FINANCIAL STABILITY REPORT

First Half 2015

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*/ The statistical cutoff date for this *Financial Stability Report* was 13 May 2015.

PREFACE

As established in its Basic Constitutional Act, the Central Bank of Chile must "safeguard the stability of the currency and the normal operation of internal and external payments." To carry out these tasks, the Central Bank of Chile is vested with diverse legal powers, such as extending emergency credit and determining regulations in matters affecting the financial system and international trade operations.

The Central Bank's focus in the area of financial stability is centered mainly on the proper functioning of the system and the Chilean economy's access to international financial markets. The Central Bank's tracking of financial stability is complementary to that undertaken by the specialized supervisory entities; it serves as an independent element of analysis with respect to the supervisors' powers and functions in relation to the entities subject to their oversight.

The objective of the *Financial Stability Report* (FSR) is to provide information, on a half-yearly basis, on recent macroeconomic and financial events that could affect the financial stability of the Chilean economy, such as the evolution of the indebtedness of the main credit users, the performance of the capital market, and the ability of the financial system and the international financial position to adapt sufficiently to adverse economic situations. In addition, the *Report* presents the policies and measures that support the normal operation of the internal and external payment system, with the objective of promoting general knowledge and public debate with regard to the Bank's performance in fulfilling this function.

The Board

SUMMARY

Monetary policy in developed countries remains expansionary, keeping long-term interest rates low and encouraging risk taking strategies. In recent months, the ECB expanded its asset purchase plan and other central banks cut their benchmark rates. This pushed down sovereign long rates, although lately they have shown some reversal. This, and risk premiums that continue to be low, have led to increased debt issuance, mainly corporate. Market expectations on when the Fed will materialize the increase on the interest rate have moved towards the end of 2015, but uncertainties remain about the precise timing and velocity of the process. Thus, an environment of low-cost funding persists in which risks may be incubating and they could emerge as the global financial situation is normalized.

Growth rates forecasts for 2015 show no material changes overall, although the outlook for emerging economies has continued to deteriorate. Although commodity prices, particularly oil, have increased lately, they are in lower levels than previous years, affecting net export countries. The growth prospects for China, Russia, and particularly Latin America, are also declining due also to idiosyncratic elements. Besides the real channel, trade linkages, and direct investment by Chilean companies, one cannot rule out financial contagion episodes in asset prices such as the exchange rate and the EMBI.

Internally, the note of caution of previous *Reports* with respect to the situation of the corporate sector is maintained. Indebtedness, as a percentage of GDP reached 114% at the end of 2014. This increase came mainly from a higher external debt and the Chilean peso depreciation. Financial indicators of the companies reporting to the SVS are similar to those described in previous *Reports*, but with levels somehow deteriorated with respect to historical averages. This reflects a loss in the sector's resilience to the possibility of a less favorable macroeconomic environment. Finally, some bank payment indicators have also deteriorated, with varying effects across banks, but especially affecting medium-sized ones.

The activity in the residential housing market remains strong, with prices still on the rise. The vacancy rate for office space continues to increase. The moderation of building costs and anticipated purchases facing the upcoming enactment of the tax reform could be behind the sustained dynamic of the residential sector; meanwhile the price indicators continue to grow, although some moderation is observed in specific areas and types of dwellings. In the office space sector, new square meters built were not offset

by an equivalent growth in demand, generating a significant increase in the vacancy rate. These levels could be maintained for a prolonged period due to the inertia of the market and the incorporation of new projects.

Aggregate household indicators remain relatively stable, but with some of them showing a marginal deterioration. The debt over disposable income rose in 2014, while the financial burden remained around 14% of income, due to low interest rate levels. No changes in indicators of bank payment are seen, whereas in non-bank lenders a new increase is observed. This latter phenomenon is partly explained by regulatory adjustments, although a worsening on those loans portfolios cannot be ruled out.

Commercial and consumer credit exhibit bounded growth rates, not so mortgage loans that remain strong. The behavior of commercial and consumer loans is in line with the slower growth in private spending. Demand-side factors could be behind these dynamics, as suggested by the Bank Lending Survey. The expansion of mortgage lending is largely explained by the increase in the average debt, which is consistent with the dynamic of housing prices.

Bank financial indicators are stable and stress tests yield that capital levels are sufficient to confront a severe stress scenario. Operating income continues to be the primary contributor to the profitability of banks, which fell from the end of 2014 to 16% of capital in March. This was due to the reversal of the temporary impact of inflation on the indexation margin and a reduction in the interest margin. Bond issues by the banks contribute to the diversification of funding sources, but medium-sized banks are highly dependent on wholesale funding. Finally, the levels of capitalization permit to absorb the materialization of a severe stress scenario of similar characteristics to the one evaluated in the latest *Report*.

In short, the internal and external scenario is virtually unchanged from the last *Report*, although the persistence of very favorable global financing conditions can incubate vulnerabilities that would emerge if and when such conditions disappear. This would have a significant impact on global financial markets, particularly in emerging economies, whose growth prospects have been on a downward trend. In this context, the increasing indebtedness of domestic credit users (firms and households) implies a lower resilience to possible financial stress events, or to a deteriorating in the macroeconomic environment. Chile maintains adequate solvency and external liquidity to face international financial stress scenarios. However, this does not insulate the country from such developments and their effects.

I. EXTERNAL ENVIRONMENT AND FINANCIAL RISKS

International financial markets have been closely monitoring the lead-up to the normalization of monetary policy in the United States. The timing and speed of this process could trigger episodes of sharp volatility and portfolio reallocation. The Eurozone, meanwhile, implemented a quantitative easing program. Long-term interest rates and spreads have been low as a result, favoring an ongoing search for yields. At the same time, the emerging economies continue to slowdown.

EVOLUTION OF THE BASELINE SCENARIO

Monetary policy remains expansionary in developed countries. Despite the recent increase, long-term interest rates remain low.

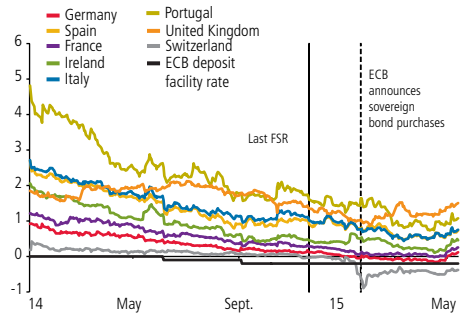
On aggregate, official liquidity was fairly stable in developed economies: while the U.S. Federal Reserve (the Fed) ended its quantitative easing program in late 2014, the European Central Bank (ECB) announced an expansion of its asset purchase program on 22 January, including Eurozone sovereign bonds[1]/. The new ECB program started on 9 March buying 60 billion euros per month and will continue through September 2016, or earlier if annual inflation returns to around 2%.

After the ECB announced an even more expansionary conventional monetary policy in late 2014, the central banks of Norway, Sweden and Switzerland also cut their rates. This affected medium-term sovereign bond yields (5 to 7 years), which even dropped below zero in some economies. This trend has been partially reversed in the most recent period, and yields are now approaching the level of year-end 2014 (figure I.1). The lower rates, combined with the depreciation of the euro against the dollar and the lower costs of currency hedging, have led U.S. firms to issue in euros (figure I.2).

The expected timing of the first rate increase by the Fed has changed over the last few months (figure I.3). New information on the labor market and economic performance, as well as communications issued by the Fed, have triggered sharp reactions in international financial markets. As of the cutoff date of this FSR, market consensus and the Fed's most recent minutes indicate that the first hike could materialize in the final quarter of 2015. Uncertainty is still high, however, regarding the timing and speed of the process.

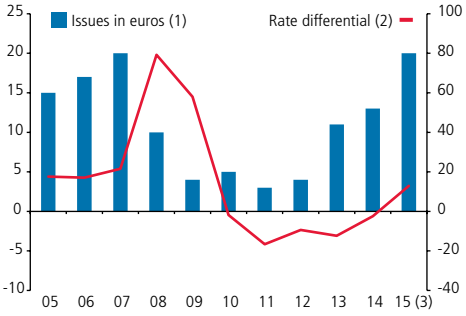
[1]/ Excludes bonds from Greece, Cyprus and Estonia.

FIGURE I.1
Yields on five-year sovereign bonds and ECB deposit rates
(percent)



Source: Bloomberg.

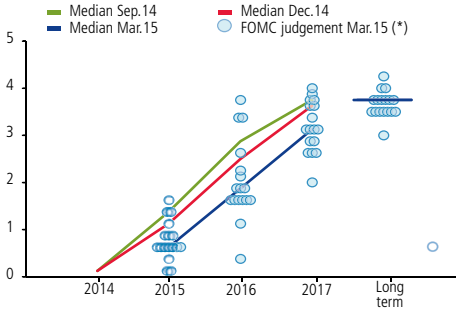
FIGURE I.2
Bond issues by U.S. firms in euros and rate differential
(percent; basis points)



(1) The share in total corporate issues. Approximation based on Office of Financial Research (OFR, 2015).
(2) Difference between dollar and euro rates on AAA-rated corporate bonds, expressed as asset swap spread (ASW), and the five-year swap basis between the two currencies.
(3) Data accumulated through March 2015.

Sources: Bloomberg and OFR.

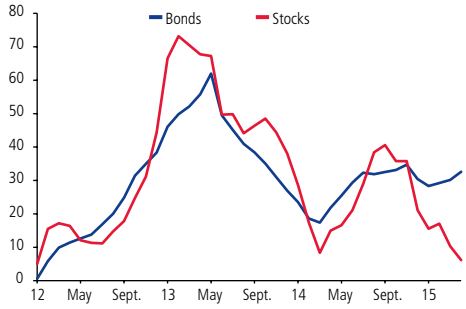
FIGURE I.3
Expected U.S. reference rate at year-end
(percent)



(*) Each circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

Source: Federal Reserve System.

FIGURE I.4
Portfolio flows to emerging economies (*)
(US$ billion)



(*) Sample of portfolio flows from investment funds into emerging Europe, emerging Asia and Latin America, accumulated since January 2012.

Source: Central Bank of Chile, based on data from Emerging Portfolio Fund Research.

The low global rates have continued to drive the search for higher returns, in an environment characterized by narrow spreads, albeit with increased volatility.

Investors' appetite for risk is still present. Thus far in 2015, US$220 billion in high-yield bonds have been issued in the United States and Europe. Fixed-income capital inflows to emerging economies are stable, while variable-income flows have declined since the cutoff of the last FSR (figure I.4). At the same time, there was less trading activity by liquidity providers in the secondary fixed-income markets (investment banks), which could be explained, in part, by regulatory changes. The lower trading activity has gathered attention at the international level because of its impact on market liquidity (box I.1).

Comparing the cutoff dates of this and the last FSR, volatility measures increased marginally for portfolio instruments and currencies, staying around or below the average of the last five years (figure I.5). Meanwhile, however, these measures recorded more frequent sharp movements, which, while short-lived, provide evidence that the external financial markets have become more sensitive. Most of these events reflected agents' reaction to news releases, especially with regard to data for the United States, given its impact on expectations about the Fed's rate adjustment process. The stock markets also reacted to this kind of announcement, while recording historically high valuations.

World growth expectations have been stable on aggregate, although the outlook for the emerging economies has deteriorated.

For developed economies, the growth forecast for 2015 points to a better performance than in 2014. While first -quarter data have lowered projections for the United States, they still point to somewhat higher growth this year relative to 2014. In addition, the outlook for the Eurozone has remained positive.On the contrary, the perspectives for the emerging world are less favorable, due to both global and idiosyncratic factors. Among the former, commodity prices stand out, as they remain low despite having risen in the most recent period. This has been a critical factor for net commodity exporters.

Among the emerging countries whose idiosyncratic factors have played a significant role in their lower growth prospects are China, Russia and Brazil. In China, the slowdown of economic activity, combined with sustained high private indebtedness, led the Central Bank to take various measures to increase market liquidity, such as reducing the monetary policy interest rate and lowering the reserve requirement for banks. In Russia, the geopolitical conflicts and the low oil price are the main factors behind the economic deterioration. Finally, in Brazil, the slowdown that has been coming for several quarters was exacerbated by the drought, the corruption scandals in an oil company and the fiscal and monetary adjustment measures.

CHILE'S EXTERNAL SITUATION

Gross capital inflows were similar to the last FSR, as were external solvency and liquidity indicators.

In the first quarter of 2015, gross capital inflows to Chile remained near 12% of GDP (figure I.6). Foreign direct investment (FDI) increased to 8.4% of GDP (from 7.9% in the third quarter of 2014), most recently due to more dynamic lending from related parties. Fixed-income portfolio inflows continued to increase, as corporate issues were still active, while variable-income flows contracted to 0.6% of GDP.

In the same period, total external debt increased, mainly due to greater corporate debt in the form of both bonds and loans from related parties (chapter III). Residual short-term external debt (RSTED) also rose to 14.7% of GDP. Yet, the country has sufficient resources to meet its short-term liquidity needs. The ratio of international reserves to RSTED remains close to one, even in the stricter measures that require covering the current account deficit. If the sovereign wealth funds are included in the calculation, the coverage ratio is 1.4 as per the strictest measure (figure I.7).

