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Impact of the New Financial Services Law in Bolivia  
on Financial Stability and Inclusion

By Dyna Heng

I N T E R N A T I O N A L M O N E T A R Y F U N D

**IMF Working Paper**

Western Hemisphere Department

**Impact of the New Financial Services Law in Bolivia on Financial Stability and Inclusion****Prepared by Dyna Heng<sup>1</sup>**

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**Abstract**

This paper examines the impact of the new financial services law in Bolivia—including credit quotas and interest rate caps—on financial stability and inclusion. So far, credit to “targeted” sectors is growing as intended by the law but the increase in the average loan size of microfinance institutions and the declining number of borrowers point to potentially adverse effects of the interest rate caps on financial inclusion. Looking ahead, while the new law contains many good provisions, international experience suggests that promoting financial access through credit quota and interest rate caps is very challenging. Indeed, trying to meet the 2018 credit target for the productive sectors and social housing could imply the build up of significant financial stability risks. These will need careful monitoring and possible modifications to the credit quotas and interest rate caps.

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**Abbreviations**

APS:	Authority of Pension and Security
ASFI:	Financial System Supervisory Authority (ASFI)
ASOBAN:	Association of Banks
BCB:	Central Bank of Bolivia
FINRURAL:	Financial Institutions for Rural Development
FSL:	Financial Services Law
GFSR:	Global Financial Stability Report
IFD:	Development Finance Institutions
NPLs:	Non-Performing Loans
PCGs:	Partial Credit Guarantee
ROA:	Return on Assets
ROE:	Return on Equity

## I. INTRODUCTION

Bolivia has made progress in promoting financial access, which has been driven by an expanding banking sector and a vibrant microfinance industry. Over the past decade, credit as a share of GDP has increased from 35 percent to 43 percent, while the number of borrowers as a share of the adult population has doubled (Figure 1). Specialized Entities in Microfinance (EMFs) serve about two thirds of total borrowers and provide one third of total credit (Figure 2).<sup>2</sup> Financial development has been supported by strong growth in the context of a commodity boom, political stability, and sound macroeconomic management.

Figure 1: Financial Development in Bolivia

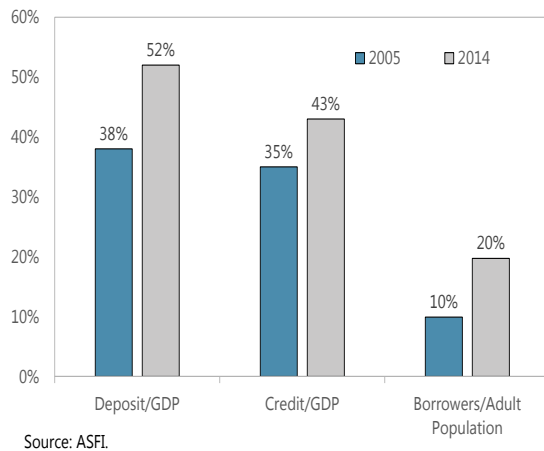
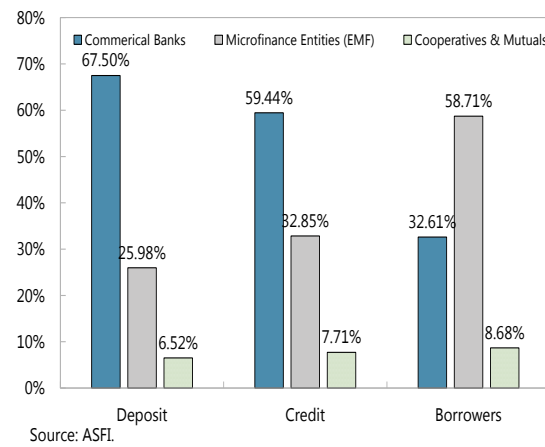


Figure 2: Market Share by Institutions



Bolivia adopted a new Financial Services Law (FSL) in August 2013, which includes several provisions to strengthen the safety net and the integrity of the financial system. This include setting up a deposit insurance scheme and a credit registry, strengthening supervision, implementing a number of core Basel II and III principles, creating a Financial Stability Council, enhancing consumer protection, and various AML/CFT measures.

However, the FSL also includes new regulations that could pose risks to financial stability and inclusion. These include (i) regulations on deposit and lending rates; (ii) minimum lending quotas for the so-called “productive sectors” and social housing; and (iii) creation of guarantee funds to finance down payments for social housing and productive sector loans.

Using financial soundness indicators, simulations, stress tests, and reviewing international experience with credit quotas and interest rate caps, this paper examines the impact of the FSL on financial stability and inclusion. The assessment focuses on various elements: the

<sup>2</sup> Entities Specialized in microfinance consist of banks specialized in microfinance and SME banks. Others NGOs also engaged in microfinance, known as development finance institutions (IFDs), are in the process of being integrated into ASFI regulations. Currently, they are self-regulated by FINRURAL, an association of these NGOs.

direct impact of the credit quotas on the productive and non productive sectors, macro-financial feedback loops and implications for growth and financial stability; and the impact of the combination of credit quotas and interest caps on financial inclusion, especially access to microfinance institutions.<sup>3</sup> Based on international experience, it also presents potential alternative instruments that Bolivia might adopt to achieve the same objectives of financial deepening and inclusion.

The impact of the credit quotas and interest rate caps on financial stability and inclusion is on-going and requires vigilance. The sound state of Bolivia's financial sector is encouraging, but looking ahead there is the need for careful monitoring and possible modifications to the credit quotas and interest rate caps if material financial stability risks build up. Indeed, international experience suggests that replicating the success of Japan and Korea with credit policies is difficult. The interest rate caps appear to have already had a material effect on financial inclusion, especially for small borrowers, as microfinance institutions have increased loan sizes and reduced the number of borrowers. Financial inclusion objectives could likely be better attained by promoting further competition in the financial sector.

The paper proceeds as follows. Section II provides a summary of the new FSL, while section III gives a snapshot of the current state of the financial sector. Section IV discusses the international experience with credit quotas and interest rate caps. Section V analyzes the impact of the FSL on financial stability, focusing on the potential medium term impact of the credit quotas. Section VI discusses other potential financial stability risks. Section VII turns to the impact on financial inclusion, and section VIII presents the policy recommendations.

## **II. NEW FINANCIAL SERVICES LAW**

The 2013 FSL was adopted to replace the 1993 banking Law, considered by the Bolivian government as too favorable towards the interests of private financial entities and lacking consumer protection.<sup>4</sup> One objective of the FSL is to support the national policy aimed at promoting the productive sector, food security, and poverty reduction. Bolivia's government envisages production of agriculture and manufacturing goods as the central hub of the new economic model implemented since 2006. In this context, the FSL aims to have the financial sector respond to the productive priorities of strategic sectors; meet the financing needs of new productive enterprises; and pay special attention to meeting the demand of the micro and small business sectors.

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<sup>3</sup> Productive sectors are defined broadly as non-service sectors, including agriculture, mining, and manufacturing.

<sup>4</sup> The FSL refers to Law 393 adopted on August 21, 2013. Subsequent Presidential Decree 2055 were issued in 2014 to implement the Law and the resolution on intermediate annual credit targets was adopted in January 2015. The impact of interest rate caps started to materialize only after July 2014 and that of credit targets after January 2015.

Another objective is to introduce the social function of financial services, which was not mandated in the 1993 banking Law. Bolivia's government believes that financial entities must contribute to the achievement of integrated development objectives and reach less densely populated geographic zones and those of lesser economic and social development. Indeed, accompanying the FSL, provisions have been introduced to benefit financial service users, such as the cell-phone based mobile wallet service, easier physical access conditions for disabled persons, and amendments to the Consumer Credit Regulation to prevent over-borrowing.

