exchange rate would further weaken, increasing the stock of FX-denominated debt.	***Medium*** A decline in capital inflows and/or reversal of outflows would increase corporate and sovereign funding costs. Borrowers' creditworthiness, defaults, write-offs, and loan impairment charges are expected to increase. In addition, roll over and new government funding needs (resulting from lower receipts) would add pressure on the domestic capital market (which is relatively small) and crowd out credit to the private sector. *Policy response*: Steadfast implementation of structural reforms to increase competitiveness; swift implementation of PEMEX restructuring reform.

Source: IMF staff.

Annex I. Bank Stress Tests and Interconnectedness

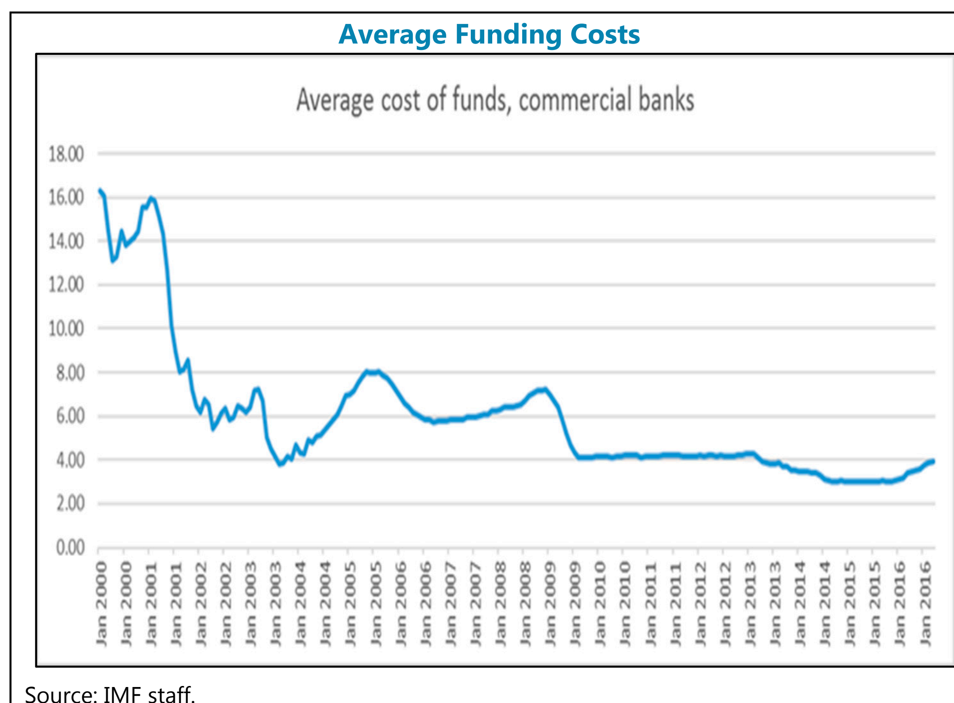
A. Solvency Stress Test Methodology

1. The CNBV's conducted the BU ST for the seven largest commercial banks. The CNBV specified the risk parameters (PD and LGD) taking into account the banks' portfolio characteristics for eleven asset classes, The banks projected net income, credit losses, loss reserves, and changes in their credit portfolio under the stress scenarios.

2. The Banxico conducted the TD ST for the largest twenty-one banks in the system. The Banxico projected the risk parameters, net income, credit losses, loss reserves and changes to the credit portfolio for each bank considering three asset classes. A bank fails the test if its capital adequacy ratio (CAR) falls below 8 percent.

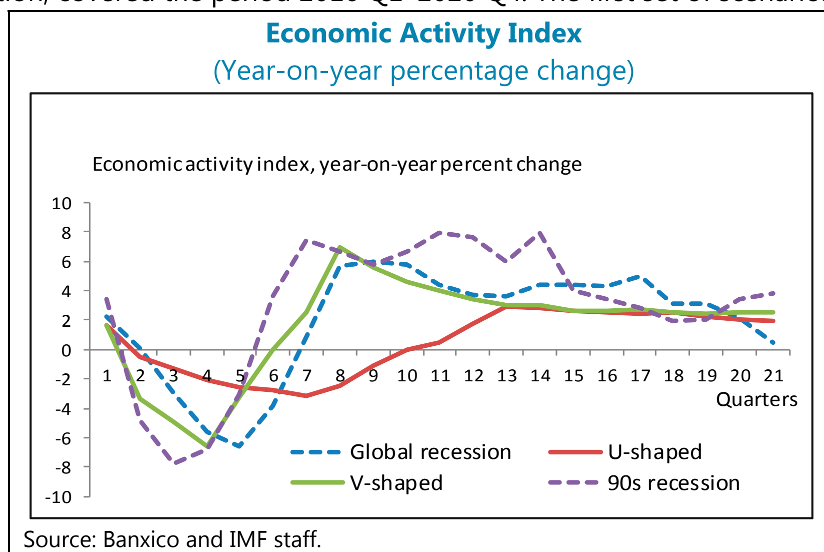
3. The macroeconomic scenarios included both domestic and international economic and financial variables. Consistent with the TD STs conducted by Banxico on a regular basis, the domestic variables in the scenarios included the exchange rate, the rate of the 28-day Cetes (Mexican Federal Treasury Certificates), the Mexican stock index (IPC), the domestic index of economic activity (IGAE), the consumer price index (CPI), commercial bank credit, and the unemployment rate. The set of international variables included the U.S. industrial production index, the West Texas Intermediate oil price, the U.S. three-month Treasury bill yield, the U.S. 10-year Treasury bond yield, the VIX, and the Dow Jones Industrial Average index. Only the domestic variables served as inputs in the satellite models. The horizon of the ST scenarios was five years. Interest rates and margins have remained low in Mexico.

Average Funding Costs



Source: IMF staff.

4. The STs used two sets of simulated negative macroeconomic scenarios. The scenarios, generated using a VAR specification, covered the period 2016 Q1–2020 Q4. The first set of scenarios. The first set of scenarios corresponded to short-lived adverse conditions, e.g., the V-shaped scenario set, where the economy recovered rapidly from the initial shocks. The average severity of this set of scenarios resembled the 2008–09 financial crisis. The second set of scenarios corresponded to a protracted recession, e.g. the U-shaped scenario set. In these scenarios, the initial shocks were less severe than in the V-shaped scenario set but the recovery was slower. The BU ST used only two scenarios, each corresponding to the average scenario from the U-shaped and V-shaped sets of scenarios. In contrast, the TD ST used the probabilistic approach proposed by Banxico, in which a bank's CAR was calculated for each single scenario in the set of scenarios.