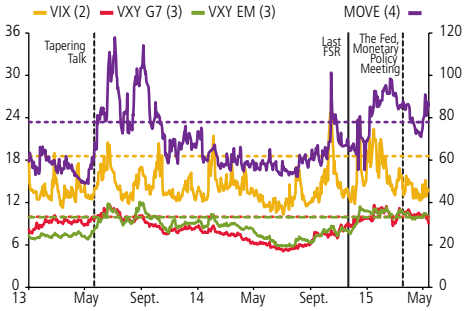
The net debit international investment position (NIIP) worsened slightly relative to previous quarters, reaching 14.3% of GDP in the first quarter of 2015. This change was explained by a larger net debit position in the corporate sector and a less favorable net credit position for the government and the Central Bank, which was partially offset by a smaller net debit position in the banking sector (figure I.8).

MAIN EXTERNAL THREATS TO FINANCIAL STABILITY

The persistence of high global liquidity and low volatility could favor excessive risk taking by economic agents, exacerbating the impact of possible sharp corrections in external markets.

The ECB's quantitative easing program and the prevalence of a looser monetary policy, mainly in the developed world, has kept the cost of financing relatively low from a historical perspective, even taking into account the increase in long-term rates by the cutoff date of this FSR. This recent increase was primarily due to the decompression of term spreads (figure I.9). Risk spreads remain tight, as well. If this situation continues, it could foster an increase in both sovereign debt and lower quality corporate issues. These factors could heighten the financial impact of the U.S. monetary policy normalization, should this process deviate from market expectations.

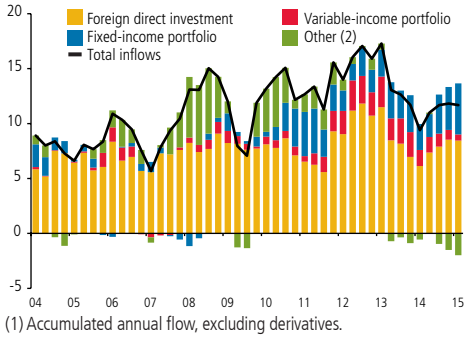
FIGURE I.5
Financial market volatility (1)
(percent; index)



(1) Dashed lines indicate the average of the respective series between 2010 and 2014.
(2) VIX: implied volatility in S&P 500 options at one month.
(3) VXY: currency volatility index based on foreign exchange forward options weighted by turnover.
(4) MOVE: implied volatility index of U.S. Treasury bonds at one month, weighted by their 2-, 5-, 10- and 30-year options.

Source: Bloomberg.

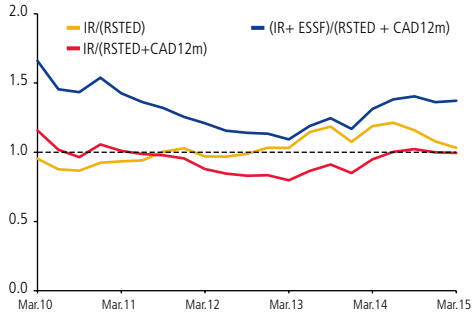
FIGURE I.6
Gross capital inflows to Chile (1)
(percent of GDP)



(1) Accumulated annual flow, excluding derivatives.
(2) Includes loans, trade credits, currencies and deposits.

Source: Central Bank of Chile.

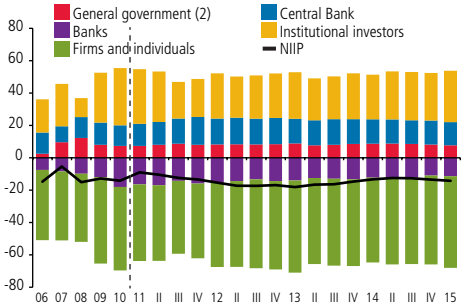
FIGURE I.7
Coverage of short-term liabilities (*)
(times)



(*) IR: international reserves. RSTED: residual short-term external debt. CAD: current account deficit. ESSF: Economic and Social Stability Fund.

Source: Central Bank of Chile.

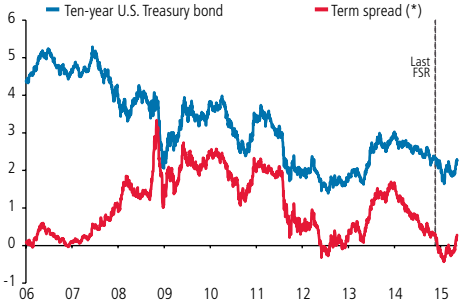
FIGURE I.8
Net international investment position
(percent of GDP) (1)



(1) GDP at constant real exchange rate (fixed-base index: March 2015=100). The dashed line separates annual and quarterly data.
(2) Central government and municipalities.

Source: Central Bank of Chile.

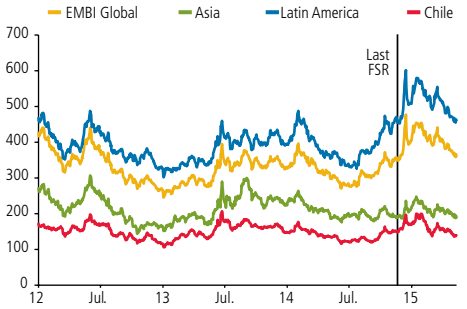
FIGURE I.9
Interest rate on ten-year U.S. Treasury bonds
(percent)



(*) Estimated by the Federal Reserve Bank of New York using the model proposed in Adrian *et al.* (2013a).

Sources: Bloomberg and Federal Reserve Bank of New York.

FIGURE I.10
Spread on sovereign bonds issued overseas (*)
(basis points)



(*)EMBI values at the end of each month.

Source: Bloomberg.

The main factors that could trigger greater volatility include the dynamics surrounding the policy rate increase in the United States and its impact on long-term rates.

The postponing of expectations about the timing of this process has partially reversed the sharp appreciation of the dollar earlier in the year and has decompressed the term spreads for U.S. long rates. The expansionary actions by the ECB reinforced these effects. The latter could also be putting a brake on the speed of the adjustment of the U.S. policy rate, which limits the threat to global financial stability to a degree. Finally, a Greek default could also trigger episodes of higher volatility.

There is still the risk of a faster deceleration of the emerging economies, whose commercial and/or financial link with Chile is high.

Over and above the current risks of a sharper slowdown in China and other emerging countries, the significant deterioration of the growth outlook for Latin America is a source of concern. Chile is exposed to both real and financial contagion. Although Chile has limited commercial ties, the direct investment of Chilean firms in the region, for example in Brazil, has increased substantially in recent years. On the financial side, the transmission would be through asset prices, such as the exchange rate and the EMBI, which so far has remained low (figure I.10). Internal estimates suggest that, after controlling for global and idiosyncratic factors, the sensitivity of the EMBI Chile to changes in the EMBI Brazil has increased over the past few years. The estimated elasticity was 0.5 in 2012 and 0.7 thus far in 2015[2]/.

Macroeconomic conditions in Chile are adequate for facing a worsening of global financial conditions.

Chile has a number of factors that mitigate potential turbulence at the global level[3]/. First, the earlier and deeper implementation of an expansionary monetary phase and the depreciation of the peso against the dollar from 2013 to date have supported the external adjustment process—as reflected in a strong reduction of the current account deficit—ahead of other countries in the region. Second, as described in previous *Financial Stability Reports,* Chile has a favorable external solvency position relative to other emerging economies[4]/.

[2]/ Based on 36-month rolling estimates of the log of the EMBI Chile against the log of the EMBI Brazil, controlling for the log of the VIX, 10-year U.S. Treasury rates, the annual change in the Imacec and the log of the ratio of the copper price to the oil price.
[3]/ See *Monetary Policy Report,* March 2015, box I.1.
[4]/ See *Financial Stability Report,* First Half 2014, box I.1.

BOX I.1
GLOBAL LIQUIDITY: DEVELOPMENTS AND RISKS

Introduction

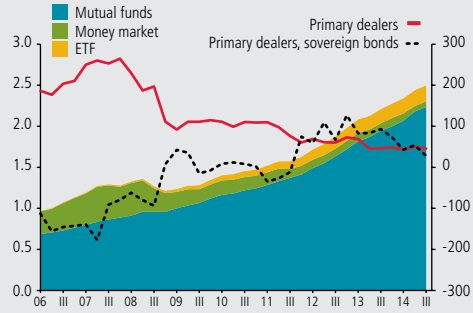
This box documents the factors that could accentuate market liquidity risk at the global level, even when funding liquidity is high and stable[1]/.

Specifically, the analysis centers on the fixed-income market—with an emphasis on the United States, given its importance—which has followed a strong growth trend since 2008. This increase was accompanied by a reduction in the relative share of investors that normally play an active role in providing liquidity in the secondary market (investment banks or dealers). Given the current context of low interest rates and volatility at the global level, these changes could result in a larger reduction of market liquidity in response to a stress event, triggering a sharp, generalized adjustment in financial asset prices.

Post-crisis developments in the global fixed-income market

Since 2008, the fixed-income market in the United States has recorded strong growth, particularly corporate bonds (Shin, 2013; Feroli et al., 2014). This growth was not accompanied by an increase in the corporate bond inventories of large intermediaries (dealers), who provide liquidity in the secondary market. This trend was also observed in other economies, such as the United Kingdom (BOE, 2014). Meanwhile mutual funds and indexed funds (ETFs) have increased their holding of corporate bonds[2]/ (figure I.11). Consequently, the corporate bond market has a lower turnover ratio (CGFS, 2014)[3]/.

FIGURE I.11
U.S. corporate and sovereign bond holding by primary dealers
(US$ trillion; US$ billion)



Sources: BIS (2015) and Federal Reserve Bank of New York.

In addition, smaller issues with a lower credit rating are increasingly concentrated in the hands of fund managers. At the same time, the more liquid bonds (sovereign and higher quality corporate bonds) are becoming more concentrated in banks and other institutions, a situation known as liquidity bifurcation (BIS, 2015; OFR, 2013).

One of the risks associated with liquidity bifurcation is that fund managers are not obligated to act as liquidity providers or price makers, and they usually trade in smaller volumes than large institutions. During a stress event, investors could run into difficulty finding a counterparty for selling a high-yield bond at a fair price.

It has been argued that the banks' behavior can be explained, in part, by regulatory changes implemented after the global financial crisis of 2008 and 2009. Limits were placed on proprietary trading[4]/, and the capitalization requirements for

[1]/ The market liquidity of an asset is the ease with which it can be traded, while funding liquidity refers to the ease with which an agent can obtain funding (Brunnermeier and Pedersen, 2009). Under traditional metrics like the bid-ask spread, both short-term U.S. Treasury bills and collateral financing (Repos) are tight, indicating high liquidity (OFR, 2014).

[2]/ Although the insurance companies and pension funds together hold a quarter of the outstanding amount of U.S. corporate bonds, the mutual funds and ETFs have increased their holdings by 500% since 2008, with half of these flows in high-yield bonds (OFR, 2014).

[3]/ Based on market intelligence, international reports indicate that transactions are increasingly concentrated in more liquid bonds, and it is becoming increasingly difficult to carry out large-scale transactions with corporate bonds (BIS, 2015).

[4]/ The Volcker Rule (Dodd Frank Act). There is evidence that during the stress event in May-June 2013, the increased volatility and risk aversion acted as a disincentive for banks to provide liquidity to the market, indicating less willingness to assume risks (Adrian et al., 2013a; CGFS, 2014; BIS, 2015; BOE, 2014).

holding risky instruments were increased (Basel III). The resulting lower demand for risky assets is also exhibited by insurance companies, a trend that similarly coincides with regulatory changes and new accounting conventions (Solvency II)[5]/.

Liquidity illusion

As mentioned in chapter I, the long period of low volatility and high funding liquidity, in a context of unconventional monetary policy programs in developed economies, promote greater risk-taking and indebtedness. The expectation that these conditions will be maintained can foster the emergence of risks that increase the probability of greater volatility in the future and the potential for a severe liquidity adjustment (BIS, 2014)[6]/.

Two additional elements reinforce the perception of liquidity: the possibility of a immediate redemption offered by the funds and the increased use of automated high-frequency transactions. The latter allow the immediate execution of transactions in normal times, but they could exacerbate price changes in times of stress.

In practice, in the event of an unexpected adjustment in the low volatility, the changes in market structure described above could mean that there is no counterparty for the automated transactions, and given their nature, the price adjustments would be triggered much more rapidly. For the same reason, the funds' promise of immediate liquidity could be impeded, thereby transferring the risk to the investors (CGFS, 2014).

Risks for Chile

The procyclical behavior of fund managers represents a risk for emerging economies, given that they have absorbed a large share of the issues overseas (Shin, 2013). Sudden changes in their portfolio allocation (search for safety) could have a significant impact on capital flows.

Currently, Chilean bonds issued overseas are largely held in insurance company portfolios[7]/. This trend has declined in recent years, however, which could be an indication of a shift toward investors with more opaque investment strategies, such as hedge funds[8]/.

[5]/ See BIS (2011) for details on Solvency II, which is similar to the Basel framework for banks. The new regulations have also caused the demand for high-quality bonds (government) by the insurance companies to become more procyclical. For example, a sharp reduction in the value of a company's assets reduces its solvency ratio, and if it cannot raise capital, it will be forced to sell equity and buy government debt (which has zero capital requirements). This rebalancing can destabilize markets, reinforcing the drop in stock prices and the rise in bond prices (Turner, 2011).