Against this background, the FSL allows the state to regulate and intervene in the financial sector to achieve the desired objectives. The central themes of the FSL include:

i) a regulatory framework for financial activity and financial institutions; ii) guidelines for consumer protection; and iii) support for the productive sector and the supply of housing finance under more accessible modalities. Within this framework, the government has a commitment to promote the productive sectors and has been doing so through the state banking system and direct credit from the Central Bank to state-owned Enterprises.<sup>5</sup> Non-conventional guarantees (e.g., machinery, sale commitment contracts or documents, stored products, animal guarantees) have also been created to promote financial access in the productive sector.<sup>6</sup>

The FSL includes several good provisions which aim to help strengthen the safety net and the integrity of the financial system. These include deposit protection, the establishment of a macro-prudential oversight body and credit registry, anti-money laundry measures, and strengthening the supervisory capacity of ASFI (the financial supervisory authority). The FSL also intends to implement core Basel II and III principles such as adding market risk to capital requirements and to complete the guidance on operational and interest rate risk. For instance, the primary capital requirement of a financial entity is increased from 5 percent to 7 percent of risk-weighted assets and contingencies. The FSL also creates a Financial Stability Council, which aims to coordinate interagency actions and issue recommendations on the application of macro-prudential regulation policies.<sup>7</sup> These will be focused on identifying, controlling, and mitigating situations creating systemic risk to the financial sector. The Depositor Protection Fund was created to protect depositors through a proper deposit insurance scheme.<sup>8</sup>

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<sup>5</sup> The state-owned banks are Banco Union and Banco de Desarrollo Productivo.

<sup>6</sup> Currently, only state-owned banks are dealing with non-conventional guarantees. Indeed, many IFDs have been lending based on non-conventional guarantees since 2006 for small loans and limited to a small proportion of borrowers.

<sup>7</sup> The Council consists of the Minister of Economy and Public Finance (chair), the Minister of Planning, the Governor of the Central Bank of Bolivia, the Executive Director of ASFI, and the Executive Director of APS.

<sup>8</sup> The Depositor Protection Fund replaces the old Financial Restructuring Fund which could be drawn upon in the event of the liquidation of a banking institution.



The FSL includes instruments to guide the financial sector towards the productive sectors and social housing and meet social objectives. These instruments are: (i) regulations on deposit and lending rates; (ii) minimum lending quotas for the productive sector and social housing; and (iii) creation of guarantee funds to finance down payments for social housing and productive sector loans. The government sets the upper limits for interest rates on productive loans and for social housing credit, minimum interest rates for deposits, and the minimum portfolio shares to be directed to the productive sector (“credit quotas”). A guarantee fund made up of 6 percent of banks’ 2014 profits—similar to a profit tax—is used to finance down payments for loans to productive sectors and for social housing.<sup>9</sup> This means a customer, if qualified, can borrow up to 100 percent of the asset. To help address moral hazard, a debtor that defaults on a payment to the fund is listed in the credit registry. Table 1 summarizes the regulations.

**Table 1. Summary of Key Regulations**

<b>Interest Rate Controls<sup>1</sup></b>	<b>Minimum Lending Quotas</b>	<b>Guarantee Fund</b>
-Social housing: 5.5– 6.5% depending on the property value. -Corporate loans: 6% -SME loans: 6% -Microfinance loans: 11.5% -Deposit interest rate: 2% floor for any savings of up to Bs70.000 (around USD10,000) with rates of 0.18%– 4.10% for fixed-term deposits depending on maturity.	-Commercial banks: 60 percent of total credit to productive sectors (minimum 25 percent) and for social housing combined. -SME banks: 50 percent of total credits to small, medium and microenterprises in the productive sector -Housing Financial Institutions: 50 percent of total credits to social housing  Banks have five years to comply with this minimum quota with guided annual target which can vary depending on banks’ current portfolio. <sup>2</sup> 2015 credit target for productive sector and/or social housing is 43 percent (from 37 percent in 2014).	6% of 2014 profits is required for the guarantee fund. <sup>3</sup> The fund is then used by each bank to provide up to a 50 percent guarantee for productive loans and up to 20 percent of the value of social housing.
1/ The interest rate caps are subject to an annual review by the government. 2/ The formula for the immediate annual target of each bank is: $Target_{2015} = [(Target_{2018} - ProductiveCredit/TotalCredit_{2014})/numbers\ of\ years(2018-2014)] + Productive\ Credit/Total\ Credit_{2014}$ 3/ 6 percent of total 2014 net profits is about US\$15 million. ----- <i>Source: Compiled by the author.</i>		

Productive and non-productive sectors are defined by the FSL. Table 2 provides a summary of the definitions of productive and non-productive sectors. Since July 2015, tourism and

<sup>9</sup> Individual banks manage their own guarantee funds.

“intellectual products” (movies and literature) have been also categorized as productive sectors.<sup>10</sup> Social housing is defined as a single home, without commercial use, of low-income households, of which the commercial value or final cost of construction including the value of the land, does not exceed UFV 400,000 (US\$120,000) in the case of an apartment, and UFV 460,000 (approximately US\$140,000) in the case of a house as of October 2015.

**Table 2. Classification of Productive and Non-Productive Sectors**

<b>Productive Sector</b>	<b>Non-Productive</b>
Agriculture and livestock	Hotel and Restaurant
Hunting, forestry and fishing	Transport , storage and communications
Extraction of crude oil and natural gas	Real estate and business services
Metallic and non-metallic minerals	Public administration services
Industrial manufacturing	Social , community and personal services, Other services
Production and distribution of electricity, gas and water	
Construction	Wholesale and retail (Commerce)
Tourism and Intellectual Production	

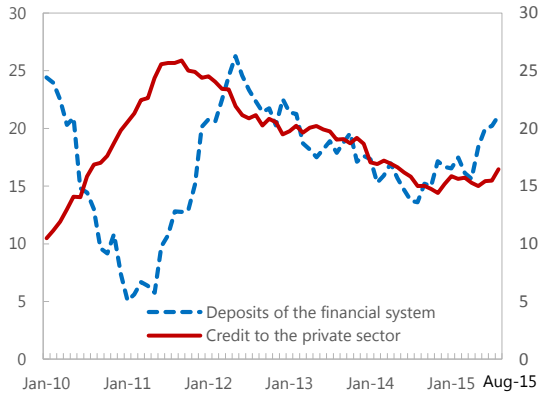
### III. SNAPSHOT OF FINANCIAL SYSTEM

Headline financial indicators are solid, although vulnerabilities are developing and likely to increase as growth slows and lower oil prices bite. The financial sector is still expanding although at a moderate level. The FSL has changed the financial landscape as banks reposition themselves to comply with the regulations. Credit growth declined from around 20 percent in 2013 to 16 percent in 2014 and 2015 (Figure 3). However, a rapid increase in the credit/GDP ratio to 45.6 percent in 2015H1 compared to 42 percent in 2014H1, suggests

<sup>10</sup> See ASFI Regulation 570/2015, July 2015.