Economic Activity Index
(Year-on-year percentage change)

Source: Banxico and IMF staff.

5. Risk parameters, i.e., PD and LGD, were modeled as functions of the macroeconomic and financial variables. In the BU ST, a latent factor function of the scenario variables served as the explanatory variable in the models used to estimate bank-specific (including for development banks), loan-specific risk parameters. In the TD ST, ARIMA models including own lagged values and scenario variables generated the ST PD projections for each loan category. In the TD ST, the LGD was linked to the level of the PD using an explicit LGD model. In both the TD and BU STs, the flows in and out of the loan book and credit provisions, and capital projections follow standard formulas.

6. Although the STs assumed fixed risk-weights, the CAR was adjusted to account for changes in the assets' PDs. The unadjusted CAR was multiplied by the ratio of the required capital for a unit exposure, calculated using the bank-weighted PD at end-December 2015, to the required capital calculated using the bank-weighted PD at the end of the quarter. The required capital was calculated using the asymptotic single risk factor approach proposed by Basel.

Annex Table 1. Banking Stress Test Matrix

Domain		Assumptions	
		Bottom-up by the authorities	Top-Down by Authorities and FSAP Team
Banking Sector: Solvency Risk			
1.Institutional Perimeter	Institutions included	• Largest seven banks	• All commercial banks in operation for at least five years.
	Market share	• 80 percent of the total assets in the banking system.	• The coverage will include large and small banks in the banking system.
	Data and baseline date	• CNBV's supervisory data • Baseline date: end-December 2015 • Consolidated group-level data	• Supervisory data or public information if necessary. • Baseline date: end-December 2015. • Consolidated group-level data.
2. Channels of Risk Propagation	Methodology	• Banks' internal models • Guidelines issued by the FSAP team.	• Authorities' macroeconomic models and satellite models. • Multi-scenario balance sheet-based approach.
	Satellite Models for Macro-Financial linkages.	• Banks' own models.	• Bank-specific satellite model of credit risk and loss-given default developed by the authorities. • Profits model developed by the authorities with guidance by the FSAP team, based on changes in market prices (interest rates, exchange rates, sovereign yields). • Methodology to calculate losses from bonds and money market instruments (sovereign and other issuers). Haircuts are calculated based on a modified duration approach and historical distributions of changes in yield. • Net fee income and commission income, and operating expenses conditional on macroeconomic scenarios and proportional to portfolio size. • Loan portfolio growth conditional on economic scenarios.
	Stress test horizon	• Five-year (2016/2018)	• Five years (2016/2020).

Annex Table 1. Banking Stress Test Matrix (continued)

3. Tail shocks	Scenario analysis	• Scenario-based tests, which assess the impacts on the entire portfolio including the loans and, if applicable, the trading book, will be conducted in both the TD and BU exercises. • The TD ST will use a set of simulated adverse scenarios, and a set of simulated severely adverse scenarios. The shocks used to generate these scenarios will be consistent with values observed in past historical stress episodes, e.g. 1994, 1998, and 2008. Each set of scenarios will comprise 2000 scenarios. • The two sets of scenarios will be generated using the central bank VAR macro model used in its stress tests, upon specifying shocks to the baseline. • Domestic macro-financial variables include the global economic activity indicator, inflation, unemployment, the 28-day Cetes rate, the exchange rate, and the domestic stock index. • Foreign macro-financial variables include the USD short and long-term rates, U.S. industrial production, oil prices, the Dow-Jones index, and the VIX index. • The severe and severely adverse scenarios in the BU ST will be set equal to the average scenario realization from the set of TD ST severe and severely adverse scenarios respectively.	
	Sensitivity analysis	• Sensitivity analyses will be conducted in the BU and TD exercises. • They evaluate *domestic* shocks: direct effects of interest rate shocks; interest rate shock on credit quality; direct and indirect effects of exchange rate shocks; a decline in oil prices; a decline in the prices of sovereign securities; and an external credit-rating downgrade.	
4. Risks and Buffers	Risks/factors assessed (How each element is derived, assumptions).	• Credit risk on the banking book and trading book. • Market risk and sovereign losses: direct effects of interest rate shocks; direct effects of exchange rate shocks; shocks to sovereign yields.	• Credit losses. • Losses from bonds and money market instruments (sovereign and other issuers) in the banking and trading books. • Funding costs. • Market risk, including FX risk.
	Behavioral adjustments	• Static balance sheet assumption.	• Balance sheet growth conditional on economic scenarios. • No capital injections or changes in bank strategies. • No dividend payments by banks that remain adequately capitalized.

Annex Table 1. Banking Stress Test Matrix (concluded)

5. Regulatory and Market-Based Standards and Parameters.	Regulatory standards	• Basel III standards (revision as of January 2013). See Committee on Banking Supervision (2013), "Basel III: The LCR and liquidity monitoring tools," Basel, January 2013.	• Basel III standards (revision as of January 2013). See Committee on Banking Supervision (2013), "Basel III: The LCR and liquidity monitoring tools," Basel, January 2013.
6. Reporting Format for Results	Output presentation	• Liquidity gap by bank and by currency, aggregated. • Survival period in days by bank, number of banks that can still meet their obligations.	• Liquidity gap by bank and by currency, aggregated. • Survival period in days by bank, number of banks that can still meet their obligations.
Banking Sector: Contagion Risk			
1. Institutional Perimeter	Institutions included	N/A	• Commercial banks • Brokerage firms • Siefores • Mutual funds • Foreign financial intermediaries
	Market share	N/A	• > 80 percent of total banking sector assets.
	Data and baseline date	N/A	• Latest data: End December 2015. • Source: supervisory data. • Scope of consolidation: perimeter of individual banks.
2. Channels of Risk Propagation	Methodology	N/A	• Network interbank model (Central Bank).
3. Tail shocks	Size of the shock	N/A	• Pure contagion: default of institutions.
4. Reporting Format for Results.	Output presentation	N/A	• Number of undercapitalized and failed institutions, and their shares of assets in the system.
Source: IMF staff.			