[6]/ Volatility risk can develop through two channels: (i) low volatility encourages greater leveraging (because mathematically it generates a diminutive effect on risk management measures such as value at risk or Sharpe ratios); and (ii) herd behavior, which is characteristic of an environment of financial euphoria, produces the illusion that financial conditions will continue to be favorable.

[7]/ Based on a portion of the outstanding amount, as tenancy can only be observed for investors that are required to report to the U.S. Securities and Exchange Commission.

[8]/ Hedge funds are not required to report, and since they are leveraged, they could behave more procyclically (Claro and Moreno, 2015).

II. LOCAL FINANCIAL MARKETS

The capital market has continued to be characterized by low long-term sovereign and private funding costs, which has kept bond issues dynamic.

MONEY AND FIXED-INCOME MARKETS

Financing conditions in the money market in Chilean pesos remain loose.

The loose conditions are reflected in bank financing rates (prime rates) and in prime-swap spreads less than a year that are below their historical averages (figure II.1). Deposit rates in the secondary market are similar to the level at year-end 2014. Their dispersion increased, however, due to an increase of around 180 basis points (bp) in the deposit rate of one bank in particular.

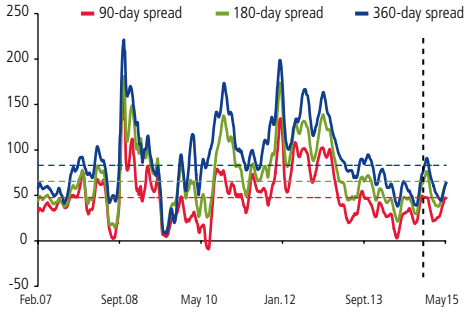
Long-term interest rates remain low from a historical perspective, although they have risen in recent weeks (figure II.2).

Over the last four years, the decline in long-term interest rates in the local market has been associated with both a lower external benchmark rate (ten-year T-bonds) and domestic factors. The latter include the deterioration in economic expectations and the higher demand for sovereign instruments, which is largely from institutional investors (basically, pension funds and mutual funds). The share of sovereign bonds in the hands of these agents increased 16 percentage points in this period, to around 73% of the total available stock. This compares with an average holding of 60% in 2008–2013.

The low long-term interest rates have kept down the cost of private financing, and local bond issues have thus remained dynamic.

Given that the base rate is lower than in late 2014 and the spread has been relatively stable at around 100 basis points, the internal rate of return (IRR) on private bonds (banks and firms) has fallen 34 basis points, on average, since December 2014 (figure II.3). This lower financing cost has continued to provide incentives for banks and firms to issue local bonds. For firms, the main objective is liability restructuring, which has motivated 70% of the issues made thus far in 2015—the highest share of the last decade.

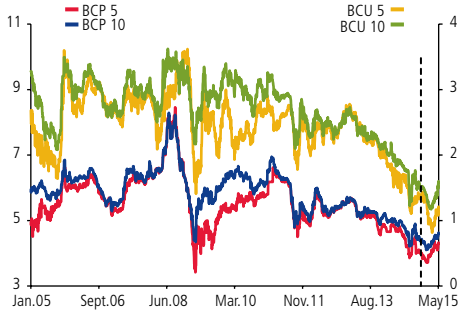
FIGURE II.1
Money market in pesos (1)(2)(3)
(monthly moving average, basis points)



(1) Average interbank prime-swap spread.
(2) Horizontal dashed lines indicate the series average for 2005–2015.
(3) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.

Source: Central Bank of Chile.

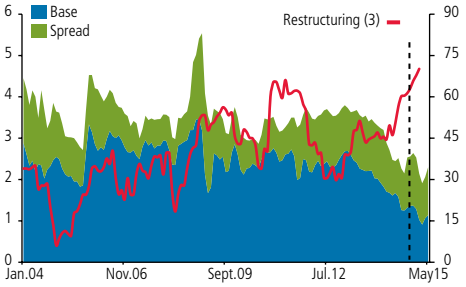
FIGURE II.2
Interest rates on long-term sovereign bonds (*)
(percent)



(*) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.

Source: Central Bank of Chile.

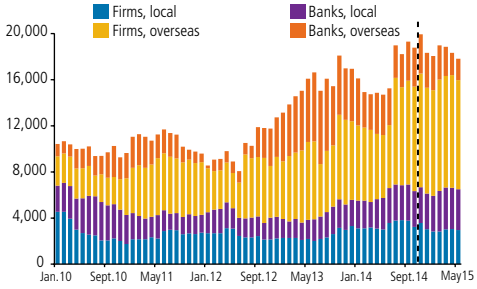
FIGURE II.3
Financing costs for banks and firms (1)(2)
(percent)



(1) Based on UF-denominated private bonds with a rating of AA and a duration of around 5 years.
(2) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.
(3) The percentage of corporate issues where the objective is liability restructuring.

Source: Central Bank of Chile, based on data from the Santiago Stock Exchange and SVS.

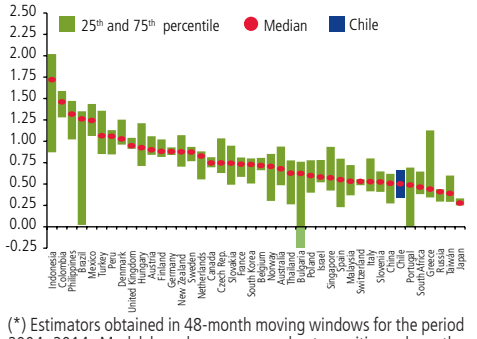
FIGURE II.4
Bond placements (*)
(US$ million accumulated in 12 months)



(*) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.

Source: Central Bank of Chile, based on data from Bloomberg and the Santiago Stock Exchange.

FIGURE II.5
Pass-through coefficient from external to local ten-year rates (*)
(percent)



(*) Estimators obtained in 48-month moving windows for the period 2004–2014. Model based on uncovered rate parities, where the dependent variable is the nominal domestic sovereign rate at a 10-year maturity, and the external benchmark is the U.S. Treasury bond.

Source: Central Bank of Chile, based on data from Bloomberg.

Private bond placements overseas have also been dynamic, in line with the low external financing costs. These issues continue to be led by firms, whose currency mismatch indicators remain in check (chapter III). On aggregate, total placements in 2015 are similar to last year, thus maintaining the dynamic trend of the last three years (figure II.4).

There is still the risk that local rates could rise in response to international volatility, although idiosyncratic factors could attenuate the impact.

Volatility events associated with the evolution of long-term rates would mainly be tied to divergences between what the U.S. Federal Reserve decides and what the market expects with regard to the timing or speed of the Fed's policy rate increase (chapter I).

However, estimates of the pass-through coefficient of the U.S. Treasury rate to domestic long -term rates range from 20 to 60%, depending on the local rates considered (BCP-5, BCP-10, swaps, etc.) and the different adjustments for the sovereign spread (EMBI, CDS). In particular, a comparison of ten-year nominal rates in different economies reveals that Chile is less sensitive to this external factor (figure II.5).

Moreover, the available history of sudden changes in sovereign rates in Chile shows that surprises in internal factors (such as inflation or the MPR) play a more important role than surprises deriving from external events (Ceballos, 2013).

INSTITUTIONAL INVESTORS

The mutual and pension funds have been very active in domestic fixed-income investments.

The assets under management by the debt mutual funds (types 3 and 6) have increased since early 2014, shifting the aggregate portfolio of the mutual funds toward fixed-income instruments (figure II.6). In particular, the share of bank bonds reached 17% of the aggregate fund portfolio (figure II.7). Due to this credit intermediation, the mutual funds are one of the largest non-bank financial intermediaries in Chile (box II.1).

As reported in past FSRs, there is still a risk of a reversal of these flows under a scenario of sudden rate increases. Such a scenario could trigger an increase in mutual fund redemptions, which could lead to a massive sale of fixed-income instruments and a possible impact on prices, which would amplify the initial rate hike. The recent increase in long -term rates has, in fact, produced negative yields for the debt funds, provoking marginal outflows.

In the pension funds, investment flows have become more oriented toward the local market since November 2014 (figure II.8). This investment has mainly been in sovereign bonds, as evidenced by the active participation of the pension fund managers in recent Central Bank and Treasury bond auctions.

While the massive movement of affiliates among different fund categories continues to have an impact on portfolio allocation, it has not had a significant effect on market prices. This reflects not only measures implemented by the Superintendence of Pensions, but also better portfolio management by the funds[1]/.

STOCK AND FOREIGN EXCHANGE MARKETS

At the start of the year, the dollar strengthened substantially at the global level, which was partially reversed in recent weeks. Yields have since improved in the local stock market and other emerging markets (table II.1).

The volatility of the local stock index has been low, similar to the levels reported previously. This has been the case despite the generalized increase in volatility in the international exchanges (figure II.9).

TABLE II.1
Comparison of stock market returns
(percent, yield in local currency)

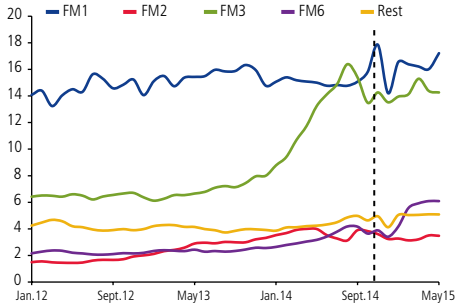
Period	Chile	Latam (1)	Commodity exp. (2)	Developed (3)	Emerging (4)
2012	3.4	5.9	9.7	12.2	27.8
2013	-14.9	-16.1	11.4	14.4	-1.0
2014	7.6	9.2	9.4	5.5	11.1
I	2.1	-0.5	4.9	3.1	1.6
II	2.1	9.2	3.3	2.6	6.2
III	1.9	6.2	-0.7	-1.7	0.7
IV	-0.8	-8.7	0.7	1.3	2.1
2015 (5)	6.4	13.4	2.9	7.2	7.0

(1) Argentina, Brazil, Colombia and Peru.
(2) Australia, Canada, New Zealand and Norway.
(3) Australia, Germany, Canada, France, Norway, New Zealand, United Kingdom and United States.
(4) Croatia, Czech Rep., Hungary, India, Indonesia, Malaysia, Mexico, Philippines, Poland, South Africa and Turkey.
(5) Data through 13 May 2015.

Source: Central Bank of Chile, based on data from Bloomberg.

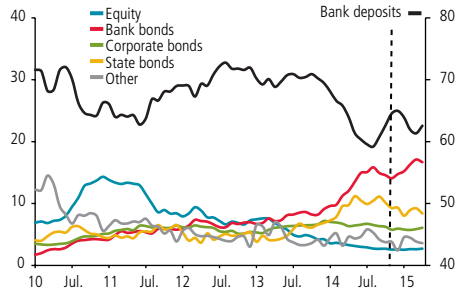
[1]/ The latter includes the decision to transfer instruments between funds rather than sell them in the secondary market.

FIGURE II.6
Mutual fund equity (1)(2)
(US$ billion)



(1) Type of fund:
MF1: Investment in debt with a duration of 90 days or less.
MF2: Investment in debt with a duration of 365 days or less.
MF3: Investment in medium- and long-term debt.
MF6: Free investment (mostly fixed-income).
Other: Includes fund types 4, 5, 7 and 8.
(2) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.
Source: Superintendence of Securities and Insurance (SVS).

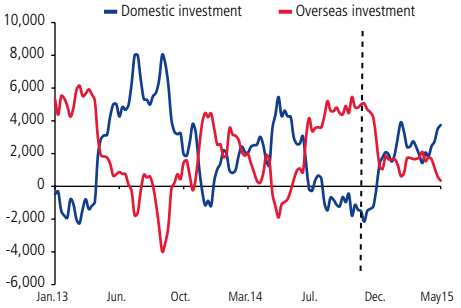
FIGURE II.7
Mutual funds: local investment portfolio (1) (2)
(percent)



(1) Data updated through April 2015.
(2) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.

Source: Superintendence of Securities and Insurance (SVS).

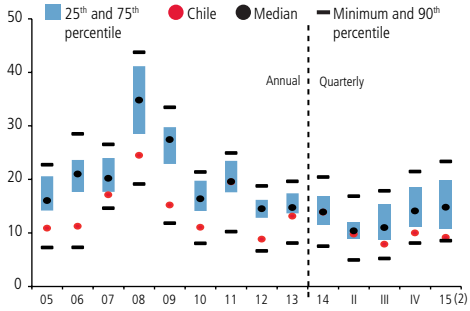
FIGURE II.8
Pension funds: portfolio flows (1) (2)
(US$ million)



(1) Sum of flows in a six-month moving window.
(2) The vertical dashed line indicates the cutoff date for the FSR in the second half of 2014.

Source: Superintendence of Pensions.

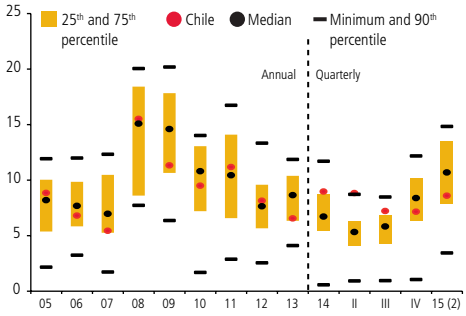
FIGURE II.9
Stock index volatility in emerging countries (1)
(annualized percent, in local currency)



(1) Monthly average volatility calculated as the standard deviation in a 20-day moving window of the daily variation of the stock index. Includes Brazil, Chile, China, Colombia, Czech Rep., Hungary, India, Malaysia, Mexico, Peru, Philippines, Poland, South Korea, Russia, South Africa and Turkey.
(2) Data through 13 May 2015.