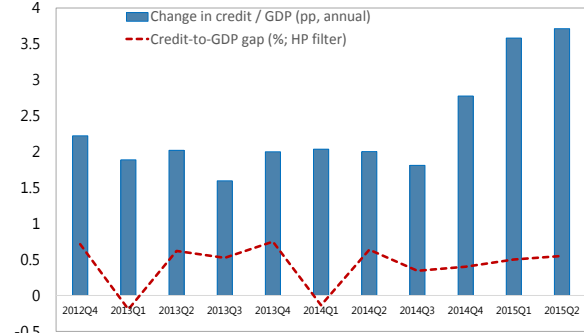
increased vulnerabilities (Figure 4).<sup>11</sup> The credit/GDP gap, which reflects a deviation from a fundamental trend, has also been in positive territory since early 2014.<sup>12</sup>

**Figure 3: Deposits and Credit Growth**  
(In percent, y/y)



Source: Central Bank of Bolivia

**Figure 4: Trend in Credit to GDP**



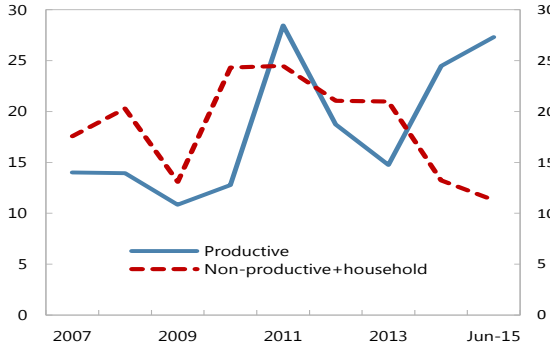
Source: Author's calculation

The FSL is altering the composition of credit flows, as intended by the law. Credit to productive sector and for social housing has increased by around 26 percent (y/y) while credit growth to non-productive sectors declined to around 13 percent (y/y) as of June 2015 (Figure 5). This is driven by loans in the agriculture, manufacturing industry, and construction sectors. By loan types, microcredit, corporate loans, and housing loans are increasing by around 20 percent (Figure 6). Consumption credit has decelerated. Importantly, SME loan growth declined to 1 percent in 2014 and was negative in 2015Q2, likely due to a regulatory requirement that SMEs must present tax receipts to be qualified for a bank loan.

<sup>11</sup> IMF (2012) provides a discussion on the indicators to assess excessive credit growth. Annual growth of credit to GDP at or above three percent can serve as an early warning signal one to two years before financial crises.

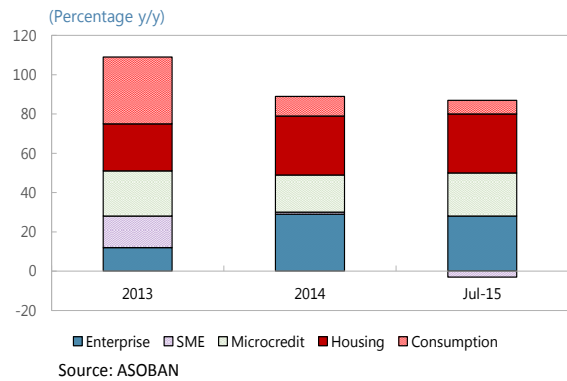
<sup>12</sup> The gap is calculated as the difference between the credit-to-GDP ratio and the long run trend of this ratio, which is derived by using a Hodrick-Prescott filter on quarterly data. The gap has been found to provide a strong early warning signal of an impending crisis (Drehmann and others 2014).

**Figure 5: Credit Growth**  
(In percent, y/y)



Source: ASFI.

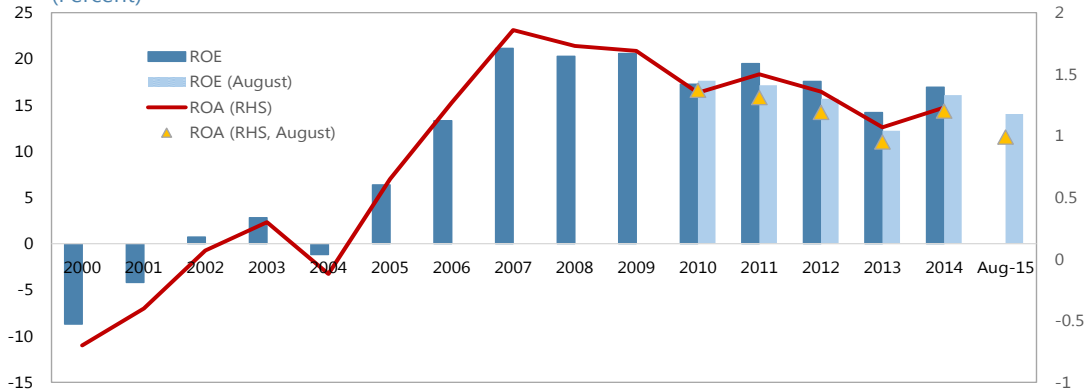
**Figure 6: Credit Growth by Loan Type**



Source: ASOBAN

Profitability of banks has dropped slightly since the FSL came into full effect. Profitability in 2014 increased slightly as a result of financial sector restructuring (e.g., private financial funds were converted to full commercial banks) and also because the effect of the interest rate caps and credit quotas was not fully felt when the related implementing regulations were issued.<sup>13</sup> The return on assets dipped to around 1 percent while the return on equity dropped to 13.6 percent as of August 2015. Financial margins have also decreased even though net profits in absolute terms remain comparable to 2014 levels (Figure 7 and 8). Going forward, there is a concern that lower profitability and capitalization of the financial system could lead to a reduction in the funds available for medium-term banking expansion. Indeed, Bolivian Banks' profitability (ROA and ROE) are now lower than the regional average (Figure 9).<sup>14</sup>

**Figure 7: Rates of Return**  
(Percent)

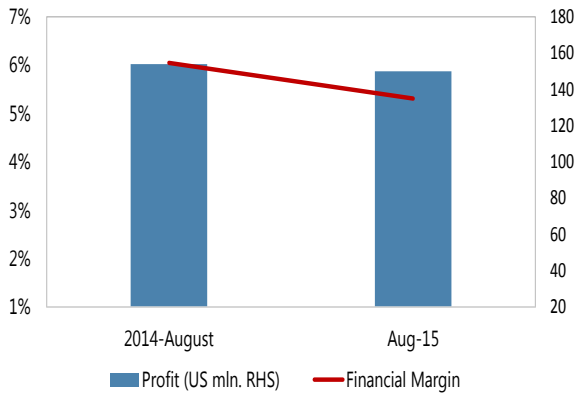


Source: ASFI

<sup>13</sup> The interest rate ceiling came into effect in July 2014 (Supreme decree 2055). And banks still had room to lend to non-productive sectors as the intermediate annual credit quotas only came into effect in January 2015.

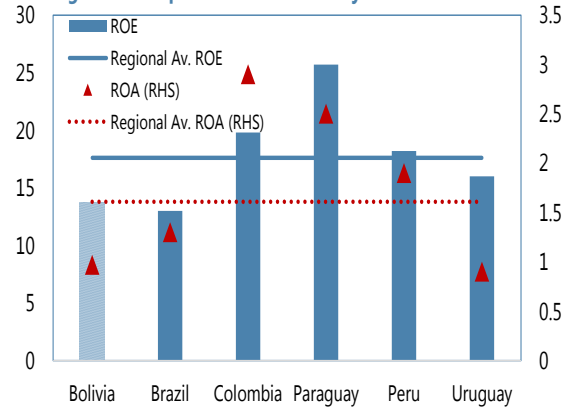
<sup>14</sup> The net financial margin is the difference between financial revenue, such as interest revenues; and financial expenditure, such as deposit interest payments (as a percentage of total portfolio).