Annex Table 2. Domestic Variables, Stress Scenario Projections

Year	2016				2017				2018		
Quarter	I	II	III	IV	I	II	III	IV	I	II	III
IMF forecast											
IGAE (YoY growth rate)	2.53	2.48	2.26	2.33	2.50	2.57	2.64	2.69	2.75	2.80	2.83
Cete28	3.41	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.25	5.50	6.00
Unemployment	4.05	4.05	4.05	4.05	3.90	3.90	3.90	3.90	3.83	3.83	3.83
Inflation	2.71	2.82	3.01	3.32	2.94	2.95	2.98	3.02	3.01	3.00	3.00
FX	18.04	18.16	17.93	17.69	17.68	17.73	17.79	17.86	17.81	17.84	17.89
U-shaped scenario (protracted recession)											
IGAE (YoY growth rate)	1.66	0.00	-1.18	-2.19	-2.64	-1.41	-0.87	-0.16	0.43	0.87	2.47
Cete28, rate	3.80	5.18	4.33	5.17	5.03	5.79	6.21	6.21	6.45	6.03	5.55
Unemployment, in perc	4.19	4.92	5.28	5.46	5.79	5.87	6.54	6.53	6.75	6.71	6.43
Inflation	2.60	2.38	2.96	3.25	3.50	4.02	5.08	5.45	5.22	4.84	4.66
Exchange rate, USD-MX	17.74	20.01	19.74	21.31	22.53	25.09	27.01	28.24	29.91	30.21	30.46
V-shaped scenario											
IGAE (YoY growth rate)	1.66	-3.24	-4.80	-5.69	-5.53	-0.39	2.42	4.55	3.95	3.05	3.07
Cete28, rate	3.80	5.36	6.54	5.67	5.97	5.83	5.28	5.40	5.34	4.97	4.62
Unemployment, in perc	4.19	4.97	5.38	5.84	5.93	5.87	5.79	5.75	5.86	5.75	5.64
Inflation	2.60	3.35	4.03	4.93	5.07	5.11	5.02	4.91	4.73	4.53	4.39
Exchange rate, USD-MX	17.74	20.63	22.81	24.09	26.04	26.04	26.49	27.78	28.53	28.37	28.37

Year	2018	2019			2020				2021
Quarter	IV	I	II	III	IV	I	II	III	IV	I
IMF forecast										
IGAE (YoY growth rate)	2.83	2.84	2.89	2.93	2.99	3.04	3.06	3.10	3.15	3.13
Cete28	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Unemployment	3.83	3.79	3.79	3.79	3.79	3.77	3.77	3.77	3.77	3.76
Inflation	2.99	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
FX	17.95	17.90	17.93	17.98	18.04	18.00	18.04	18.10	18.18	18.14
U-shaped scenario (protracted recession)										
IGAE (YoY growth rate)	2.74	2.89	2.82	2.67	2.56	2.48	2.57	2.24	2.06	1.95
Cete28, rate	5.54	5.60	5.42	5.08	5.17	5.27	5.43	4.95	4.99	4.84
Unemployment, in percent	6.43	6.57	6.51	6.56	6.33	6.43	6.57	6.47	6.35	6.17
Inflation	4.53	4.48	4.38	4.29	4.08	3.96	3.76	3.64	3.47	3.35
Exchange rate, USD-MXN	30.81	31.03	30.75	30.62	30.51	30.46	30.41	30.27	30.26	30.11
V-shaped scenario										
IGAE (YoY growth rate)	3.03	2.90	2.91	2.80	2.75	2.68	2.62	2.59	2.55	2.53
Cete28, rate	4.74	4.70	4.44	4.16	4.30	4.30	4.08	3.84	3.97	3.98
Unemployment, in percent	5.61	5.76	5.66	5.59	5.59	5.76	5.68	5.62	5.63	5.81
Inflation	4.20	4.08	3.94	3.85	3.73	3.66	3.57	3.51	3.42	3.37
Exchange rate, USD-MXN	28.62	28.71	28.76	28.88	29.08	29.32	29.59	29.86	30.03	30.17

Source: Banco de Mexico and staff calculations.

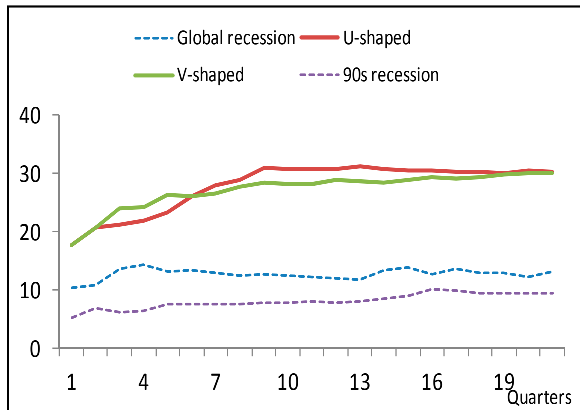
Annex Table 3. Liquidity Stress Test Results

	Consolidated Across Currencies			By Currency			
				Foreign Currency		Domestic Currency	
	LCR 2013	LCR 2010a	LCR 2010b	LCR 2013	LCR 2010b	LCR 2013	LCR 2010b
Panel A: Seven largest banks							
25th percentile	137	94	87	80	71	91	60
Median	148	115	105	150	88	119	94
Average	208	136	124	128	89	166	98
75th percentile	276	163	150	155	112	176	97
Panel B: Banking system							
25th percentile	123	81	78	10	8	97	59
Median	180	109	107	66	29	164	103
Average	173	114	107	127	84	155	100
75th percentile	354	212	204	157	112	413	284

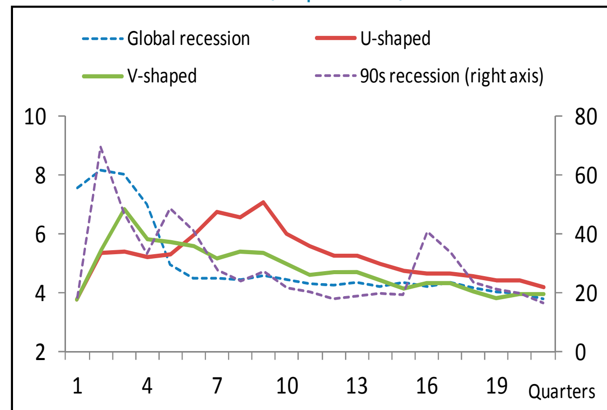
Source: Banxico.