Source: Central Bank of Chile, based on data from Bloomberg.

FIGURE II.10
Exchange rate volatility (1)
(annualized percent)



(1) Monthly average volatility calculated as the standard deviation in a 20-day moving window of the daily variation of the exchange rate. Includes Australia, Brazil, Canada, Chile, China, Colombia, Czech Rep., England, Eurozone, Hungary, India, Indonesia, Japan, Malaysia, Mexico, Norway, New Zealand, Peru, Philippines, Poland, South Korea, South Africa, Turkey and Vietnam.
(2) Data through 13 May 2015.

Source: Central Bank of Chile, based on data from Bloomberg.

With regard to the exchange rate, the peso-dollar parity is practically the same as at the cutoff date of the last FSR. However, there was significant fluctuation during the period. The local currency depreciated between late 2014 and mid-March, peaking at just above $640—the highest exchange rate since the third quarter of 2008. The peso then appreciated, landing closer to $600 to the dollar as of the cutoff date for this FSR. These fluctuations have largely been determined by changes in the value of the dollar at the global level. In multilateral terms (MER), the peso has appreciated steadily since late 2014 (table II.2).

TABLA II.2
Comparison of foreign exchange rates
(percent, annual change, local currency against the U.S. dollar)

Period	Chile	Commodity exp. (1)	Countries of the region (2)	Dollar index
2012	-7.6	-4.3	-3.0	-0.6
2013	9.8	8.4	8.8	0.3
2014	14.0	6.2	7.5	7.3
I	4.6	-1.7	-0.3	0.0
II	0.4	-1.0	-1.8	-0.4
III	8.3	7.6	6.8	7.7
IV	1.5	6.6	9.2	5.0
2015 (3)	-0.8	1.8	6.0	3.7

(1) Australia, Canada, New Zealand and Norway.
(2) Brazil, Colombia, Mexico and Peru.
(3) Data through 13 May 2015.

Source: Central Bank of Chile, based on data from Bloomberg.

The volatility of the exchange rate has risen slightly relative to 2014, although it is still in the lower part of the distribution of a wide sample of currencies. Most countries have recorded an increase in the volatility levels of their respective currencies (figure II.10).

BOX II.1
NON-BANK FINANCIAL INTERMEDIARIES IN CHILE

The objective of this box is to describe the evolution and risks of non-bank intermediaries in Chile, using the definition and methodology proposed by the Financial Stability Board (FSB).

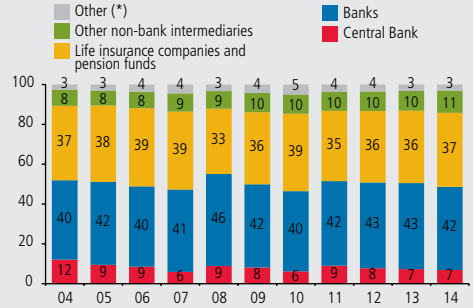
Definition and measurement

At the world level, the share of non-bank financial intermediaries in total financial assets has increased since 2008, especially in emerging economies (FSB, 2014a; FSB, 2014b). These entities (known informally as the shadow banking system)[1]/ carry out credit activities and are exposed to some of the risks faced by traditional banks, in particular credit risk, liquidity risk and maturity risk. Some of these entities also use leverage. However, they are subject to a different regulatory framework than banks and, in general, lack a formal security network, such as liquidity lines or deposit insurance.

The FSB, in its annual *Global Shadow Banking Monitoring Report* (FSB, 2014a), has proposed a methodology for measuring non-bank intermediaries, including the financial assets of (i) money market funds, (ii) other investment funds, (iii) structured finance vehicles, (iv) broker-dealers, (v) finance companies, (vi) hedge funds, (vii) real-estate investment trusts (REITs) and (viii) trust funds. This definition excludes assets that are prudentially consolidated into a banking group, funds that do not carry out credit intermediation (equity funds) and assets involved in self-securitization.

The measure used in Chile follows the FSB methodology and includes the entities listed in points (i) to (v) of the above paragraph, plus the family compensation funds (*cajas de compensación*)[2]/. As of December 2014, these intermediaries held assets totaling US$68 billion (11.2% of the total financial assets in the economy), surpassed only by the banks and the institutional investors (insurance companies and pension funds) (figure II.11). The assets of this sector have increased steadily over the last ten years, resulting in a gain of 3 percentage points in their share of total assets. In contrast, the share of bank assets has contracted since 2008.

FIGURE II.11
Financial intermediaries in Chile
(percent of total financial assets)



(*) Includes public financial institutions, cooperatives supervised by the SBIF, equity investment and mutual funds, and financial auxiliaries.

Source: Central Bank of Chile, based on data from SBIF, SVS, SP and SuSeSo.

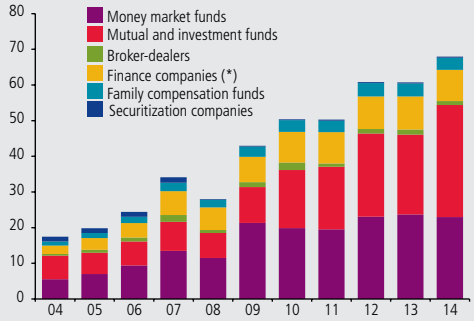
The largest non-bank intermediaries in Chile are the mutual funds and investment funds, which accounted for an average share of 70% between 2004 and 2014 (figure II.12)[3]/. This group includes public and private investment funds[4]/. Within the set of mutual funds, money market funds that invest exclusively in debt instruments with a duration of less than 360 days and that have a higher liquidity for withdrawals (1 to 2 days) are

[1]/ The term shadow banking was coined by market agents (McCulley, 2007) and has since become widely used by economic authorities (Adrian et al., 2013b), although many sources claim that the term is pejorative for such an important activity within the financial system (Pozsar et al., 2012).
[2]/ This measure includes the financial assets of entities for which public information is available (Ramírez and Silva, 2015).

[3]/ The mutual and investment funds are also the largest non-bank intermediaries in a broad set of advanced and emerging countries, but they account for a smaller share, at 45% (FSB, 2014a; FSB, 2014b).
[4]/ Public investment funds comprise natural and legal persons and are expressed in exchange-traded shares, but they cannot be redeemed before the liquidation of the fund. Private investment funds do not publicly offer their shares.

separated out. All of these funds are supervised by the SVS, with the exception of private investment funds[5]/. The next-largest sectors are the finance companies, including non-bank credit card issuers, and the family compensation funds.

FIGURE II.12
Types of non-bank intermediaries in Chile
(US$ billion)



(*) Includes leasing and factoring companies, non-bank credit card issuers and car financing companies.

Source: Central Bank of Chile, based on data from SBIF, SVS and SuSeSo.

Main risks

As mentioned, non-bank intermediaries face similar risks to banks. First, some of these entities have a high degree of leverage (debt over assets), especially the finance companies, broker-dealers and family compensation funds. Second, all the entities are involved in credit intermediation, whether through direct loans (for example, issuers of non-bank credit cards and family compensation funds) or through investment in debt instruments. Within this group, the mutual funds and other investment funds allocate almost all their equity to this type of investment[6]/. A recent concern at the international level is the considerable increase in the participation of mutual and other investment funds in less liquid debt instruments (IMF, 2015; box I.1).

Third, the entities that are most exposed to maturity transformation risk (measured as short-term liabilities over assets) are the broker-dealers and money market funds. In the case of the latter, liabilities include callable equity, due to their high liquidity for redemption. An additional characteristic of this industry is its use of historical cost accounting, (constant NAV) which can result in unexpected portfolio revaluations (Ahumada et al., 2011). As in the banking industry, this characteristic increases the risk of runs in the event of an unexpected change in the value of fund shares, which can require the forced sale of investment instruments and introduce volatility into the price of financial assets traded in the money market. This risk is highest in the mutual funds since they are subject to weaker liquidity support and capital regulation than the banking industry. Nevertheless, Chile has been gradually advancing toward the use of mark-to-market in the money market funds, as recommended by different international organizations (FSB, 2014c)[7]/.

The above risks can be transmitted and/or amplified to the extent that these funds have strong links to the financial system. In December 2014, bank funding from all non-bank intermediaries amounted to 12% of their assets, explained almost entirely by the mutual funds (chapter IV). This exposure is high from an international perspective, given that the average exposure in a set of advanced and emerging countries is 6% of bank assets (FSB, 2014a).

[5]/ However, with the implementation of the Single Funds Act, they must report to the SVS the information required by the supervisor.
[6]/Investment in alternative instruments such as private equity, real estate and so forth represent less than 10%.

[7]/ The SVS guidelines that entered into effect in 2011 allowed the continued use of historical cost accounting for the instruments in these funds, but it introduced triggered values (a percentage band) at which market revaluation is obligatory.

III. CREDIT USERS

FIRMS

As of the fourth quarter of 2014, the indebtedness of firms had increased to 114% of GDP (figure III.1)[1]***/.***

By source of financing, the biggest growth in business debt continues to be in the external segment, mainly loans associated with foreign direct investment (FDI) and bonds (table III.1). The Chilean peso depreciation has had a significant effect in terms of increasing the value of this type of debt. With regard to local debt, the expansion of commercial loans has stabilized at a level substantially below the historical average, consistent with lower economic activity and the drop in investment.

By denomination, the share of foreign currency debt rose from 48 to 52% of total debt. This was mainly due to the growth of external debt, whereas local debt denominated in dollars has been stable at around 10% of the total. The sectoral pattern of debt is similar to the last FSR, where construction has a low share of foreign currency debt, while in mining this type of debt accounts for 90% of the total debt in the sector (statistical appendix).

TABLE III.1
Sources of financing
(real annual change, percent)

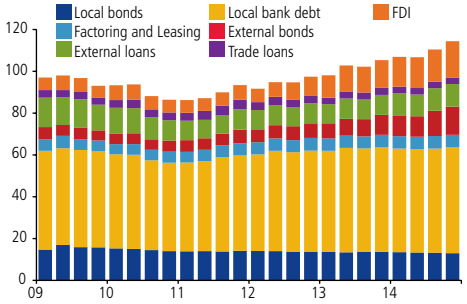
Indicator	2010	2011	2012	2013	2014				Share (1)	Contribution to growth (1)
	IV	IV	IV	IV	I	II	III	IV		
Local debt	3.6	12.3	7.4	6.7	5.0	1.3	2.3	1.5	60.9	1.0
Bank and other loans	4.8	14.1	9.6	7.1	5.5	1.2	2.9	2.7	49.5	1.4
Commercial loans (2)	3.6	13.8	9.9	7.7	5.8	0.9	2.7	2.7	44.2	1.3
Factoring and leasing (3)	15.3	16.6	7.5	2.7	3.4	3.7	4.7	2.0	5.3	0.1
Locally listed instruments (4)	-0.2	6.0	-0.6	5.1	2.9	1.6	-0.4	-3.1	11.4	-0.4
External debt (5)	6.9	17.7	9.2	27.5	29.9	15.6	26.9	27.2	39.1	9.2
Loans	-10.7	6.4	0.4	5.2	19.0	9.5	16.6	14.1	9.4	1.3
Trade credit	20.3	28.3	-19.1	-0.7	6.4	-5.4	-5.0	-3.6	2.8	-0.1
Bonds	24.0	27.8	12.2	42.1	42.5	23.0	51.1	43.3	11.8	3.9
FDI-related loans	22.5	20.3	37.1	50.0	37.6	21.3	27.3	33.0	15.2	4.1
Total	**4.5**	**13.8**	**7.9**	**12.9**	**12.7**	**6.0**	**10.3**	**10.2**	**100.0**	**10.2**

(1) Percentage points.
(2) Includes contingent, individuals and foreign trade loans.
(3) Factoring includes bank and nonbank institutions. Not from microdata.
(4) Corporate bonds, securitized bonds and commercial papers.
(5) Converted to pesos using the average exchange rate in the last month of the quarter.

Source: Central Bank of Chile, based on data from Achef, SBIF and SVS.

[1]/ Starting with the FSR for the second half of 2014, only banks are excluded from the sample of firms. This change, together with the use of microdata from administrative sources, explains the difference between this indicator and the indicator reported in the National Accounts of the Central Bank of Chile.

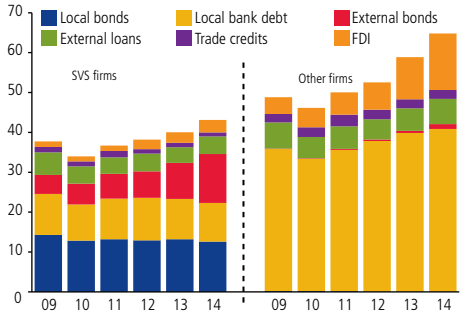
FIGURE III.1
Total debt of firms (1) (2)
(percent of GDP)



(1) Based on firm-level data, with the exception of factoring and leasing, securitized bonds and commercial papers.
(2) For more detail on the series, see the statistical appendix.