Figure 8: Net Profit and Financial Margin



Source: ASFI

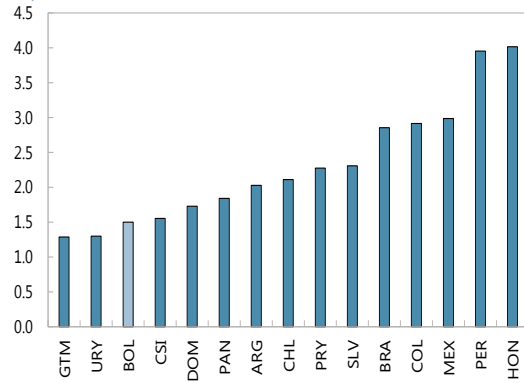
Figure 9: Comparison of Profitability



NPLs remain low, capital buffers are ample, and dollarization has decreased.<sup>15</sup> The NPL ratio in Bolivia remains one of the lowest in the region (Figure 10). At the same time, FX exposure has decreased as a result of successful de-dollarization over the last decade (Figure 11). Banks' balance sheets remain healthy with low balance sheet structural risks and large buffers (the system wide capital adequacy ratio (CAR) currently stands at 12.7 percent, above the 10 percent minimum CAR).

Figure 10: Non-Performing Loans 2014

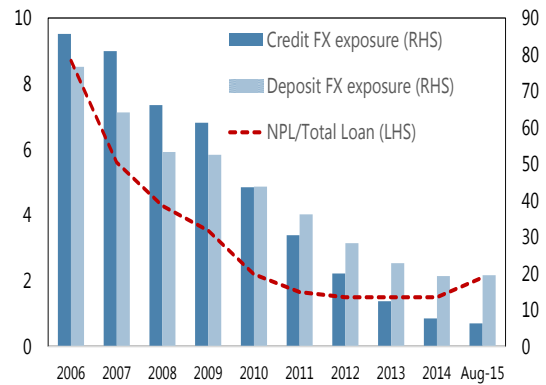
(In percent of total loans)



Source: IMF GFSR.

Figure 11: Asset Quality and FX Exposure

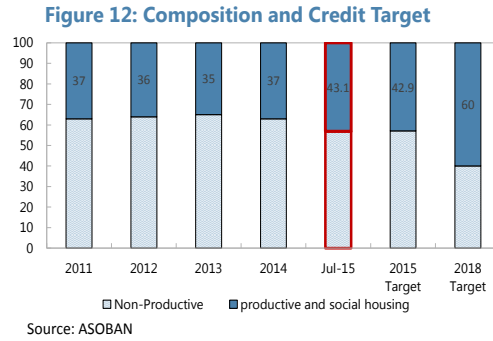
(Percent)



Source: ASFI

<sup>15</sup> NPLs in mid-year often tend to be higher than the year average. Nonetheless, the trend remains to be seen given the slower economic growth and lower commodity prices.

Banks are meeting the annual credit target for 2015 (Figure 12). Big banks have moved to capture the best risks they can take in the system, and to extend additional credit to existing customers (hence increasing the loan size). By September 2015, SME banks' lending to productive sector reached 35.2 percent, which is 2 percent point below the intermediate target.<sup>16</sup> Overall, many microfinance entities face greater challenges to meet the credit quotas given their typically larger exposure to commercial lending (non-productive credit) and dependence on interest margins.



Nonetheless, the expansion of the definition of productive sectors likely increases the scope for circumvention of the quotas, and potentially increases the supervisory burden to police them effectively. The classification of tourism as a productive sector in the July 2015 regulation—around 5 percent of total portfolio—undoubtedly helps to reduce the pressure a bit. It also gives scope for a “grey zone” and window dressing by banks in loan classification. For instance, a bank can justify loans to hotels and restaurants as productive as they involve construction and aim to serve the tourism sector. In this regard, such a “grey zone” can also help reduce pressure to meet the target. Nevertheless, it increases complexity and scope for circumvention, thereby shifting the risks from rapid credit growth in the productive sector to loan classification issues and the supervisory burden. In addition, broadening the definition of a “priority sector” can affect banks’ profitability given the interest rate caps in the productive sectors, which may force them to further exclude small, higher risk borrowers by directing capital to the most profitable borrowers.

#### IV. LESSONS FROM EAST ASIA AND LATIN AMERICA: CREDIT QUOTA AND INTEREST RATE CAPS

Credit targeting policies in Asian countries such as those in India have usually been judged as unsuccessful. Directed credit programs were a major tool for development in the 1960s and 1970s. Experience in most countries showed that they stimulated capital-intensive projects and were often associated with misuse of the preferential funds, a decline in financial discipline, and increasing budget deficits (Dimitri and Cho 1995).

Credit targeting policies in Japan and Korea, however, appear to have been successful, although there are important caveats (Box: Priority Lending: Lessons from East Asia). These experiences show that limited and well-crafted selective credit policies for state-selected

<sup>16</sup> The calculation does not include tourism and intellectual products, which were classified as productive sectors in July 2015.

strategic sectors, as implemented through interest rate regulations and state-owned banking, can improve the efficiency of financial intermediation. However, it has proven to be difficult to replicate the success of Japan and Korea in other countries. Key elements are the need for professionalism and independence at the government institutions responsible for the programs and policies; development of a credit culture with a concentration on analysis, monitoring and collection; an emphasis on keeping interventions limited in amount and time; and the use of market signals. Moreover, intervention in the credit allocation for implementing industrial policy in Japan and Korea was not without costs as it led to high non-performing loans (Dimitri and Cho 1995, Cho 1997, Stiglitz and Yusuf 2001).

Turning to Latin America, selective credit policies are not new in this region either, and are again generally viewed to have been unsuccessful. Credit and interest rate regulation were part of policies to give loans on preferential terms and conditions to priority sectors in Latin America in the 1960s and 1970s. Commercial banks were often forced to extend credit for social and regional programs. Experience in most countries showed that such selective credit policies can distort incentives among both lenders and borrowers. Apart from suffering from abuse and misuse of preferential credit for un-intended purposes, they also increased the cost of funds to non-preferential borrowers and involved a decline in financial discipline that resulted in compromised asset quality in the targeted sectors (Montenegro 1997). For instance, very often, rural credit programs did not meet their goals, and funds were diverted to other uses. Firms promoted and supported with directed credit were often inefficient, oligopolistic, oriented to the domestic market, and incapable of competing in international markets (IADB 1997). Table 3 provides a snapshot of those policies implemented in Latin America during the 1970s–1990s.

**Table 3. Countries' Past Interference in Financial Sector**

	Duration of loan	Interest Rate Cap	Mandatory loans to selected sectors
Argentina	√		
Brazil	√	√	√
Chile		√	
Colombia	√	√	√
Costa Rica	√		
Ecuador	√	√	
El Salvador	√		
Guatemala	√		
Honduras	√	√	
Mexico	√		√
Panama		√	
Paraguay		√	
Peru		√	
Uruguay			
Venezuela	√	√	√

*Source: Eduardo (2012)*

### **A. Interest Rate Caps**

Interest rate caps have often been a key part of selective credit policies. Historically, governments have used interest rate ceilings to address the concern about high costs of borrowing and predatory lending or as a form of subsidy to economically and politically important groups. Many countries, especially those in Latin America, experimented with some forms of interest rate controls in 1980s and 1990s. However, the number of countries has been declining since then. Today, some countries still impose interest rate caps on loans to protect consumers from usury and excessive interest rates, while only a small number of countries are using interest rate caps to support specific sectors of the economy (Maimbo and Gallegos 2014). In Latin America, Paraguay and Bolivia are among the few countries that have some controls on interest rates for credit allocation purposes. In Asia, loans to agriculture, SMEs, export-oriented industry, and technology are capped at 2 percentage points above the deposit rate ceiling in Vietnam, with similar caps in Malaysia for loans to SMEs.

Experience from many countries shows that interest rate caps, if set well below the market rate, can limit access to credit, reduce transparency, and decrease product diversity and competition, thereby adversely affect financial inclusion. To meet the interest rate ceiling, financial institutions often increase loan size and shift their commercial operations from rural areas, which often face higher operational costs, to urban areas, thereby reducing services to rural and small borrowers (Miller 2013). Many countries such as Nicaragua, West Africa, and Mali have witnessed a market contraction after the introduction of interest rate ceilings for specific types of lenders (CGAP 2004). Moreover, interest rate ceilings can often drive borrowers back to more expensive informal markets where they generally have no or little protection. Financial institutions would also tend to lend to clients with higher collateral. And when the definition of interest rate is not clear, financial entities may have scope to charge fees and commissions.