Annex Figure 1. Domestic Variables, Historical, and Average Stress Scenario Values

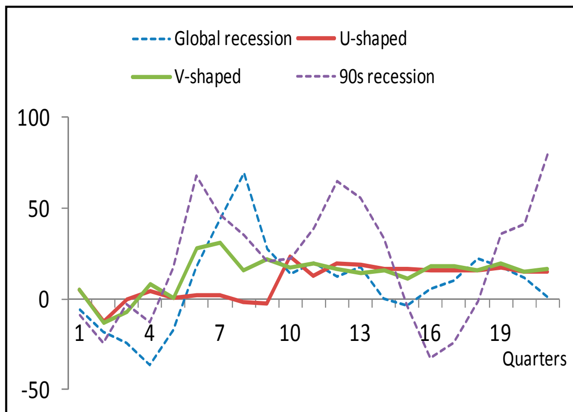
(a) Exchange Rate MXN per U.S. Dollar



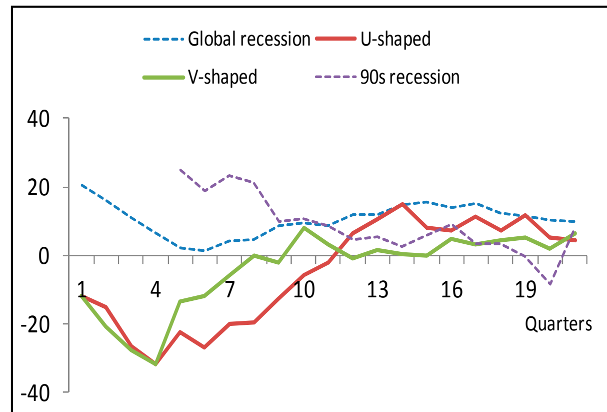
(b) 28-day Cetes,
(In percent)



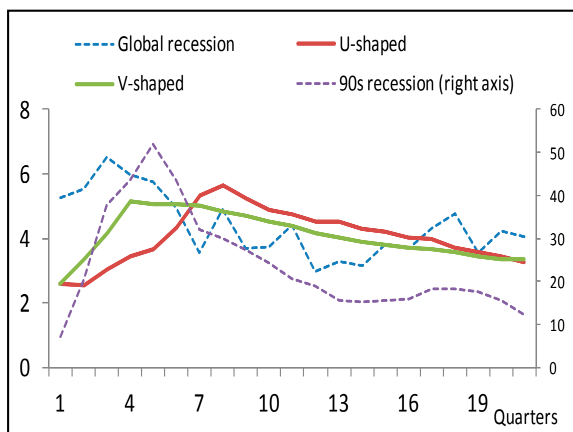
(c) IPC Index, Year on Year Percent Change



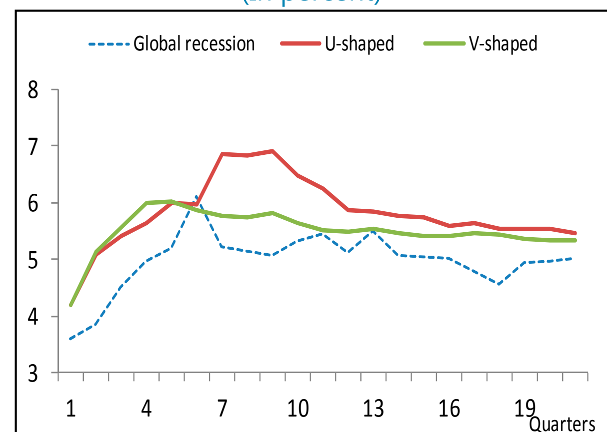
(d) Credit, Year-on-year Percent Change



(e) Inflation, year-on-year Percent Change



(f) Unemployment
(In percent)



Source: IMF staff.

B. Interconnectedness Analysis: Methodology and Results

7. The analysis of interconnectedness risk encompassed a broad sample of firms and used bilateral direct disaggregated by asset classes. The contagion model covered foreign financial intermediaries (119 firms) and international conglomerates (133 firms); domestic financial firms, including commercial banks (47 firms), development banks (6 firms), brokerage firms (33 firms), mutual funds (327 firms), pension fund managers (77 firms), insurers (56 firms), and other domestic financial intermediaries (125 firms). Direct exposures in the network were due to, in decreasing order of importance, to securities holdings, foreign exchange transactions, deposits, loans, and derivative transactions, including repo operations.

8. Banxico conducted the exercise using its contagion model which is similar to models used in peer institutions and the IMF. Based on bilateral exposures in securities, derivatives, and deposits and loans in both domestic and foreign currency, the model captures losses experienced by financial firms triggered by the failure of an individual firm to meet its obligations, which in turn can trigger second round effects. The loss given default is assumed equal to 100 percent of the net uncollateralized exposure. Simulation exercises, which assume the failure of an individual firm, serve to determine the worst possible contagion chain, i.e. the one that generates the largest impact on the system in terms of total losses. The analysis was conducted for three different dates: end-June 2015, end-September 2015, and end-December 2015, with the results reported below.

Annex Table 4. Interconnectedness Risk

Date	Number of institutions failing to meet the regulatory minimum standards (worst case)			Percentage of assets affected relative to total assets of banks and brokerage firms		
	Number of institutions below minimum	Of which Banks	Of which Brokerage firms	Banks and brokerage firms	Of which Banks	Of which Brokerage firms
JUN 2015	15	5	10	6.85%	1.64%	5.20%
SEPT 2015	17	6	11	8.07%	3.59%	4.47%
DIC 2015	9	4	5	4.47%	1.29%	3.17%

Source: Banxico.

Annex II. Implementation of the 2012 Financial Stability Assessment Program Recommendations

Short-term	
Increase budget autonomy for CNBV and CNSF; increase resources commensurate with new responsibilities (wider regulatory perimeter).	Not Implemented
Extend scope of CNBV regulatory and supervisory powers to financial and mixed-activity groups.	Partially Implemented
Fully implement Pillar 2 supervisory processes, including ICAAP and criteria to require buffers above regulatory minima.	Implemented
Tighten concentration limits (including applicable standards) and introduce capital charge for concentration risk under Pillar 2.	Implemented
Establish emergency contingency funding mechanism for IPAB, guaranteed by SHCP; transfer IPAB's debt to the Federal Government.	Not implemented
Change pension fund investment guidelines and regulatory tools to encourage focus on long term returns, including using long-term benchmarks.	Not implemented
Improve legal framework for derivatives.	Not implemented
Establish program to address weak and not yet regulated cooperatives.	Implemented
Revisit the structure of commissions and ensure bank account contestability to promote access to finance.	Note Implemented
Medium-term	
Enhance independence and accountability of the CNBV and CNSF (including by revisiting supervisory architecture) and strengthen the legal protection of supervisors.	Not implemented
Strengthen powers and increase resources at CONDUSEF and study allocation of responsibilities with PROFECO.	Implemented
Increase replacement rates at retirement.	Not implemented
Promote greater competition for mutual fund providers by facilitating entry by independent operators.	Implemented
Promote regional integration of capital markets; prepare a medium-term strategy for capital market development.	Not implemented

Annex III. Report on the Observance of Core Principles for Effective Deposit Insurance Systems

1. **The deposit insurance framework, managed by Instituto para la Protección al Ahorro Bancario—Deposit Insurer (IPAB), broadly conforms to best international practice.** IPAB is a loss minimizer deposit insurer, managing an ex ante fund. IPAB collects quotas from its 46 member institutions based on members' liability operation[1] so that even non–deposit taking members (those licensed to take deposits but not yet accepting them) are required to pay a quota to the fund. IPAB is also the resolution authority and closely cooperates with other members of the financial safety net. In 2014 the Banking Law was amended to provide IPAB with greater powers to manage both its deposit insurance and resolution functions.