Source: Central Bank of Chile, based on data from Achef, SBIF and SVS.

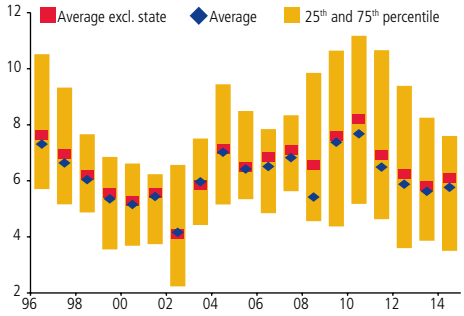
FIGURE III.2
Total debt of SVS firms and other firms (1) (2) (3)
(percent of GDP)



(1) SVS firms include those report their financial statements to the Superintendence of Securities and Insurance (SVS), as well as their subsidiaries
(2) Excluding factoring and leasing, securitized bonds and commercial papers.
(3) For more detail on the series, see the statistical appendix.

Source: Central Bank of Chile, based on data from SBIF and SVS.

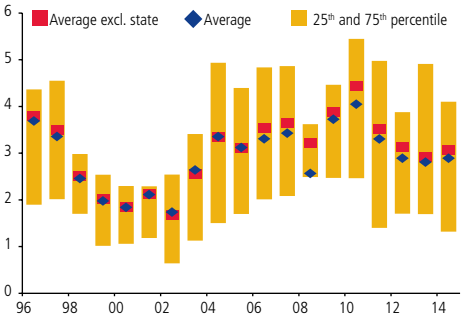
FIGURE III.3
Corporate sector profitability (*)
(percent)



(*) Earnings before interest and taxes in 12 months over total assets.

Source: Central Bank of Chile, based on data from SVS.

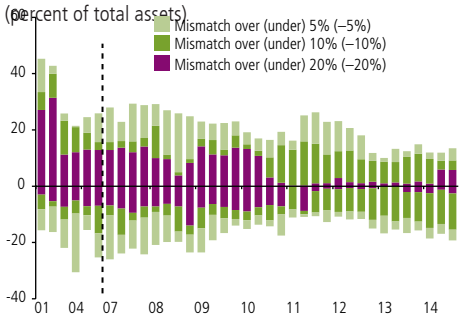
FIGURE III.4
Corporate sector interest coverage ratio (*)
(times)



(*) Ratio of earnings before interest and taxes to annual financial expense.

Source: Central Bank of Chile, based on data from SVS.

FIGURE III.5
Currency mismatch of firms in the corporate sector (1)(2)(3)
(percent of total assets)



(1) Based on a sample of firms that report their balance sheets in Chilean pesos. The mismatch is calculated as dollar liabilities minus dollar assets, minus the net derivatives position, as a percent of total assets.
(2) Excluding state, mining and financial firms.
(3) To the left of the dashed line, annual data through 2006. To the right, quarterly data.

Source: Central Bank of Chile, based on data from SVS.

When firms are disaggregated into those that report their financial statements to the SVS (that is, the corporate sector) and those that do not, the latter group is found to have a higher level and growth rate of debt (figure III.2). The banking sector's exposure to this group of firms has increased. Firms that report to the SVS recorded a more moderate increase in debt in the same period, with an expansion of the share of foreign bonds and a reduction in the share of bank financing.

At the close of 2014, the financial indicators of firms in the corporate sector were very near the levels at year-end 2013 (figures III.3 and III.4).

Relative to the average of 2003–2012, profitability and interest coverage have declined, and the level of debt has increased (table III.2). The latter trend has not implied higher financial expense, so the lower interest coverage ratios are associated with a weaker operating performance rather than higher costs[2]/. By sector, profitability and interest coverage have fallen steadily in construction, but they have improved substantially in transport and telecommunications.

TABLE III.2
Corporate sector indicators, by sector (1)

Sector	Profitability (2) (percent)			Interest coverage (3) (times)			Indebtedness (4) (times)		
	Avg. 03-12	2013	2014	Avg. 03-12	2013	2014	Avg. 03-12	2013	2014
Construction	5,8	4,4	3,6	3,2	2,9	2,2	0,6	0,8	0,7
Consumer	6,2	3,0	3,9	3,6	1,2	1,9	0,7	0,7	0,8
Transport and telecommunications	6,2	3,2	5,3	3,4	1,7	2,9	0,8	1,1	1,1
Food	8,0	6,2	7,1	5,6	4,5	4,6	0,5	0,6	0,6
Services and other	6,8	7,5	7,1	3,2	2,5	2,4	0,9	1,2	1,1
Electricity and energy	8,1	8,9	8,0	3,1	4,4	3,7	0,6	0,5	0,6
Forestry	5,6	5,2	5,3	4,4	3,7	3,7	0,4	0,5	0,6
Total	**6,9**	**5,8**	**6,1**	**3,5**	**2,9**	**3,1**	**0,6**	**0,7**	**0,7**

(1) Data as of December of each year. Excludes state companies.
(2) Earnings before interest and taxes over total assets.
(3) Earnings before interest and taxes over annual financial expense.
(4) Debt-to-equity ratio.

Source: Central Bank of Chile, based on data from SVS.

The currency mismatch of firms in the corporate sector remains stable (figure III.5).

In the third quarter of 2014, the currency mismatch of the corporate sector that keeps its financial statements in Chilean pesos remained low, at less than 1% of assets on aggregate (statistical appendix), despite the increase in foreign bond issues. The share of firms with a higher exposure to exchange rate fluctuations—that is, with a mismatch of 5 to 10% of their assets—was stable. The share of firms with a mismatch of over 20% of assets increased starting in mid-2014, but it is still low relative to 2001–2009.

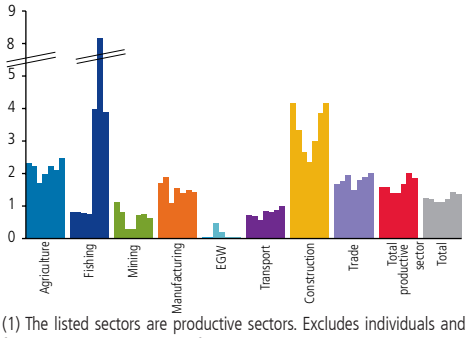
[2]/ For more details on the evolution of financing costs of SVS-reporting firms and a longer time horizon, see Espinosa and Fernández (2015).

On aggregate, firms continued to record an increase in bank arrears, mainly in productive sectors and in smaller firms.

The unpaid installment ratio (UIR), which measures firms' arrears on bank debt repayment, rose in late 2014 but then declined in March of this year. In sectoral terms, the biggest increases were in construction (especially civil works since mid-2013) and fishing (figure III.6). By size, smaller companies have historically had a higher level of delinquency than large firms, but recently large firms have shown an increase in the UIR, while small and medium-sized enterprises (SMEs) have been stable.

In sum, the debt-to-GDP ratio of the business sector continued to rise in 2014. The increase was led by firms that do not report to the SVS, and those firms exhibit a higher bank exposure. The corporate sector's financial indicators are around the average of recent years, with a limited currency mismatch according to data for the third quarter of 2014. Bank delinquency indicators worsened in 2014, especially in construction and fishing.

FIGURE III.6
Unpaid installment ratio (1) (2) (3)
(percent of loans)



(1) The listed sectors are productive sectors. Excludes individuals and firms without a sectoral classification.
(2) Data as of December 2009 through 2014. The last bar is for March 2015.
(3) Excluding contingent loans.

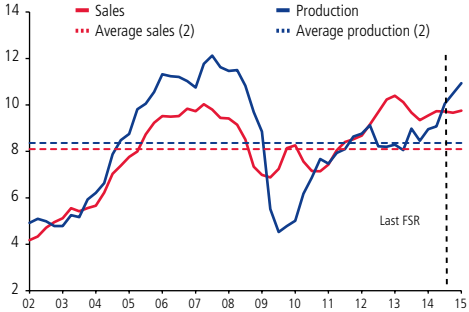
Source: Central Bank of Chile, based on data from INE and SBIF.

REAL ESTATE SECTOR

In the first quarter of 2015, new home sales and construction in Santiago remained above the historical average.

Home sales continued to be dynamic, at levels of around 10,000 units per quarter. Market agents attribute this trend, in part, to the moving up of purchases prior to the entry into force of the Tax Reform, which will apply VAT to residence sales (figure III.7)[3]/. The production of new homes, including gross commitments, grew strongly (22% in annual terms in the first quarter of 2015), possibly driven by higher sales expectations and/or the recent stabilization of costs, especially labor costs (figure III.8). The slowdown in costs, together with increased volume of registered deeds, had a favorable impact on the profitability of the real estate business of the main companies in the sector (statistical appendix).

FIGURE III.7
New home sales and production in Santiago (1)
(thousands of units, annual moving average)



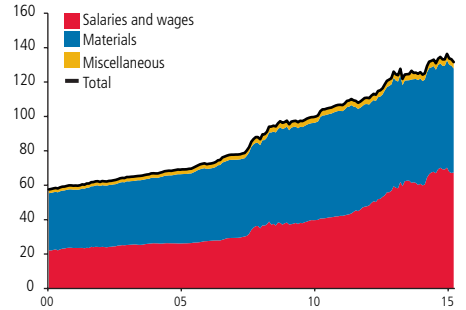
(1) Includes gross sales commitments.
(2) Average for 2002–2015.

Source: Central Bank of Chile, based on data from GFK Adimark.

House prices continued to rise in the first quarter.

The CChC house price index for Santiago showed similar growth in the first quarter of 2015 as in the previous year. In 2014, the house price index (HPI) calculated by the Central Bank, which includes both new and used properties, had a lower growth rate, especially when considering zones different from the Santiago Metropolitan Region (figure III.9). The evolution of house prices is consistent with the level of economic activity, mortgage interest rates and building costs. Relative to disposable income, house prices were stable in 2014 and in the lower range of indicators for a wide set of countries (figure III.10).

FIGURE III.8
Decomposition of building costs (*)
(fixed-base index: 100=Jan.10)

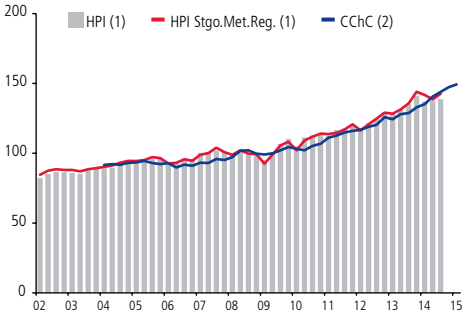


(*) Unit cost of a residential group of 73 DFL-2 houses with one floor and 69.8 m², constructed in Santiago.

Source: Chilean Chamber of Construction (CChC).

[3]/ The Law establishes that starting on 1 January 2016, the ordinary sale of real estate will be subject to the VAT, with some temporary exemptions, for which the value of the land is excluded from the tax base

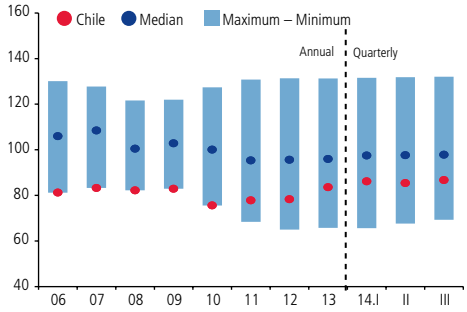
FIGURE III.9
House prices
(fixed-base index: average 2008 = 100)



(1) House price index (HPI) estimated using the stratification or mixed adjustment method for actual transactions on new and used residences.
(2) Based on the hedonic method for new house prices in Santiago.

Source: Central Bank of Chile, based on data from SII and CChC.

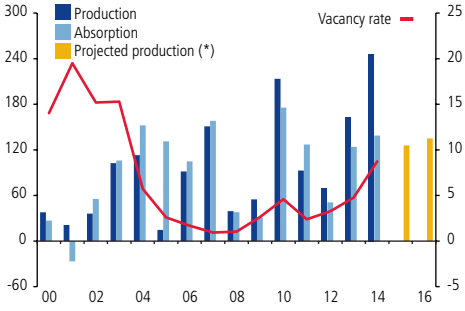
FIGURE III.10
Ratio of house price to disposable income (*)
(fixed-base index: 2005=100)



(*) Includes Australia, Belgium, Canada, Chile, Croatia, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, South Africa, South Korea, Spain, Sweden, Switzerland, United Kingdom and United States.

Source: Central Bank of Chile, based on data from SII and the Federal Reserve Bank of Dallas.

FIGURE III.11
A/A+ office market
(thousands of square meters; percent)



(*) Forecast by Global Property Solutions (GPS).

Source: Central Bank of Chile, based on data from GPS.

The loan-to-value (LTV) ratio—that is, the ratio of the amount of the mortgage to the value of the residential property—held at around 81%, on average, in 2014 (table III.3). Nevertheless, a larger share of mortgages were granted with a lower LTV, bringing down the median of this indicator.