Too low an interest rate ceiling can also reduce bank's profitability, lowering the expansion capacity of the financial sector and thus financial development. Although financial institutions can remain profitable in the presence of interest rate caps, the ceiling can reduce investments in new markets. The increase in loan size to recover the cost and to comply with the ceiling can also increase concentration risks as banks compete for a narrow base of existing customers. This is because of banks' risk aversion and limited information to assess and take on risks of new borrowers

### **B. Minimum Credit Quotas**

Credit quotas have been another instrument used in many countries. Banks were often required to lend a certain portion of their portfolio to targeted sectors. Today, a number of Asian countries are implementing lending quotas to help channel credit to underserved yet important sectors. For instance, a minimum credit quota for priority sectors which include



agriculture, SMEs, and export-oriented industries is set at 40 percent and 20 percent of total credit in India and Indonesia, respectively; and 20 percent of deposits in Thailand (FRBS 2014).

However, despite good policy intentions, banks have often suffered from declining asset quality in priority sectors as they aggressively expand credit to meet the quotas. It is particularly so when lenders lack the specialized experience and the ability to assess risks in priority sectors. Experience suggests that NPLs in the targeted sectors have often been much higher than in the overall portfolio (FRBS 2014). For instance, NPLs for targeted SME sectors in developing countries are on average 2–5 percent higher than the NPLs of non-SME loans (Beck et al. 2008). There is evidence that Indian banks have suffered declining asset quality in agriculture and SME portfolios as they aggressively expanded credit to these sectors to meet the lending quotas (FRBS 2014).

Credit quotas can lead to concentration and over-indebtedness risks. With the latent problem of risk aversion to new borrowers and enterprises due to lack of credit information, banks can simply increase their loan size to existing customers, which leads to over-indebtedness risks. Alternatively, banks can extend the loan to customers of other banks, increasing common-client exposure. In addition, credit quotas are in practice often not effective as they get circumvented through compromised loan classification or simply a reduction of credit to the non-targeted sectors. Moreover, the lending requirements may also discourage market entry of new banks, particularly foreign ones.

To sum up, interest rate caps and credit quotas are not standard regulatory tools for enhancing financial inclusion and financial stability, and are not recommended for such purposes. A number of countries today implement the interest rate ceiling mainly for consumer protection (i.e., through usury law), and less for credit allocation purposes (Maimbo and Collegos 2014). Even for credit allocation purposes, the cap should be set at a reasonable level, which means high enough to allow lenders to make a profit but low enough to eliminate excess profit due to a lack of competition.

Indeed, the most powerful mechanism for lowering interest rates is competition. In the cases of Bolivia, Bosnia, Cambodia, and Nicaragua, operational efficiency improved as the result of competition (CGAP 2004). Empirical evidence indicates that greater banking competition, limited state bank presence, and ease of entry of new institutions are key in promoting the quality of financial intermediation and the efficiency (World Bank 2012). Competition encourages banks to take on more diversified risks, making the banking system less fragile (Anginer, Demirgüç-Kunt, and Zhu 2012). In this regard, inclusion efforts are best targeted toward addressing market failures. Market-based mechanisms that make financial inclusion viable for financial institutions are more likely to achieve the financial development objectives. A stable macroeconomic environment, a legal and regulatory framework that provides a level playing field, investment in basic telecommunications, roads, and financial

literacy are critical for competition and efficiency. And improving movable collateral frameworks and credit registries can boost lending to SMEs by overcoming information problems.

## V. IMPACT OF CREDIT QUOTAS ON FINANCIAL STABILITY

In this section, we present two scenarios for credit growth to meet the credit quotas, analyze macrofinancial links, and look at key stress tests. In the first scenario, banks are assumed to maintain their current non-productive credit/GDP ratio (24.6 percent of GDP), while increasing credit to productive sectors and for social housing to meet the 60/40 target.<sup>17</sup> In the second scenario, banks are assumed to lend to non-productive sector at 2014 levels (credit growth rate of 13 percent). In both scenarios, we assume banks have a smooth credit growth plan for the productive sector loans to meet the 2018 target; in other words, constant credit growth rates through 2018. To analyze macro-financial links we use a VAR and to judge the impact of the credit growth paths on the financial sector's soundness we conduct an NPL stress test.

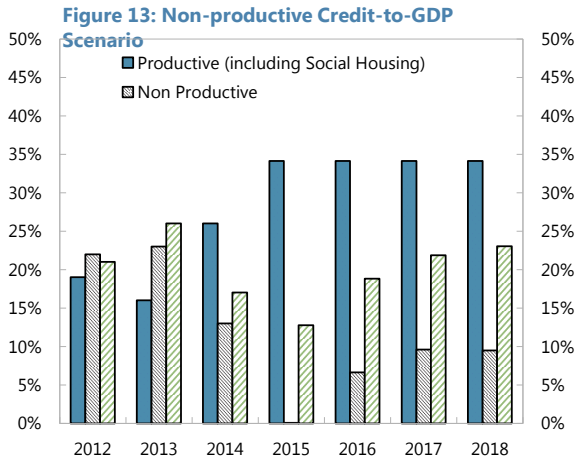
### A. Credit Growth Scenarios

Achieving the 60/40 target by 2018 could imply rapid credit growth, raising concerns about concentration risks, compromised asset quality, and over-indebtedness in the productive sectors. In scenario I, total credit growth needs to be around 18 percent with productive sector credit growth (including for social housing) of 33 percent (Figure 13: Non-productive Credit-to-GDP Scenario). In scenario II, achieving 60/40 target by 2018 implies annual productive credit growth of 42 percent and overall credit growth of about 25 percent through 2018 (Figure 14: Credit Growth Trend Scenario). And with the credit growth rates observed in 2014 (26 percent of productive credit growth and 13 percent of non-productive credit growth), the 60/40 target will only be achieved in 2023 implying a total credit growth of 20 percent a year.

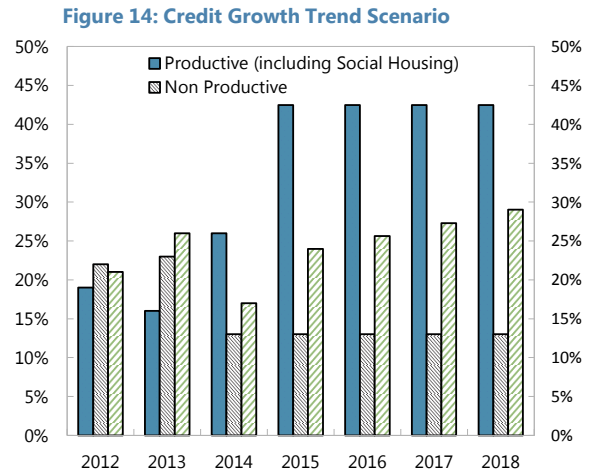
An alternative scenario would be to meet the credit quotas by a balance sheet reduction, implying a credit crunch in the non-productive sector. This could trigger a vicious negative feedback loop between credit and growth. We assess the potential impact on GDP growth of the credit scenarios in the next subsection.

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<sup>17</sup> In 2014, loans for social housing were 18.5 percent of productive sector loans or 5.8 percent of total loans.



Source: IMF staff calculations based on national authorities' data.



Source: IMF staff calculations based on national authorities' data.