2. **But the current reserve level for the deposit insurance fund is small by international standards.** It covers approximately 1 percent of insured deposits. IPAB, as the successor to the deposit insurance vehicle used during the 1994–1995 banking crisis (Fobaproa), has been responsible for disposing of problem assets inherited from Fobaproa[2] as well as repaying the debt incurred in managing that crisis. And by law 75 percent of IPAB's premiums must go towards repayment of the debt, which has grown in nominal terms to MXN 800 billion. This ongoing obligation continue to severely hinder IPAB's ability not only to grow its fund but also to independently manage its finances. Furthermore, there is no limit on the amount it must contribute to a recapitalization or restructuring of a systemic bank from its deposit insurance fund.

3. **Also, the structure of IPAB's Board of Directors presents the potential for a lack of operational independence.** There is no requirement that IPAB's Governing Board convene only when all its members are present or a majority of those present are independent Board members. There is no fixed term for the Executive Director of IPAB and no protection from dismissal except for cause. This board structure is not consistent with true operational independence.

4. **IPAB has not participated in any contingency planning for system-wide crisis.** IPAB does undertake its own simulation exercises but it has not prepared or tested a contingency plan for a systemic crisis or the failure of a systemic bank. There are no regular system-wide crisis simulation exercises held to test the effectiveness of the authorities' cooperation and their ability to communicate effectively in times of crisis.

5. **IPAB has multiple mandates but has not been provided with a means to achieve the needed funding to meet its mandates.** IPAB has been tasked with managing legacy assets, repaying legacy debt, insuring depositors and acting as the resolution authority and source of resolution funding for banks deemed systemic. However, it is constrained by the requirement that

[1] Article 22 of IPAB's law provides that the ordinary fees paid by member institutions may not be less than four thousand times over the amount of the banking operations of the institutions. Banking operations are defined in Article 46 of the Banking Law.

[2] This aspect of its inherited obligations has largely been completed, with just two assets remaining for disposal.

75 Percent of its premiums go to repayment of the debt from the financial crisis more than twenty years in the past. Careful consideration should be given as to how best to manage these not-entirely-consistent mandates by addressing the repayment of legacy debt and finding a workable resolution funding formula that protects IPAB's deposit insurance fund, which supports its primary mission of protecting insured depositors at small and medium banks, from depletion by resolution funding for systemic banks.

6. **Overall, IPAB is a strong institution.** It has a culture of cooperation with other safety net players, strong performance in its recent handling of a small bank failure, ongoing planning for potential financial institution resolutions, and openness and transparency in its operations and reporting. However, there are several areas for improvement, most importantly the need for a solution to its various funding issues.

C. Methodology Used for the Assessment

7. **The evaluation of the compliance with the Core Principles for Effective Deposit Insurance Systems was conducted on IPAB utilizing the Methodology for Compliance Assessment adopted in November 2014 by the International Association of Deposit Insurers.** The Assessment addressed IPAB's compliance with the Core Principles with respect to its operations as an insurer of deposits in commercial banks. The assessment was based on a review of relevant laws, regulations and regulatory and supervisory practices related to the banking sector and the operations of IPAB. IPAB is an independent deposit insurance agency which is a decentralized agency of the federal public administration under the SHCP.

8. **There has been one recent experience with the failure of a small bank, Banco Bicentenario.** The assessment considered the experience of IPAB in managing that failure and reimbursing the small number of insured depositors at the institution. The Technical Note on Bank Resolution and Crisis Preparedness addressed a wider range of issues related to the authorities' preparation and ability to handle financial sector crises generally.

D. Findings

9. **The deposit insurance framework in Mexico for commercial banks, managed by IPAB, broadly conforms to best international practice.** IPAB was established in 1999 under the Law for the Protection of Bank Savings (IPAB Act). Prior to IPAB's establishment there was blanket coverage of deposits in place and its establishment began the transition to a limited scheme for deposit insurance coverage (from 1999 to 2005). IPAB has 46 member institutions, with the seven largest commercial banks holding about 80 percent of the system's assets.

10. **IPAB is funded by annual quotas collected from member banks based on their banking operations.** IPAB collects quotas (an assessment based on bank liabilities) from its member banks at the lowest rate authorized by its law (40 basis points) and is required to devote 75 percent of its income on the repayment of debt resulting from the 1994–1995 financial crisis. As a result, it has

accumulated a relatively small deposit insurance fund representing about 1 percent of insured deposits or 0.75 percent of all member banking liabilities.

11. IPAB's Board is composed of seven members, with the head of SHCP acting as Chair. There are four independent members of the Board as well as representatives of CNBV and Banxico. IPAB has approximately 300 employees.

12. Deposit insurance is compulsory for all deposit-taking commercial banks and those banks licensed to take deposits. IPAB protects all retail depositors, including corporate depositors, small businesses and individuals, up to the maximum of UDI 400,000 per depositor per member institution. Foreign currency accounts are insured but are not widely used in Mexico as such accounts are limited by law to only certain businesses authorized by Banxico; there are personal accounts held in foreign currency. IPAB is legally mandated to reimburse depositors within three months after a bank's license is revoked.

13. IPAB is the resolution authority. It is in charge of implementing resolution once CNBV has revoked the license and in cases deemed systemic by CEB when the license is not revoked. It also has a significant role in the funding of resolution of systemic banks. IPAB's claim in the creditor hierarchy in liquidation is superior to claims by uninsured depositors.

14. IPAB has a number of strengths, including a culture of cooperation with other safety net players, strong performance in its handling of the Banco Bicentenario failure, planning for potential financial institution resolutions and openness and transparency in its operations and reporting. However, there are several areas for improvement, most importantly the need to address the required repayment from current quota collections of legacy debt arising from the more than 20-year-old financial crisis.