TABLE III.3
Loan-to-value ratio
(percent)

Estimator	2004 IV	2005 IV	2006 IV	2007 IV	2008 IV	2009 IV	2010 IV	2011 IV	2012 IV	2013 IV	2014 I	2014 II	2014 III
Mean	79.2	85.5	86.7	85.0	81.1	78.6	72.9	82.0	82.4	80.9	81.0	81.2	80.9
25th percentile	72.0	75.0	77.8	74.1	71.0	70.0	52.6	77.7	79.0	76.4	76.8	78.0	77.9
Median	79.7	90.0	90.0	90.0	86.2	83.4	79.6	89.7	89.9	88.0	88.0	87.1	86.9
75th percentile	90.0	100.0	100.0	100.0	95.7	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0

Source: Central Bank of Chile, based on data from SII.

Office building production reached historical peaks in 2014, but it is expected to ease going forward (figure III.11).

In 2014, the increase in available square meters in the A/A+ office market exceeded the level in 2010, which was the previous peak. This was not matched by equivalent office absorption, such that vacancy rates in 2014 reached 9% for class A/A+ offices and 11% for class B (GPS and CBRE Chile). This translated into a reduction in rental prices in both classes. Other Latin American cities have recorded a similar trend (JLL Research, 2015)[4]/. In the second half of 2014, the region exhibited an increase in the vacancy rate of 1 percentage point (pp), on average, for class A and B offices (2 pp in Santiago) and a reduction in rental prices, measured in dollars, of 14% (9% in Santiago).

Forecasts for new office building projects coming on the market in the next few years have continued to fall, together with the vacancy rate. For 2015 and 2016, the market expects annual production equivalent to 50% of the market entry in 2014 in the premium office category (120,000 square meters). In contrast, the forecast a year ago exceeded 200,000 square meters in both years. This reflects delays in the incorporation of new projects and the reallocation of space to retail business in the new buildings.

In sum, activity in the residential real estate sector indicates that supply has exceeded demand in recent months. Demand is still high, however, so the higher inventories have not translated into lower prices. A scenario of less dynamic demand than expected could have an impact on prices, with significant consequences for leveraged agents (construction companies and mortgage debtors).

In the office sector, supply and vacancy both peaked in 2014, but market forecasts point to lower production in the coming years. International evidence suggests that the characteristics of the office market make vacancy rates persistent over time (Ellis and Naughtin, 2010). Agents that are exposed to this sector should take this factor into account in their analyses.

[4]/ Includes Cali, Medellín, San Juan, Guayaquil, Monterrey, Quito, Caribbean Colombia (Barranquilla, Santa Marta and Cartagena), Guadalajara, San José, Panamá, Santiago, Buenos Aires, Lima, Mexico City, Bogotá, Montevideo, Caracas, São Paulo and Río de Janeiro.

HOUSEHOLDS

The annual growth of total household debt declined in 2014, mainly due to a smaller increase in consumer debt.

Total household debt has been less dynamic since the end of 2013, with steadily declining growth rates, especially in bank consumer debt. Mortgage debt has continued to grow, mostly driven by the banks. Nonbank providers, in turn, recorded a reduction in growth rates for both mortgage and consumer loans (table III.4).

TABLE III.4
Household debt
(real annual change, percent)

Indicator	2010 IV	2011 IV	2012 IV	2013 I	2013 II	2013 III	2013 IV	2014 I	2014 II	2014 III	2014 IV	Contribution to growth (1)	Share (1)
Mortgage	**7.0**	**7.1**	**7.6**	**8.3**	**8.4**	**8.6**	**8.9**	**9.2**	**9.2**	**9.6**	**9.9**	**5.7**	**59.1**
Bank	9.1	8.2	8.3	8.9	9.0	9.0	9.1	9.4	9.4	10.1	10.5	5.4	53.3
Nonbank (2)	-5.8	-0.7	2.0	4.0	4.1	5.6	7.4	7.8	7.2	5.6	4.8	0.3	5.8
Consumer	**7.2**	**6.9**	**6.8**	**6.8**	**7.6**	**6.8**	**7.4**	**6.8**	**4.8**	**4.0**	**2.3**	**1.0**	**40.9**
Bank	8.8	13.3	8.9	9.3	9.6	7.7	8.2	7.0	4.4	4.5	2.6	0.7	24.9
Nonbank	4.9	-7.6	-2.6	-3.1	-1.0	-0.1	2.4	3.1	2.2	3.2	0.7	0.1	10.2
Retailers	6.1	-15.0	-6.2	-7.4	-5.2	-3.2	4.1	6.2	6.9	6.8	1.0	0.1	5.2
CCAF (3)	3.8	5.2	3.5	3.9	7.3	8.3	4.1	3.8	0.6	1.8	2.5	0.1	3.5
Cooperatives	3.2	-5.3	-3.3	-3.6	-3.9	-6.5	-5.6	-6.5	-7.5	-4.1	-4.3	-0.1	1.5
Other (4)	5.8	18.0	18.8	18.3	16.1	15.5	13.7	12.8	10.5	3.2	3.9	0.2	5.8
Total	**7.1**	**7.0**	**7.3**	**7.7**	**8.1**	**7.8**	**8.3**	**8.2**	**7.3**	**7.2**	**6.7**	**6.7**	**100.0**

(1) Percentage points.
(2) Includes securitized mortgage debt.
(3) Family compensation funds (*cajas de compensación de asignación familiar*).
(4) Includes car financing, university loans, central government and insurance companies.

Source: Central Bank of Chile, based on data from SBIF, SuSeSo and SVS.

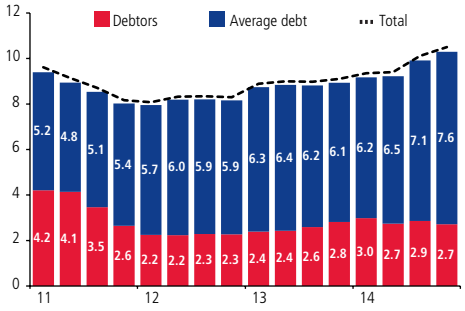
More recent bank data show that in the first quarter of 2015, bank consumer debt grew 2.9% in real annual terms, which is somewhat higher than in late 2014, but still lower than previous years (chapter IV). Data on bank mortgage debt in the first quarter of 2015 reveal a similar growth rate to late 2014. The growth in recent quarters has been sustained by an increase in average debt, which is in line with the behavior of house prices (figure III.12).

The household debt-to-income ratio (DTI) continued to rise, while the financial burden-to-income ratio (FIR) was stable (figure III.13).

The increase in the DTI—household debt—in 2014 is primarily explained by the growth of bank mortgage debt (figure III.14), combined with lower growth of income. This concentration in a single debt category contrasts with the last period of a sustained debt expansion (2007–2009), which was characterized by a more active participation of the different types of debt and lenders.

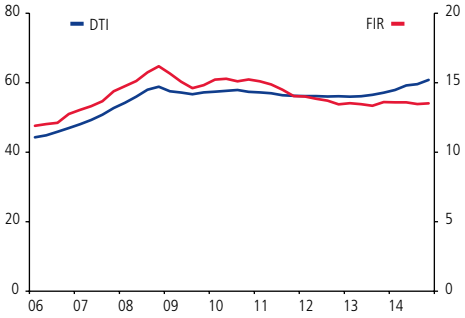
The household indebtedness varies by income segment. The DTI ratio in the medium-high income segments (15–24 million pesos a year) is 40% higher than the level for total bank debtors on aggregate (SBIF, 2014). Despite their higher debt levels, however, the financial burden of these households remains stable.

FIGURE III.12
Bank mortgage debt
(real annual change, percent)



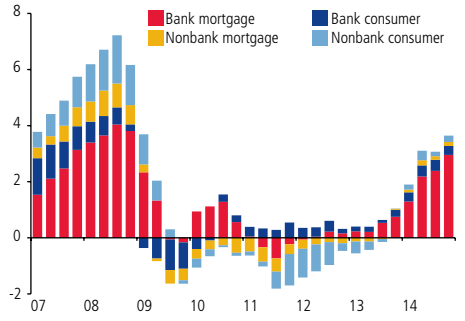
Source: Central Bank of Chile, based on data from SBIF.

FIGURE III.13
Household indebtedness (DTI) and financial burden (FIR)
(percent of disposable income)



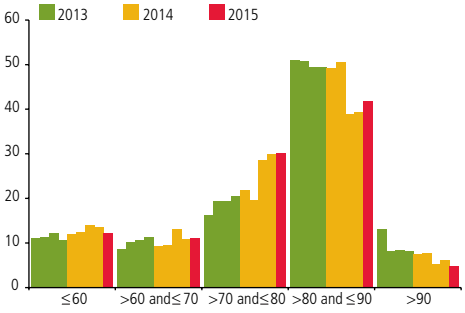
Source: Central Bank of Chile, based on data from SBIF, SuSeSo and SVS.

FIGURE III.14
Household indebtedness
(real annual change, percent)



Source: Central Bank of Chile, based on data from SBIF, SuSeSo and SVS.

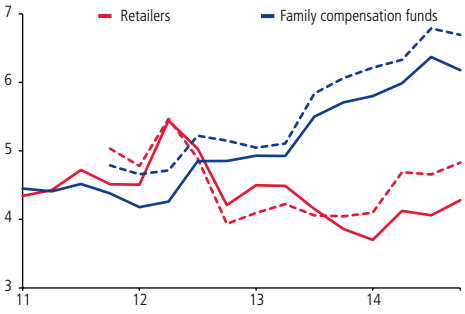
FIGURE III.15
Mortgage debt-to-collateral ratio (*)
(percent of number of loans granted)



(*) Information from the Bank Lending Survey for March, June, September and December of each year.

Source: Central Bank of Chile.

FIGURE III.16
90-day delinquency of nonbank lenders (*)
(percent of loans)



(*) The dashed line graphs the indicator using 12-month lagged loans as the denominator.

Source: Central Bank of Chile, based on data from SVS and SuSeSo.

This is due to the lower credit financing costs, which are largely associated with the more expansionary monetary policy.

Lending standards continued tightening in the first quarter of the year, albeit with a smaller share of banks reporting tighter conditions.

Starting in June 2014, the Bank Lending Survey (BLS) has reported that the supply of consumer loans has become tighter in terms of approval standards. In March 2015, however, the fraction of banks that continued along this trend declined. At the same time, the BLS again reported a weakening in the demand for credit in the first quarter, after not changing on net in December. The dynamics of both supply and demand is consistent with the reduction in the growth rate of consumer loans. With regard to mortgage lending standards, while the share of loans with 80–90% financing increased marginally in the first quarter, the BLS shows that relative to a year ago, the share has fallen closer to the 70–80% segment (figure III.15). Information at the debtor level also suggests that the standards for mortgage loans have become tighter since 2013. For example, new debtors have a better credit history (box III.1).

Repayment indicators for bank loans were stable at the close of 2014 (chapter IV), but non-bank lenders recorded a deterioration.

The deterioration in the indicators of nonbank lenders was sharper for the family compensation funds (*cajas de compensación de asignación familiar*, CCAF) than for retailers (figure III.16). This development in the CCAFs is explained, in part, by regulatory changes affecting these institutions, although it could also reflect a portfolio deterioration[5]/.

In summary, the growth of total household debt has slowed in the past year, even though mortgage debt has remained dynamic. Given the lower growth of income, the aggregate indebtedness of the household sector (the debt-to-income ratio) has increased. However, the low interest rates have helped keep the household financial burden stable. Payment indicators have not deteriorated for bank loans, but they have for nonbank lenders. Because aggregate indicators do not allow the identification of heterogeneity in debt levels and default by type of debtor, the possibility that some household segments are becoming increasingly vulnerable cannot be ruled out.

[5]/ The regulatory changes include the standardization of the criteria for reporting delinquency in this industry in line with those used in the banking sector; limits on the discount and maximum duration that can be applied to loans; and the conditions for writing off or renegotiating debt.

BOX III.1
ANALYSIS OF MORTGAGE REPAYMENT BEHAVIOR IN CHILE

This box characterizes bank mortgage debtors in Chile and identifies some of the factors that influence their repayment behavior. The analysis is based on a sample of over 130,000 new mortgage loans granted in the period from January 2012 to December 2014.

Data sources

The analysis is based on anonymous administrative data from the banking industry, including both debt stocks and credit flows at the debtor level. The database includes information on the status of the individual's mortgage debt (current, delinquent or in default), as well as information of the loan interest rate, amount and duration. It also contains other financial characteristics of the debtor, such as available credit lines and credit cards, and historical data on consumer loan repayment record. These are used to construct two risk indicators: coverage and credit history. The former is defined as the ratio between available credit and the monthly loan repayment; the latter is obtained as the percentage of months in which the debtor was delinquent on consumer loan payments in the two years prior to receiving the mortgage loan.

A comparison of the loan cohorts originating in 2012 and 2014 reveals that debtors in the more recent cohort have obtained loans that, on average, feature lower interest rates, higher amounts and similar durations (table III.5). With regard to debtor characteristics, the later cohort has higher available credit on credit lines and cards, which translates into a higher coverage index, and a better credit history.

Definition of the indicators

A nonpayment event is defined as occurring when a new mortgage debtor has missed one or more payments in the next twelve months[1]/. In particular: (i) delinquency is defined as at least two consecutive months of missed payments; and (ii) default is defined as three or more consecutive months.

Using these definitions for the 2012 and 2013 debtor cohorts, we find that 5.8% of loans are delinquent, while 1.6% of debtors are in default.