## B. Macro-Financial Links: VAR Analysis

In this subsection, to assess potential macrofinancial feedback loops, we examine the importance of credit supply shocks on GDP growth using VAR analysis over the period 2002–2015.

The theoretical underpinnings of the linkages between economic activity and credit growth are well known (Levine 2005, Adrian, Colla and Shin, 2012). But identifying credit supply shocks is challenging because variables that are commonly used to monitor credit conditions, such as credit growth and lending rates, reflect both demand and supply factors. Several authors have tried to isolate credit supply conditions by relying on measures of bank lending standards that reflect lending terms and the criteria used by banks for the approval of loans (Pescatori and Sandri 2014, Lown and Morgan 2006, De Bondt et al. 2010).

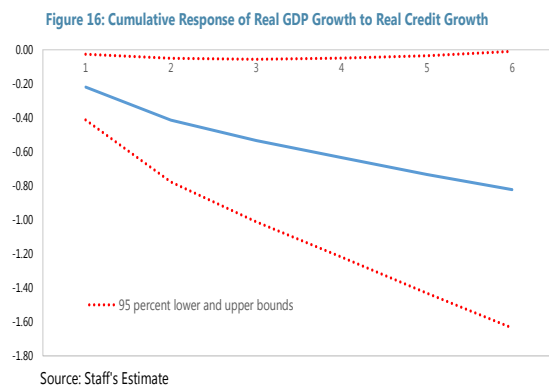
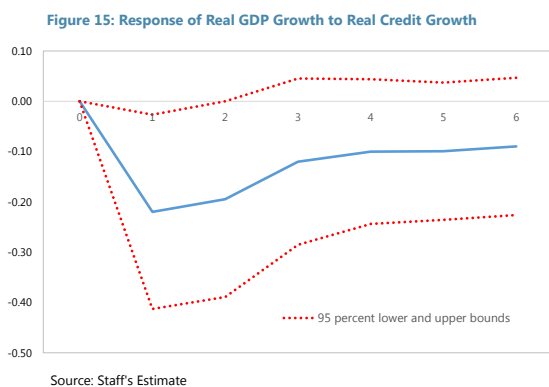
Given the absence of lending standard data in Bolivia, the analysis below follows Pescatori and Sandri (2014) and uses a proxy for expected growth to better capture credit demand, and in so doing making the credit shock more reflective of credit supply developments. Negative credit supply shocks have been found to have a contractionary effect on GDP growth in many countries (Peek et al. 2003, Hristov et al. 2012, Gambetti and Musso 2012, and Helbling et al. 2010).

There are some important caveats to be taken into account when using this approach. On the one hand, the identification restriction may be very conservative. A credit supply shock, especially if realized at year  $t$ , is likely to have already had some effects on GDP within the same year, or at least on the expectations of GDP next year. Ignoring this possibility introduces a downward bias in the estimates; thus the estimation framework provides a conservative assessment of the effects of credit supply shocks on GDP growth. On the other hand, current and expected GDP growth may not fully capture banks' perceptions of

borrowers' creditworthiness. In this case, the estimation framework risks overestimating the role of credit supply shocks. Finally, the estimation results could be affected by omitted variable bias and the sample period 2002–2015, which is a largely a boom period for Bolivia.

Following Pescatori and Sandri (2014), the VAR includes real GDP growth, expected GDP growth for the next year, and real credit growth (in that order). Expected GDP growth is included to capture credit demand, and so the credit shock should be more reflective of credit supply developments.

The results show that a credit supply shock can have a strong effect on GDP in Bolivia, although it does not have an immediate impact. Figure 15 shows that a drop of real credit growth by 1 percentage point can reduce real GDP growth by 0.2 percentage point after 1 year. The response becomes statistically insignificant after two years, although the cumulative impact remains significant at the 95 percent confidence level over the medium term (Figure 16). Similar results are found if real GDP growth is replaced with real nonhydrocarbons GDP growth.

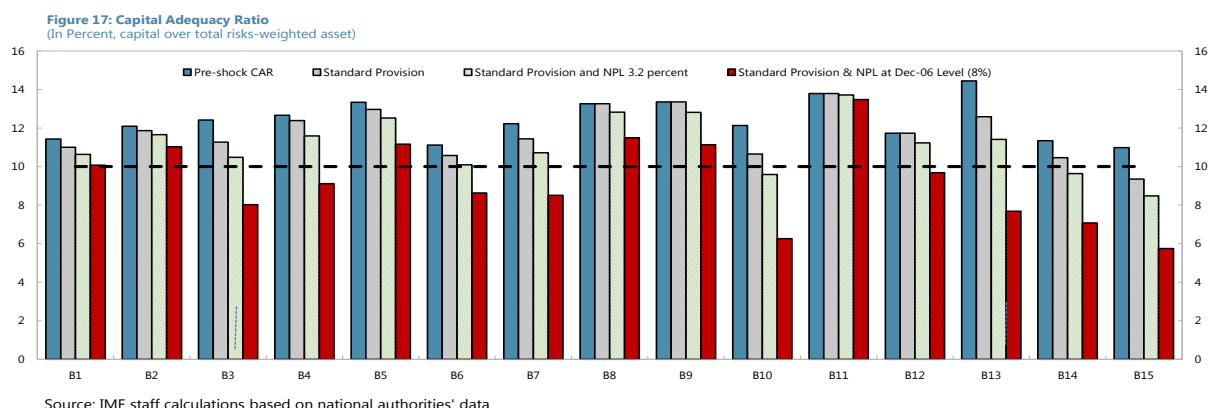


### C. Stress Tests

Periods of high credit growth often presage an increase in NPLs and potential capital shortfalls. First, banks' ability to dully process loan applications could be stretched during periods of rapid credit growth. Second, vulnerabilities might build up if banks over-estimate the credit-worthiness of borrowers and when underwriting is based on inflated collateral values and benign economic conditions (Borio and Lowe, 2002). Third, banks may fail to diversify their loan books properly when they can easily increase the loan size to existing customers to meet the credit targets. Indeed, there is a long history of periods with rapid credit growth “gone wrong” leading to subsequent strains in the financial sector and severe economic contraction (e.g., Reinhart and Rogoff 2009).

To examine the resilience of the Bolivia’s financial system to scenarios with high credit growth, we conduct a credit risk stress test. The stress testing tool developed by Cihak (2007) is used to perform the tests on Bolivian banks. An adjustment for under-provisioning is applied to get a better picture of the starting “baseline” economic situation of the bank. Specifically, we assess what would happen if provisioning were to meet the requirements aligned with international loan provisioning rules: a 1, 3, 20, 50, and 100 percent general provision for pass loans, special mention loans, sub-standard loans, doubtful loans, and loss loans respectively. In the stress test itself, banks are assumed to hold provision for 50 percent of the additional NPLs and the impact of loan defaults on risk-weighted assets and capital is 100 percent. The haircut on collateral is assumed to be 75 percent.

The stress tests suggest a doubling of NPLs is manageable for most banks but a spike to peak levels reached a decade ago would cause systemic difficulties. Everything else equal, the banking sector has sufficient capital buffers to sustain a 100 percent increase in NPLs from 1.6 to 3.2 percent.<sup>18</sup> Most banks would remain above the 10 percent capital threshold, with only a few below but close to the threshold. However, a spike to peak levels reached in 2006 (8 percent) would cause many banks to be significantly below regulatory capital thresholds (Figure 17).



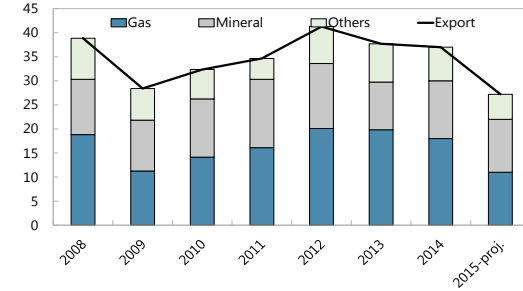
<sup>18</sup> The test completely abstracts from a series of other drivers such as interest and noninterest income and expenses and bank behavior. In reality, a doubling of NPLs would very likely trigger knock-on effects.