15. IPAB's governance structure should be adjusted to provide it with greater operational independence. The presence of the Minister of SHCP as Chairman of IPAB's Board, along with the absence of a fixed term for its Executive Director and no protection for his removal except for cause, impacts IPAB's ability to operate as a truly independent entity. The absence of a requirement that a quorum of the Board must include at least some of the independent Board members further erodes its operational independence.

16. IPAB's contribution to the amount it must contribute from its deposit insurance fund to a resolution of a systemic bank should be capped. Given its numerous mandates, IPAB's insurance fund is and will remain underfunded until the issue of its legacy debt requirement is addressed. By failing to limit what it must contribute to a systemic resolution, even given its substantial borrowing authority, there is a possibility that IPAB's fund will never be sufficient to meet its primary mandate of paying depositors without relying on a cycle of borrowing and future industry repayments that could stretch over many years.

17. IPAB should be able to use resolution tools other than liquidation by eliminating obstacles. The inability for potential acquirers to access relevant data before the bank's license

revocation make the use of the purchase and assumption very difficult. Given that the Mexican banking market has relatively few participants careful consideration needs to be given to how best to assure confidentiality if a troubled bank is identified as a candidate for a P&A transaction. The role of the competition authorities would also have to be considered to be certain that any necessary approvals for an acquisition would not be unduly delayed. IPAB should also do greater outreach to assess member institutions' appetite and capacity for becoming paying agents, purchasing troubled assets and completing whole bank purchase and assumption transactions.

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems		
	Description and findings	**Recommendations**
Core Principle 1: Public Policy Objectives	The Law for the Protection of Bank Savings establishes the public policy objectives of IPAB. IPAB is designed as a loss minimizer, a mandate which is consistent with its stated public policy objectives. However, IPAB has been given significant responsibilities related to legacy debt and asset management which are not necessarily consistent with the protection of current depositors in banking institutions. Also, there is no formal review of the extent to which IPAB meets its public policy objectives. Article 67 of IPAB's Law provides as an additional purpose for IPAB the management of the financial restructuring programs established and executed for the benefits of the savers and users of the institutions and for the protection of the national payments system.	Review how IPAB meets its stated public policy objectives and disseminates the results of such a review and publish the results in a comprehensive annual report.
Core Principle 2: Mandate and Powers	IPAB's mandate and powers are set out in its law and the Banking Law. In addition to this loss minimizer role for current resolution activities, however, IPAB has been tasked with significant responsibilities from the financial crisis of 1994–95 in that it must use 75 percent of its premium income to repay debt from that period and manage the assets it inherited from the organization that predated it (Fobaproa). IPAB's mandate is aligned with other members of the safety net. The powers of the deposit insurer are largely aligned with its mandate. However, the restriction on its use of the premiums it collects for its deposit insurance fund make it difficult for IPAB to grow its fund. In addition, IPAB's governing board has issued various guidelines including ones covering the transfer of assets and liabilities and the reimbursement of depositor funds. The Banking Law provides IPAB with the power to directly receive information from banks, penalize banks that do not provide requested information or pay the required premiums. IPAB's law provides it with the power to enter into agreements.	

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (continued)		
Core Principle 3: Governance	IPAB's Board consists of seven members and is chaired by SHCP, with four independent members as well as ex officio representatives of Banxico and CNBV. There is no fixed term for IPAB's Executive Director who is appointed by the Governing Board and is not protected from being removed from his/her position without cause. IPAB is structured as a public entity decentralized from the federal public administration and as such has its own budget and source of funds but is limited by government guidelines established by SHCP that impact to some extent its ability to set its own salary levels. The requirement that it use much of its income to service debt from the prior financial crisis also has the potential to impact its operational independence. The Federal Law on Accountability of Civil Servants empowers Congress to hold the Executive Secretary accountable in connection with the management of IPAB. Article 65 of IPAB's Law requires it to submit detailed reports to the SHCP and other government authorities on its processes of administration of asset sales on its legacy assets. It is also subject to the Federal Law on Transparency and Access to Information. Also, IPAB has to publish quarterly reports on the quotas (premiums) paid by banks and to submit the audited financial statements to the government, information on its budget to the Treasury of the Federation, and in accordance with the Banking Law, IPAB must publish the penalties applied to banks by it for failing to comply with IPAB requirements. Several articles of IPAB's Law set forth the requirements for membership on the Board, including fit and proper requirements. Although IPAB is subject to regular external and internal audits there is no specific requirement that such audits assess the extent to which IPAB is meeting its mandate. Furthermore, although there is a majority of independent Board members (four), but the Board may act not only when those members are present; IPAB's law requires a quorum of four members to be present for a quorum provided that SHCP is in attendance.	The structure of IPAB's Board should be reconsidered to provide less of a governing role for SHCP and allow IPAB to have greater operational independence. The Executive Director should have a fixed term of office with removal permitted only for cause.
Core Principle 4: Relationships with Other Safety-net Participants	There are adequate mechanisms in place for information sharing among all safety-net participants. The Banking Law specifically authorizes sharing of information in Articles 97 and 123, subject to confidentiality provisions. There is only one deposit insurer for banks in Mexico. There are two other deposit insurers for SOCAPs.	

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (continued)		
Core Principle 5: Cross-border Issues	There is a material presence of foreign banks in Mexico although all such banks are required to be established as subsidiaries, subject to all the banking laws of Mexico. IPAB has not yet established agreements with all relevant deposit insurers although by law (Article 143 of the Banking Law) it is permitted to do so. IPAB also participates in relevant Crisis Management Groups (CMGs). IPAB is not responsible for the coverage of deposits in foreign jurisdictions.	IPAB has not entered into agreements with all relevant deposit insurers that would cover communication if a parent of a subsidiary bank in Mexico were to experience difficulties resulting in a deposit insurance payout in the home country. Such a circumstance might require coordination by the deposit insurers on communications about the difficulties and the impacts (if any) on the subsidiary bank.
Core Principle 6: Deposit Insurer's Role in Contingency Planning and Crisis Management	IPAB has a compendium of procedures for bank resolution that form part of a larger set of procedures known as a macro process. All of IPAB's operating procedures are being updated to take into account the significant changes in the 2014 Banking Law. Under Article 120 of the Banking Law, IPAB must include the conduct of simulation exercises as part of resolution plans it prepares. IPAB has conducted annual simulation exercises since 2011, but IPAB has not prepared a contingency plan for dealing with a systemic crisis or the failure of a systemic bank. If system-wide exercises were held (as was done in 2011), IPAB would participate. Four authorities interact in the bank recovery and resolution regime: SHCP, Banxico, CNBV and IPAB, and all participate in the Financial Stability Council. CESF does not have the powers to direct its constituent organizations, but functions under "moral suasion." There is a communication policy in place at SHCP but it is not clear if that policy will govern all communication activities in the event of a crisis or if the policy has been discussed by the financial authorities as a group.	The authorities should determine how best to complete a plan for system-wide crisis preparedness, particularly for a systemic crisis. Such planning could include the use of simulation exercises involving all the safety-net players. IPAB should develop a contingency plan for the failure of a systemic institution and for a systemic crisis and there should be a system-wide contingency plan in place for crisis management with individual agency plans feeding into the overall plan for the sector.
Core Principle 7: Membership	All commercial banks become members of IPAB upon authorization. There are deposit taking development banks that are not required to be members of IPAB as those banks have implicit government guarantees in place. IPAB does not grant or revoke membership in the deposit insurance system. There are no procedures in place to allow for a period of time for continuation of coverage after a license revocation by CNBV.	IPAB should be consulted as part of the licensing process for new banks or for the conversion of any non-bank institution into a bank. IPAB should also study whether and if so how deposit-taking development banks could be part of the deposit insurance system.