TABLE III.5

New mortgage loans: descriptive statistics
(percent, amount in UF and number of years)

Statistic	Rate (%)			Amount (UF)			Duration (years)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
No.Observations	32,128	47,607	52,536	32,128	47,607	52,536	32,128	47,607	52,536
Mean	4.6	4.7	4.2	1.872	1.968	2.036	22.8	22.6	22.8
Median	4.5	4.6	4.2	1.546	1.592	1.632	25.0	20.7	23.3

Statistic	Available credit (UF)			Coverage (times) (1)			Credit history (%) (2)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
No.Observations	32,128	47,607	52,536	32,128	47,607	52,206	32,128	47,607	52,536
Mean	271.2	301.5	338.6	8.8	9.5	10.7	7.8	7.1	6.7
Median	148.8	174.4	197.6	16.1	17.7	20.2	0.0	0.0	0.0

(1) Available credit over monthly mortgage repayment.
(2) Percent of months in arrears on consumer loan payments in the two years prior to receiving the mortgage loan.

Source: Central Bank of Chile, based on data from SBIF.

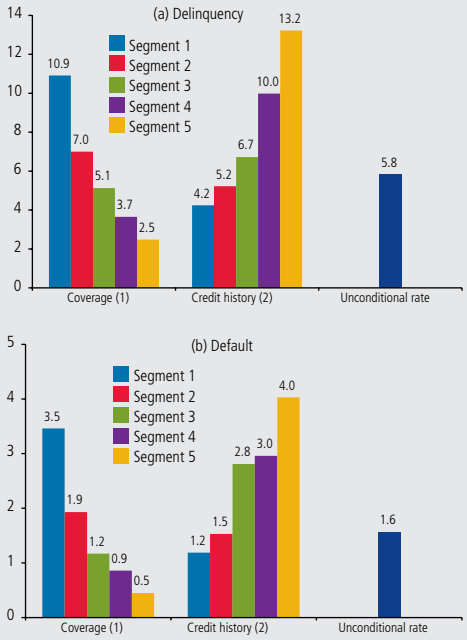
[1]/ This definition of nonpayment causes a truncation in the data, reducing the sample from January 2012 to December 2013.

The coverage and credit history indicators are categorized into five segments. The coverage segments are based on the quintiles of the distribution. For credit history, the first segment includes debtors who were not in arrears on their prior consumer loans, and the remaining segments are based on the quartiles of this variable (Alegría and Bravo, 2015).

Results

The results show that when the coverage indicator increases, nonpayment decreases, in terms of both delinquency and default (figure III.17). For example, debtors who fall within the first coverage segment—that is, they can cover 2.5 monthly mortgage payments, on average, with their available credit—have double the delinquency rate of debtors in the third coverage segment, where the average credit-to-mortgage repayment ratio is 17 months. This pattern is also found for default events.

FIGURE III.17
Rate of arrears by risk segment: 2012–2013
(percent)



(1) Available credit over monthly mortgage repayment.
(2) Percent of months in arrears on consumer loan payments in the two years prior to receiving the mortgage loan.

Source: Central Bank of Chile, based on data from SBIF.

A better credit history reduces default rates. For example, the default rate of debtors who did not go into arrears on their consumer debt is a quarter of the default rate for people in the highest credit history segment, who have an average of 12 months of arrears on their consumer loans.

Conclusions

Loans to debtors with a higher coverage level and a good credit history have lower nonpayment rates. Thus, the improvement in these indicators in the more recent debtor cohorts suggests a more prudent behavior on the part of the banks. While this analysis omits important variables such as the debtor's income and employment situation, this behavior should reduce the credit risk of this portfolio.

IV. BANKING SYSTEM

Commercial and consumer credit continued to grow slowly, in contrast to the mortgage loan portfolio, which was dynamic. Household credit risk indicators remain stable, while the commercial portfolio deteriorated. The impact of a stress scenario is similar to the last FSR, but the results are slightly tighter, with some differences among banks.

EVOLUTION

Commercial loans grew at a real annual rate of around 3%, while mortgages continued to expand at over 10% (figure IV.1).

The slow expansion of commercial loans has coincided with lower output growth and a decline in investment. By sector, the drop has been most persistent in construction and, more recently, manufacturing (figure IV.2). This has occurred in a context of low interest rates and fewer banks reporting tighter financial conditions.

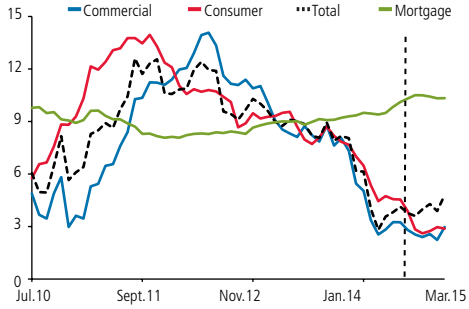
The demand for commercial financing has weakened in recent quarters, according to the Bank Lending Survey (BLS). In particular, it is the larger firms that have reduced their demand, as deduced from the lower growth of individually evaluated commercial loans, which are generally associated with large corporations (figure IV.3). At the same time, there was an increase in external corporate debt issues, mainly long-term debt instruments, which could be substituting some of the local bank financing (chapters II and III).

The annual growth rate of consumer loans has also decreased in recent quarters, although it slightly increased at the margin due to revolving credit.

In the first quarter of 2015, the annual growth rate of consumer loans was 2.9% which is substantially below the 2013 levels, but slightly higher than late 2014 (2.6%). By type of product, there was a slight increase in the use of credit cards.

Household credit risk indicators are stable. This is not the case with the commercial portfolio, which shows some signs of deterioration

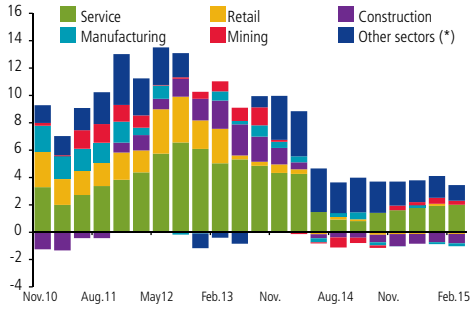
FIGURE IV.1
Growth rate of loans (*)
(percent, real annual variation)



(*) The vertical dashed line indicates the cutoff date for the last FSR.

Source: Central Bank of Chile, based on data from SBIF.

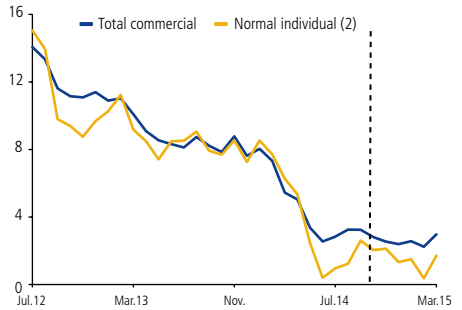
FIGURE IV.2
Commercial loans, by economic sector
(contribution to real annual growth, percent)



(*) Includes EGW; transport, storage and communications; agriculture, livestock, forestry and fishing; and real estate.

Source: Central Bank of Chile, based on data from SBIF.

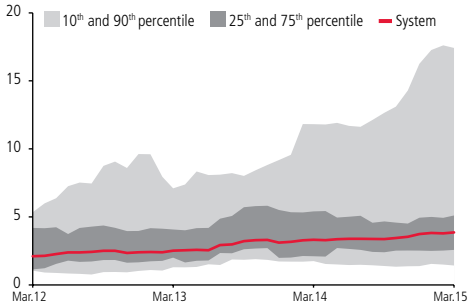
FIGURE IV.3
Commercial loan categories (1)
(real annual change, percent)



(1) The vertical dashed line indicates the cutoff date for the last FSR.
(2) Individually evaluated commercial loans that have a normal risk classification.

Source: Central Bank of Chile, based on data from SBIF.

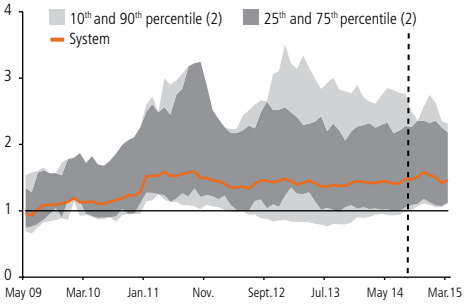
FIGURE IV.4
Distribution of substandard loans (*)
(percent of commercial loans)



(*) Excluding treasury and foreign trade banks.

Source: Central Bank of Chile, based on data from SBIF.

FIGURE IV.5
Provisions coverage ratio of the commercial portfolio (1)
(times)



(1) Ratio of specific provisions to delinquency of 90 days and longer. Vertical dashed line indicates the cutoff date for the last FSR.
(2) Percentiles weighted by size of the commercial portfolio.

Source: Central Bank of Chile, based on data from SBIF.

The structure of individually evaluated commercial loans shows a reclassification of debtors to higher risk categories, with an increase in substandard loans. Moreover, the higher dispersion of this category could be reflecting the deterioration of the segment in some medium-sized banks, where the ratio of substandard loans to the total commercial portfolio can reach 18% (figure IV.4).

The delinquency of the commercial portfolio rose from 1.5% in December 2014 to 1.6% in March 2015; this trend was fairly generalized across banks (table IV.1). Thus, over 75% of banking institutions (57% in late 2014) recorded an increase in the delinquency rate of this portfolio in the first quarter of 2015. This deterioration was not accompanied by a proportional increase in provisions in the period (figure IV.5). Also, the banking sector's exposure to the largest delinquent debtors in the commercial portfolio was higher in 2014 than in previous years, thereby heightening concentration risk (figure IV.6). In contrast, in the household sector, delinquency on consumer and mortgage loans has remained stable (table IV.1).

TABLE IV.1
90-day delinquency rate
(percent of loans)

	2009.IV	2010.IV	2011.IV	2012.IV	2013.IV	2014.IV	2015.I
Total	**2.8**	**2.6**	**2.2**	**2.1**	**2.0**	**2.0**	**2.0**
Commercial (*)	1.8	1.7	1.5	1.3	1.5	1.5	1.6
Consumer	2.9	2.3	2.5	2.5	2.2	2.2	2.2
Mortgage	5.5	5.0	4.2	3.9	3.3	3.0	3.0

(*) Includes foreign trade and contingent loans.

Source: Central Bank of Chile, based on data from SBIF.

In the first quarter of the year, bank profitability decreased relative to late 2014, to just above 16% of capital.

The transitory effect of inflation on the indexation margin dissipated, and the interest margin contracted (figure IV.7). Despite the reduction of the latter, it remains as the major component of operating income in the banking sector, representing 2.8% of total assets.

The banks increased their funding from bond issues in both the local and external markets (figure IV.8).

This increase is mainly explained by debt issues by the larger banks, which issued US$761 million in the local market and US$2 billion in the external market (bonds and commercial papers) in the first quarter of 2015. In contrast, in the medium-sized banks, the share of local bonds decreased to 18% of liabilities in the same period. This segment of the industry also continues to be highly dependent on institutional funding (just below 30% of their liabilities).

The recent issues overseas have not had a material impact on currency or maturity mismatches. The duration of the banks' liabilities remains at 21 months, while asset duration lengthened to 36.5 months, mainly due to dynamic mortgage lending.

Medium-sized banks continue to be highly dependent on wholesale funding.

As described in the last FSR, the time deposits issued by medium-sized banks have been highly concentrated in the hands of the mutual funds. However, an analysis that includes a measure of the risks associated with different bank funding sources shows that other wholesale sources are also important, including pension funds and banks (box IV.1).

RISK FACTORS

A persistent slowdown could result in an increase of credit risk, mainly in banks that are more exposed to sectors that are sensitive to the economic cycle.

The increase in the delinquency rate of the commercial portfolio is consistent with the current economic cycle. It could worsen, however, in institutions with a higher exposure to economic sectors that have seen a deterioration in repayment behavior, such as construction and fishing (chapter III).

The banking sector could potentially face periods of volatility in their external and local funding sources.

Since the December FSR, bank funding conditions have remained favorable in both the local and external markets. Nevertheless, there is still a latent possibility that the banking industry could face an adverse scenario in terms of funding costs, deriving from an increase in the U.S. monetary policy rate, although the risk has subsided somewhat in the most recent period (chapter I). Another source of risk for bank funding is the strong expansion of the debt mutual funds' portfolios, which are highly concentrated in bank and corporate bonds. These changes in mutual fund investment strategies (chapter II) could particularly affect the small and medium-sized banks, since they use this funding source more intensively.

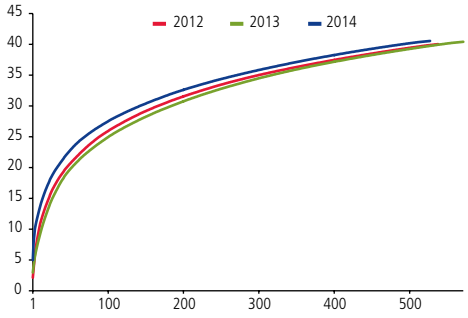
ASSESSMENT OF THE STRESS SCENARIOS[1]/

The stress tests show that the banking system maintains a sufficient financial position to absorb the materialization of a severe stress scenario. Although the result was more pronounced than in the last FSR, this reflects a lower initial profitability due to the dissipation of transitory factors, together with a commercial portfolio that is slightly more sensitive to the stress scenario.