## VI. OTHER FINANCIAL STABILITY RISKS

Several other vulnerabilities could be triggered or amplified by the credit quotas and interest rate caps:

- Export concentration and limited diversification point to a vulnerability to external shocks through: (1) credit to commodity-related sectors, and (2) housing/consumption loans to those working in the tradable sector. The exports-to-GDP ratio is around 30 percent while hydrocarbon exports (primarily natural gas) and mining account for more than 80 percent of total exports, concentrated in two-main markets: Argentina and Brazil (Figure 18).*
- Large loans are extended to a limited number of borrowers, which exposes banks to idiosyncratic shocks. About one third of total banks loans are extended to less than one percent of borrowers. Although it is within the prudential limit, which allows a financial institution to lend to a borrower up to 20 percent of regulatory capital, current concentration levels still suggest significant exposure risks. Historically, concentration of credit risks in bank loan portfolios has been one of the major sources of bank distress in developing countries (IMF 2012).*
- Deposits are highly concentrated. For commercial banks, 0.32 percent of accounts held 69.7 percent of total deposits, which represent 85 percent of banks' liabilities as of mid-2015 (Figure 19). 19. Share of Deposit by Account*
- Since collateral is largely based on housing, real estate price declines can expose banks to higher future potential losses from asset impairment. More than 60 percent of loans are based on mortgage collateral, yet a house price index for Bolivia is not available yet (Figure 20). And experience in many countries suggests that house price declines can have significant impacts on banking sector.*

Figure 18: Exports By Products  
(In percent of GDP)



Source: Central Bank of Bolivia.

Figure 19: Share of Deposit (%) by Accounts

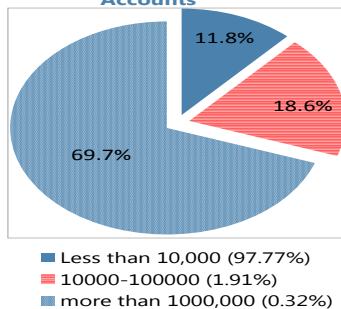
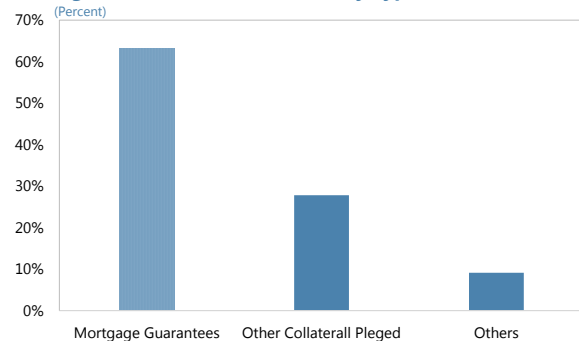


Figure 20: Share of Collaterals by Types  
(Percent)



Source: ASFI

- *Risks associated with the guarantee funds.* The guarantee of up to 20 percent of social housing values practically leads to the availability of credit without down payment. This could lead to over-indebtedness of households and firms, over-investment, and a bubble in the social housing sector, thereby posing financial stability risks. Borrowers could have increased incentives for strategic defaults given the lack of down payment. This could be exacerbated by the legal framework regarding the contracts and the guarantee scheme, which allow clients to terminate contracts without incurring any penalty apart from getting listed in the credit registry.
- *U.S. interest rate normalization could still have a significant indirect impact on domestic interest rates despite bank loans being largely financed by domestic deposits.* Many bank loans in the non-productive sectors are indexed to a variable reference interest rate (TRE) and so a sharp increase in interest rates could lead to rising NPLs in the non-productive sectors. The 2011 FSAP stress testing exercise did not have sufficient data to carry out an interest rate risk stress test. It did argue, however, that duration mismatch was not likely to be a problem given both assets and liabilities are mostly of short duration.
- *FX exposure risks are low but could increase if de-dollarization reverses.*

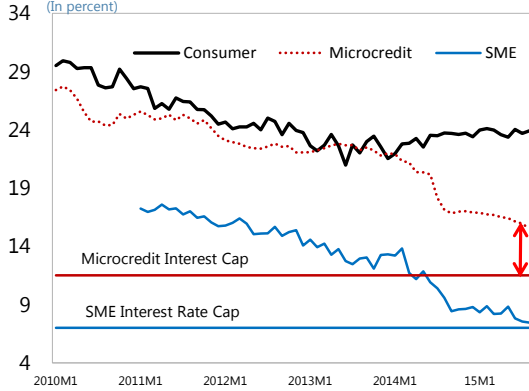
## **VII. THE IMPACT OF INTEREST RATE CAPS ON FINANCIAL INCLUSION**

Financial inclusion is multi-dimensional. It could range from access and use of financial services to delivery to financial services at affordable costs to disadvantaged and low-income segments of society. Key indicators include the number of branch of banks and ATMs per 100,000 adults, credit access, the numbers of bank accounts, financial products, and the share of adults using accounts for financial transactions (Sahay et al. 2015, World Bank 2014). In this paper, we focus on credit access which is one of the most important aspects of financial inclusion. It usually costs more to lend and collect a given amount of money in many small loans than in fewer big loans. In the case of interest rate caps, international experience points to negative impacts such as withdrawal of financial services from the poor as in many African countries, an increase in illegal lending, an increase in the total costs of the loan through additional fees and commissions as in Armenia, Nicaragua, and South Africa, and a decrease in product diversity (Maimbo and Collegos 2014).

Experience shows that competition in the financial sector can help lower costs, as in the case of Bolivia itself. Bolivia's microfinance institutions are considered to be some of the best in the world (EIU 2013) and the interest rate has decreased substantially over the past decades

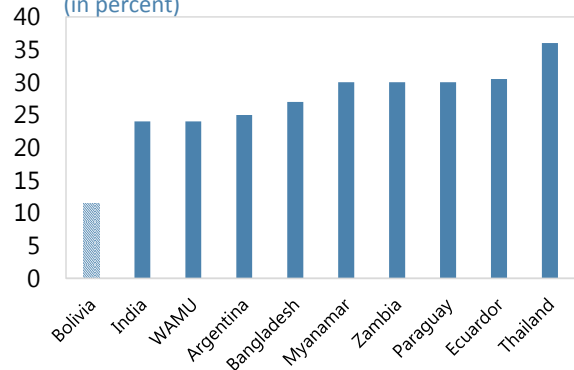
from around 30–40 percent to 20 percent.<sup>19</sup> However, the microcredit interest rate cap in Bolivia is set well below the historical and market rate (Figure 21). The cap is also lower than the interest rate caps in other countries (Figure 22). Experience shows that when the interest rate ceiling is set too low, poor clients in rural areas are the first to be eliminated because of higher costs of serving them (Campion, Ekka, and Wenner 2010).

**Figure 21: Loan and Interest Rate by Microfinance Specialized Entities**  
(In percent)



Source: Central Bank of Bolivia.