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (continued)		
Core Principle 8: Coverage	IPAB's law provides for the definition of what is an insured deposit and what the level of coverage is per person, both natural and legal. The coverage for deposits is per person, either natural or legal, per institution. The level of coverage is expressed in Unidades de Inversion or UDIs, a unit of account linked to inflation set daily by Banxico. The same level and scope of coverage applies equally to all members of IPAB. The deposit insurers for the two other types of deposit taking non-bank financial institutions have different levels of coverage for deposits (up to 25,000 UDIs). There is no co-insurance in place. There is no provision for separate coverage after a merger of two banks. The same criteria for coverage applies to all persons who hold deposits in a Mexican bank, regardless of their nationality or country of residence. Foreign currency deposits are insured but not widely used in the formal economy in Mexico. There is no blanket guarantee currently in place.	IPAB should provide for separate coverage for a fixed period of time for depositors after a bank merger to allow such depositors to restructure their accounts to be assured of complete coverage.
Core Principle 9: Sources and Uses of Funds	Funding of the deposit insurance system is from regular and special quotas collected from banks based on their banking liabilities. The rates can be no less than four per thousand of the bank's liability operations (the current rate) and cannot exceed 8 per thousand of the institutions' total liability operations per year. IPAB is the successor to the deposit insurance system in effect prior to its creation in 1999. It inherited all the assets and liabilities of that system. Also, IPAB has an explicit government guarantee for its borrowings. It may arrange for emergency financing up to 6 percent every three years of the total liabilities of its member institutions. Beyond that borrowing IPAB may ask Congress for additional funding. Emergency financing may also be arranged from Banxico, development banks, commercial banks, multilateral institutions or the capital markets. But there are no explicit, formal arrangements for the contracting of emergency financing although negotiations are underway. IPAB has not formally adopted a target fund ratio for its deposit insurance fund. As of April 2016 the fund held MXN 26 billion, or 1.1 percent of insured deposits. IPAB's law requires it to invest its funds in highly liquid government securities or deposits with Banxico. As a resolution authority, the lack of a limitation on IPAB's contribution to a systemic resolution potentially puts at risk its ability to build a fund to pay insured depositors in case of a need to resolve a non-systemic small or medium bank after a recapitalization or restructuring of a systemic bank.	IPAB has not formally adopted a target ratio for its deposit insurance fund although it has completed an analysis of the issue. It is hampered in its ability to reach a reasonable level for its fund by the requirement that it repay the debt from the 1994–95 financial crisis. IPAB as the deposit insurer should have control over the use of its funds and be limited in the amount it must contribute to a recapitalization or restructuring of a systemic bank. It should also insure that its contribution is made only after shareholders' interests are reduced to zero. The lack of a limitation on its contribution to a systemic resolution from its deposit insurance fund potentially puts at risk its ability to build a fund to pay insured depositors in case of a need to resolve a non-systemic small or medium bank after a recapitalization or restructuring of a systemic bank.

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (continued)		
Core Principle 10: Public Awareness	IPAB's law requires financial institutions to inform the users of their services of the types of operations covered by deposit insurance and in what amount. Banks cannot be required to publicize IPAB's activities. The Banking Law sets forth in Article 188 the requirements for IPAB for announcing how depositors will be repaid after the failure of a bank. IPAB's website points out that its coverage is provided free of charge to bank customers. Although IPAB has objectives for its public awareness program it has not established a target level for public awareness. IPAB is subject to the General Guidelines for Social Communication Campaigns of Agencies and Instrumentalities of the Federal Public Administration. IPAB works closely with banks and other members of the financial safety-net to maintain the consistency of the information provided on deposit insurance and to promote public awareness. IPAB cannot impose penalties or require banks to correct or amend any erroneous information if it finds that a bank is providing erroneous information to CONDUSEF or its clients about IPAB. There is no independent evaluation of the effectiveness of IPAB's public awareness activities.	IPAB should have the authority to require banks to correct or amend any erroneous information they provide on IPAB, although IPAB currently works with CONDUSEF to make sure that such erroneous information would be corrected. IPAB should also undertake an assessment of the public's awareness of the existence and coverage limits of deposit insurance offered by IPAB so as to inform its public awareness program.
Core Principle 11: Legal Protection	Articles 271 to 274 of the Banking Law provide legal protection to IPAB and individuals working for it from decisions and actions taken in good faith in the course of their duties and the discharge of their mandate. IPAB has a trust fund for this purpose as well as the ability to provide an insurance policy for each public servant who wants one. IPAB has a code of ethics and conduct that applies to its employees. There is also a law governing all public servants that requires the disclosure of any potential conflicts of interest related to the activities of the responsible public servant.	
Core Principle 12: Dealing with Parties at Fault in a Bank Failure	The Banking Law requires the liquidator to inform the competent authorities of any evidence of the existence of a violation of certain provisions of the Banking Law. IPAB is required to review all of the bank's information during the liquidation process and report any evidence of wrongdoing to the competent authorities. There are powers of investigation for the conduct of parties responsible for the failure of a bank by appropriate institutions in the safety-net and prosecutor's office. The relevant authorities (resolution authorities, liquidators, prosecutors and members of the judiciary) have the necessary powers to seek compensation for damages done by those responsible for a bank failure. Restitution can be sought from criminal offenders.	