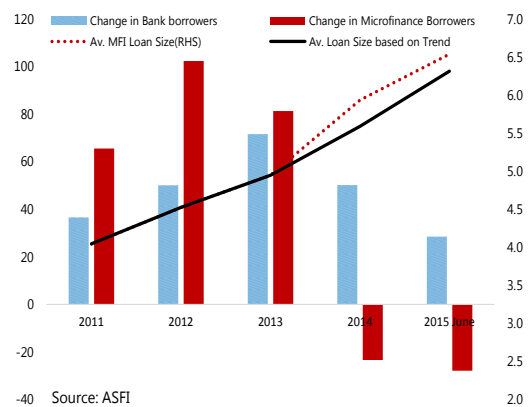
**Figure 22: Microcredit Interest Rate Cap**  
(in percent)



Source: Maimbo and Gallegos (2014) (2014)

Available data suggests that the interest rate caps have already had a material effect on financial inclusion, especially smaller and poorer borrowers. In principle, and based on international experience, microfinance institutions can comply with the interest rate cap by increasing the loan size and deleveraging from costly-areas (e.g., rural areas). Since the introduction of the FSL, banks have been still expanding their client base, but at lower pace than before (Figure 23). At the same time, microfinance institutions have increased loan sizes faster

**Figure 23: Number of Borrowers and Loan Size**  
(In thousands of borrowers unless otherwise specified)

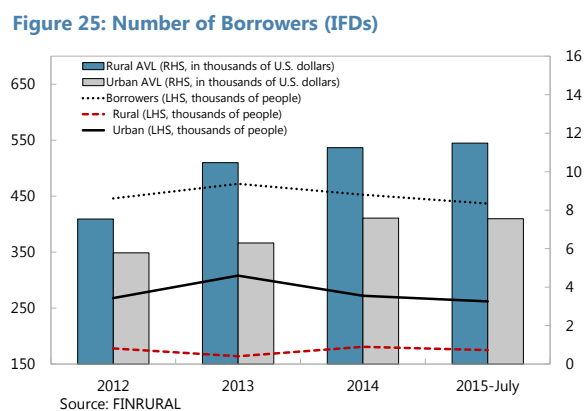
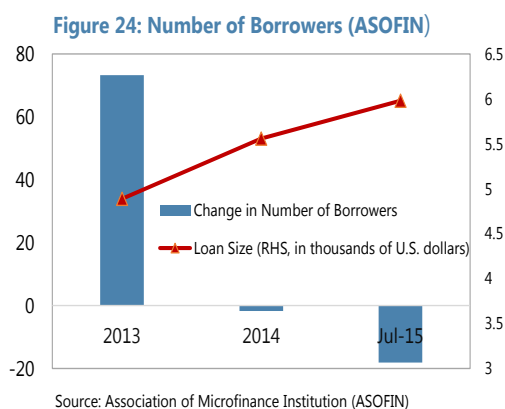


Source: ASFI

<sup>19</sup> Bolivia ranks second after Peru in the Global Microscope on Microfinance 2013 report (EIU 2013). Banco Sol’s effective interest rate was 65 percent per year when it began operations in 1992 with 4500 clients. Today, its annual interest rate is around 20 percent



than trend loan size growth, while the number of microfinance borrowers has declined (Figure 23).<sup>20</sup> In the first half of 2015, banks specializing in microfinance reduced their number of borrowers by around 20,000 (Figure 24).<sup>21</sup> This is also confirmed when looking at the other segment of microfinance institutions (known as “Development Finance Institutions” or IFDs).<sup>22</sup> The number of borrowers served by IFDs has decreased by 35,000 since 2013 (Figure 25).



## VIII. CONCLUSIONS

Bolivia adopted a new Financial Service Law (FSL) in August 2013, which includes several good provisions. If effectively implemented, these provisions will help strengthen the safety net and the integrity of the financial system. They include setting up a deposit insurance scheme and a credit registry, strengthening supervision, implementing a number of core Basel II and III principles, creating a Financial Stability Council, enhancing consumer protection, and various AML/CFT measures.

However, the FSL also includes regulations that could pose risks to financial stability. These include (i) regulations on deposit and lending rates; (ii) minimum lending quotas for the so-called “productive sectors” and social housing; and (iii) creation of guarantee funds to finance down payments.

<sup>20</sup> The “blue list” of existing good borrowers even make it easy for banks to just increase the loan size to existing customers.

<sup>21</sup> The data on Microfinance borrowers of ASOFIN (the Association of 7 Microfinance Institutions) is a subset of ASFI data of microfinance borrowers. The latter includes microfinance borrowers served by other banks (non-members of ASOFIN).

<sup>22</sup> These include NGOs engaged in microfinance. IFD’s currently accounts for 2.7 percent of total portfolio under ASFI’s regulation.

Using financial soundness indicators, simulations, stress tests, and reviewing international experience with credit quotas and interest rate caps, this paper has examined the impact of the FSL on financial stability and inclusion. The assessment focused on various elements: the direct impact of the credit quotas on the productive and non productive sectors, macro-financial feedback loops and implications for growth and financial stability; and the impact of the combination of credit quotas and interest caps on financial inclusion, especially access to microfinance institutions.

The impact of the credit quotas and interest rate caps on financial stability and inclusion is on-going and will require vigilance. The sound state of Bolivia's financial sector is encouraging. But looking ahead, and based on international experience, there is a need for careful monitoring and possible modifications to the credit quotas and interest rate caps if material financial stability risks build up. The interest rate caps have already had a material effect on financial inclusion, especially for small borrowers, as microfinance institutions have increased loan sizes and reduced the number of borrowers. Financial inclusion objectives could likely be better attained by promoting further competition in the financial sector.

### Box. 1. Priority Lending: Lessons from East Asia

**Experience with credit policies varies widely in different countries.** In Japan and Korea, government intervention in credit markets is deemed to have been effective and beneficial for growth and development. But in the vast majority of developing countries, credit policies have given rise to severe market distortions and have failed to promote growth and development. The question then arises why credit policies failed in so many countries around the world and what factors explained their relative success in East Asian countries.

**Experience in East Asia showed that limited and well-crafted selective credit policies, as implemented through interest rate regulations and state-owned banking, can improve the efficiency of financial intermediation.** In the 60s and 70s, many Asian governments used state-directed priority sector lending as a policy tool to enhance credit allocation for underserved sectors. The Japanese and Korean governments implemented priority lending policies to industrial firms during their rapid economic development in the second half of the 20th century (WB 1993, Dimitri and Cho 1995). China has also had extensive experience with state-directed priority lending, though the government no longer maintains major priority lending programs.

**Officials in Japan and Korea advocated the merits of such policies if they are well-managed and focused.** Government involvement in directing credit is warranted when there is a significant discrepancy between private and social benefits, when the investment risk of particular projects is too high, and when information problems discourage lending to small and medium-sized firms. In addition to other forms of industrial assistance (e.g., lower taxes, grants, etc.), a selective credit policy is premised on the argument that the main constraint facing new or expanding enterprises is their limited access to external finance at reasonable terms and conditions. Nonetheless, East Asia's mechanisms of financial intermediation have been remarkably varied, ranging from highly regulated, state-controlled banking systems in Korea and Indonesia, to the competitive, private banking exemplified by Hong Kong, Malaysia and Thailand.

**However, although the lessons from the East Asian experiences are well understood and recognized, they are difficult to replicate elsewhere.** Examples are the need for professionalism and independence at the government institutions responsible for the programs and policies; development of a credit culture with a concentration on analysis, monitoring and collections; emphasis on keeping interventions limited in amount and time; and the use of market signals. The impact of credit policies often depends on whether an economy has such a supportive institutional environment and well-functioning mechanisms for close and effective consultation, coordination and monitoring.

**In addition, government intervention in financing in East Asia was not without cost.** In Korea, the costs were born heavily by banking institutions and depositors as credit interventions had been too heavily and for too long. Commercial banks in Korea were involved so heavily in directed credit programs that they almost functioned as development banks. In the process their management efficiency and quality of services were sacrificed. They also had large volumes of non-performing loans (Cho, 1997). Similarly, the weak performance of Japanese banks and huge accumulation of bad loans had been driven by the massive expansion of credit and real

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