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (continued)		
Core Principle 13: Early Detection and Timely Intervention	The Banking Law sets forth the quantitative criteria that triggers timely intervention in Article 129, with other grounds for license revocation set forth in Article 128 of the Banking Law. There is no periodic review of the criteria for the triggering of corrective actions and/or the revocation of a bank's license. Under the law, CNBV has broad powers to exercise prompt corrective action and intervene a bank. However, between 8 percent total capital and 4.5 percent CET1, CNBV has significant discretion to allow a bank to continue operating under certain conditions, or to revoke the license. CNBV informs IPAB when an institution's capital ratio falls below 8 percent and IPAB may participate in the resulting special inspection visits to ascertain the bank's financial situation. Also, operational independence and procedures for systemic determinations should be strengthened. CNBV and IPAB have political appointees on their boards, their head does not have a fixed-term mandate and there are no dismissal criteria, which may put in question their independence.	
Core Principle 14: Failure Resolution	IPAB's governance structure may prevent it from having complete operational independence. It has sufficient resources to exercise its resolution powers when its significant borrowing ability is taken into consideration. The special resolution regime in place provides tools for the resolution of banks of all sizes. Purchase and assumption (P&A) is an untested tool because of the inability for potential acquirers to access relevant data before the bank's license revocation. A bridge bank may be utilized as a "partial payment" systemic bank, if the bank's entire operation is not found to be systemic under Article 29 bis 6 of the Banking Law, Also, the roles of all the authorities participating in a bank resolution are clearly defined in the Banking Law. IPAB has the required resolution tools except the power to write down or convert the bank's debt to equity. IPAB is subject to the least cost rule for all non-systemic resolutions, and the creditor hierarchy is set forth in the Banking Law—subrogated claims of IPAB are fourth in the hierarchy of claims. There is no discrimination against depositors based on nationality or residence. Only a claim for damages is allowed under Article 273 of the Banking Law for claims relating to the resolution of financial institutions. There can no longer be actions filed to halt the resolution process. The law provides IPAB with a period of up to five days after a bank enters liquidation to publish the bank's resolution process under Article 188 of the Banking Law.	The use of the Purchase and Assumption (P&A) tool is untested in the Mexican market and there are several impediments to its use that may make it impractical. Potential acquirers' inability to access relevant data before the bank's license revocation make the use of the tool in all but the smallest banks very difficult without the use of costly loss sharing agreements between IPAB and a potential acquirer. The ability to use the bridge bank tool in resolving a systemic bank (rather than one deemed partially systemic) is not clear and there is no assurance that shareholders and unsecured creditors of a systemic bank resolved under the Open Bank Assistance mechanisms fully bear losses prior to the use of deposit insurer, resolution authority or public funds.

IPAB Summary Compliance with the Core Principles for Effective Deposit Insurance Systems (concluded)		
Core Principle 15: Reimbursing Depositors	The law provides IPAB up to 90 days to reimburse depositors, but reimbursements could be done faster. Indeed, the small number of depositors (200) of Banco Bicentenario were reimbursed in two days. However, IPAB does not yet have the ability to reimburse a large number of depositors in seven days or less and is still in the process of planning for the use of a paying agent bank that could complete a large reimbursement within seven days or less. The law makes no provision for advance or partial payments of insured deposits. Insured institutions must have information on insured obligations as described in IPAB's law and lending operations in order for IPAB to be able to apply set-off as required by Article 175 of the Banking Law. IPAB has the power to review bank records to verify compliance with its rules for classifying information with on-site examinations at its member institutions. The law also provides IPAB with the ability to use the necessary human and technical resources to prepare for a prompt reimbursement process. IPAB makes regular use of simulation exercises to assist it in its planning activities. Although not required by law, IPAB conducted a review of the reimbursement process undertaken in the failure of Banco Bicentenario. The reimbursement process is audited by IPAB's internal auditor. The setting-off of insured deposits against past due loans is part of the 2014 Banking Law (Arts. 124 and 175) but their calculation is cumbersome and recovery of past due loans is small.	The law provides IPAB up to 90 days to reimburse depositors. Although it was able to promptly reimburse a small number of depositors in a 2014 bank failure it is not yet prepared to reimburse a very large number of depositors in less than 7 days. The requirement to apply set-off against past due loans may complicate its ability to reduce the time required to reimburse depositors.
Core Principle 16: Recoveries	IPAB's role as the liquidator of a bank in resolution is clearly established in Article 169 of the Banking Law. The creditor hierarchy clearly provides for IPAB the same position as an insured depositor for purposes of recovery in liquidation. IPAB acts as the liquidator of the failed institution. The Banking Law establishes rules for asset recovery and provides IPAB with flexibility in carrying out disposal practices (e.g., Banco Bicentenario). Article 207 of the Banking Law sets forth rules as to eligible persons to buy assets from a failed bank. IPAB also has established policies on how the provisions of the law will be applied.	

E. Authorities' Response

Core Principle 2, Essential Criteria 1	The debt from FOBAPROA has never been public debt it has always been IPAB's debt.
	There are only two assets remaining from FOBAPROA that are still being managed by IPAB.
Core Principle 2, Essential Criteria 3	The issue of debt repayment is out of place under this CP which addresses Mandate and Powers.
Core Principle 6, Essential Criteria 2	The notation that IPAB has not prepared a contingency plan for a systemic crisis or the failure of a systemic bank seems outside of the scope of the EC.
Core Principle 6, Essential Criteria 4	The EC addresses the participation in contingency planning and crisis simulation exercises for the sector and if they were held IPAB would participate.
Core Principle 6, Essential Criteria 5	Coordination of communication activities takes place with all authorities.
	Policy on communication cannot be discussed by CEB as it only meets during a crisis.
Core Principle 6	We believe we are Compliant (not Largely Compliant) because IPAB does all it can do and this CP addresses the deposit insurer's role in contingency planning.
Core Principle 8, Essential Criteria 2	Text inaccurately describes evolution of coverage level for deposits.
Core Principle 8, Essential Criteria 9	Foreign currency deposits are insured.
Core Principle 9, Essential Criteria 5	Repayment of funds from legacy debt is not paid to the government but is used to directly repay debt.
Core Principle 9, Essential Criteria 9	Legacy debt is not government debt.
Core Principle 9, Essential Criteria 10	Since the minimum level of premiums to be charged is 4 basis points the adoption of risk based premiums would never result in less income.
Core Principle 12, Essential Criteria 1	Text missing.
Core Principle 14, Essential Criteria 2	Bridge bank is allowed for bank that has not been given open bank assistance.