The stress tests use macro and accounting information for the banking system as of December 2014. Credit risk is calculated by estimating a model that

[1]/ The analysis is based on the methodology described in the FSR for the second half of 2013. Both the analysis and the results are regularly reported to the SBIF.

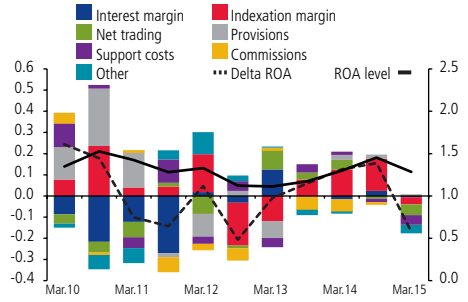
FIGURE IV.6
System distribution of delinquent debtors (*)
(percent of commercial portfolio delinquency, number of debtors)



(*) Sample of the 1,000 largest delinquent debtors in the system. Considers delinquency of 90 days to 2 years.

Source: Central Bank of Chile, based on data from SBIF.

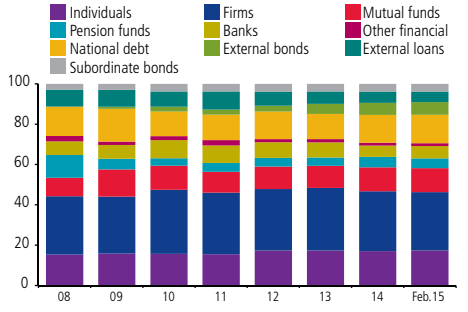
FIGURE IV.7
Changes in the main components of ROA in the system (*)
(moving sum last 12 months, half-yearly percent)



(*) Based on consolidated financial statements.

Source: Central Bank of Chile, based on data from SBIF.

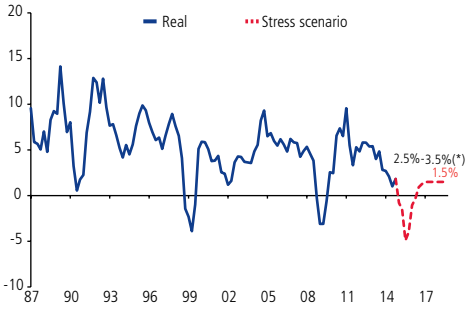
FIGURE IV.8
Composition of banking system liabilities (*)
(percent of liabilities)



(*) Excluding other deposits, other financial liabilities, derivatives, taxes, provisions and other liabilities.

Source: Central Bank of Chile, based on data from SBIF, SVS and DCV.

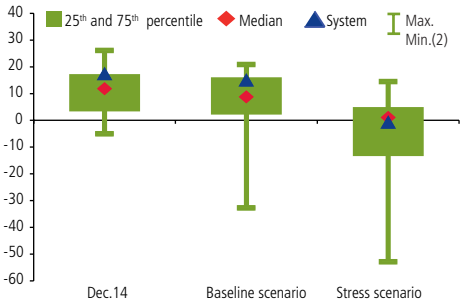
FIGURE IV.9
Real annual growth of GDP
(quarterly data, percent)



(*)The baseline scenario in the March 2015 *Monetary Policy Report* assumes a GDP growth rate of between 2.5 and 3.5% in 2015.

Source: Central Bank of Chile.

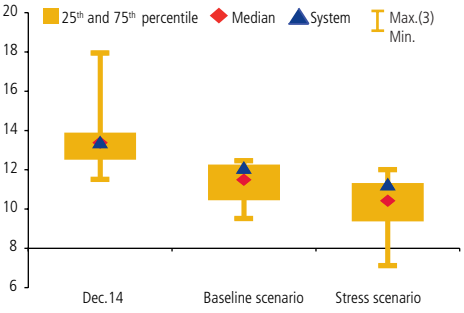
FIGURE IV.10
Impact of different scenarios on ROE (1)
(earnings over core capital)



(1) Data weighted by the core capital of each institution.
(2) Minimums correspond to the 1st percentile.

Source: Central Bank of Chile, based on data from SBIF.

FIGURE IV.11
Impact of different scenarios on capital adequacy ratio (CAR) (1)(2)
(regulatory capital over risk-weighted assets, percent)



(1) Data are weighted by the corecapital of each institution.
(2) Calculations do not include treasury or foreign trade banks.
(3) Maximums correspond to the 90th percentile.

Source: Central Bank of Chile, based on data from SBIF.

relates provisions—which reflect the quality of the banks' credit portfolios—primarily with economic activity. Market risk is calculated based on three types of exposure: currency, valuation and repricing. Both risks are evaluated under the baseline and stress scenarios.

The stress scenario considers a drop in GDP in the short term and low growth in the medium term, aiming to replicate past episodes of financial fragility[2]/. Specifically, output contracts 2.8%, on average, in 2015 and then converges to growth of 1.5% in 2016 (figure IV.9).

Relative to the initial situation in the last FSR (June 2014), the banking system exhibits lower profitability and a slightly lower capitalization. The system's return on equity (ROE) is 1.2 percentage points (pp) lower (17.3 versus 18.5%), and its CAR is 0.1 pp lower (13.4 versus 13.5%).

The tests show that under the stress scenario, ROE becomes negative, at –0.9 pp of core capital (table IV.2), which is lower than the 0.4 pp found in the stress tests in the last FSR. At the individual level, banks that together represent 50% of the system's core capital would record positive profitability under the stress scenario (figure IV.10), while those with a CAR over 11% account for 54% of the system's core capital (figure IV.11)[3]/. In the last FSR, these shares were 58 and 60%, respectively, pointing to a somewhat less favorable situation.

TABLE IV.2
Impact of the stress tests on profitability
(percent of core capital)

	Stress scenario
Initial ROE	17.3
Market risk	-1.5
Valuation	-1.1
Repricing	-0.7
Currency	0.3
Credit risk	-21.4
Consumer	-9.2
Commercial	-10.4
Mortgage	-1.8
Margin	4.8
Final ROE	-0.9

Source: Central Bank of Chile, based on data from SBIF.

Stress tests are analytical tools that contribute to identifying systemic financial strengths and weaknesses in a given moment of time. Given their partial nature, they do not necessarily uncover all the effects of specific risk scenarios. Consequently, they should not be interpreted as projection exercises. However, given the current growth outlook and external risks, banks need to ensure that they maintain an adequate level of provisions and capital.

[2]/ The baseline scenario is consistent with the *Monetary Policy Report* for March 2015, with GDP growth between 2.5 and 3.5% in 2015. The UF interest rate forecast in December 2015 is 4.7% for one- to three-year loans and 4.9% for mortgage loans over 20 years.
[3]/ Results include reinvested earnings and capitalizations.

BOX IV.1
STABILITY OF BANK FUNDING

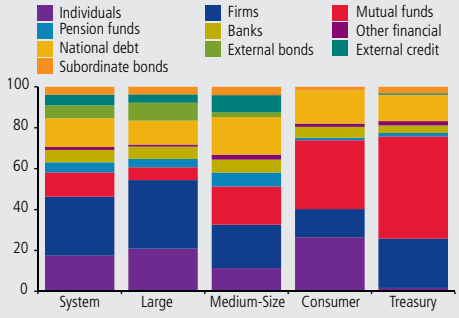
This box contributes to measuring the risks associated with the structure of bank funding. This is achieved by calculating the value at risk (VaR) for each of the funding sources, as well as analyzing the recent dynamics of exposure and risk associated with the most important sources for medium-sized banks.

Funding structure

By nature, banks have high leverage levels (liabilities/assets). The capital-to-assets ratio is approximately 8% for the Chilean banking system, which is in line with developed countries such as the United States (11.7%), Spain (7.2%) and Japan (5.5%)[1/].

Although the system's funding is mainly based on deposits, which represent over 70% of liabilities, composition varies by type of bank (figure IV.12). Large banks have a higher share of external bonds, while medium-sized, consumer and treasury banks are more concentrated in national debt securities and mutual fund deposits.

FIGURE IV.12
Composition of liabilities by type of bank (1)
(percent in February 2015) (2)



(1) Type of bank according to Jara and Oda (2014).
(2) Excluding other deposits, other financial obligations, derivatives, taxes, provisions, bank current accounts, credit with local banks, Central Bank liabilities and other liabilities.

Source: Central Bank of Chile, based on data from SBIF, SVS and DCV.

In the medium-sized banking segment, which accounts for 31% of system assets, the mutual funds and pension funds provide 26% of the banks' funding.

Consumer and treasury banks, in turn, are also highly dependent on mutual fund deposits. However, together they account for less than 6% of system assets (1.7 and 4.0%, respectively). Moreover, the banks in this segment have a high level of capitalization (an equity-to-assets ratio of 15%, on average, in February) relative to the rest of the system (8%, on average).

Large banks, which represent around 63% of system assets, have a more diversified funding matrix. This gives them a higher capacity to substitute their funding sources if necessary.

Risk levels

The risk of the different funding sources is quantified by the VaR of the monthly changes in the stock of each source[2/].

At the system level, the VaR analysis (table IV.3, panel A) confirms the stability of retail funding. At the same time, it highlights the high degree of risk associated with the pension funds' time deposits.

TABLE IV.3
Risk indicators by type of funding and size of banks (Jan.09 - Dec.14)
(percent)

	Panel A Value at risk			Panel B Exposure (1)			Panel C Impact (2)		
	Syst.	Large	Med.	Syst.	Large	Med.	Syst.	Large	Med.
Current accounts									
Individuals	2.7	2.9	3.3	5.1	6.3	2.5	0.1	0.2	0.1
Firms	4.7	6.2	10.2	13.9	17.8	7.6	0.7	1.1	0.8
Time deposits									
Individuals	2.3	6.9	17.2	12.0	14.1	6.4	0.3	1.0	1.1
Nonfinancial firms	4.1	9.5	11.9	15.8	16.3	15.5	0.6	1.5	1.8
Mutual funds	5.7	13.5	14.5	11.9	6.0	21.2	0.7	0.8	3.1
Pension funds	11.3	18.0	33.4	5.2	4.8	5.5	0.6	0.9	1.8
Banks	7.0	11.5	27.7	5.6	5.9	5.3	0.4	0.7	1.5
Other financial	7.7	21.2	31.3	1.4	0.9	1.9	0.1	0.2	0.6
Liabilities									
External credit	6.5	13.2	10.7	5.6	4.5	13.0	0.4	0.6	1.4
Debt instruments									
External bonds	5.5	4.6	5.7	6.0	8.1	1.3	0.3	0.4	0.1
Local debt	2.1	3.8	1.6	13.5	11.0	16.0	0.3	0.4	0.3
Subordinate bonds	0.4	1.3	1.3	3.8	3.8	3.8	0.0	0.1	0.0
Total funds	1.1	3.0	4.4	100	100	100	1.1	3.0	4.4

(1) Percent of total funds. Excluding bank current accounts (0.03%), credit with local banks (0.3%) and Central Bank liabilities (0.03%). Data as of December 2014.
(2) Impact is the multiplication of the VaR (panel A) by exposure (panel B).

Source: Central Bank of Chile, based on data from SBIF, SVS and DCV.

[1/] See Financial Soundness Indicators (IMF, 2015).

[2/] The analysis considers a critical value of 10%.

By banking segment, the analysis shows that the medium-sized banks have a higher level of risk than the large banks in almost all types of funding sources.

Mutual and pension fund deposits in medium-sized banks

As mentioned in previous FSRs, medium-sized banks are highly exposed to mutual funds (MFs) and pension funds (PFs) through their time deposits (table IV.3, panel B). These funding sources also present high levels of risk (VaR) for the same group of banks.

This combination of factors—exposure and risk—can be used to quantify the potential impact of a reversal of flows from a given funding source on the liabilities of each group of banks (table IV.3, panel C). This exercise shows that funding from MF time deposits represents a significant funding impact for the medium-sized banking segment. In addition, the impact associated with PF time deposits is higher than one would expect based solely on exposure, due to their high VaR.

Conclusions

The concentration of bank funding carries risks. A correct evaluation of these risks requires measuring the volatility of the different forms of funding. In this box, the VaR methodology is used to quantify this dimension. The results show that there are significant variations by funding source and banking segment. Some funding sources, such as time deposits held by the pension funds, carry a higher funding risk than would be deduced solely from the banks' exposure to these agents.

Given the results reported here on the funding risks faced by medium-sized banks, it would be advisable for this segment to diversify its funding sources, as suggested in earlier FSRs.

V. FINANCIAL REGULATION

This chapter reviews the most important issues in the debate on financial regulation at the local and international levels in the first half [1]/.

NATIONAL REGULATION

New liquidity regulations for the banking system

On 22 January 2015, the Central Bank of Chile modified its regulations on bank liquidity risk management, issuing a new Chapter III.B.2.1 of the Compendium of Financial Regulations (CFR) following a six-month period of public consultation held in 2014. The new regulations will enter into effect on 1 August 2015. As outlined in the FSR for the first half of 2014, the new regulations have the following general objectives: (1) to strengthen liquidity risk management policies in the banking sector; (2) to increase the quantity and quality of information available to the supervisor, incorporating the Basel III quantitative measures as monitoring tools without imposing a regulatory limit; and (3) to improve the current regulatory requirements with regard to maturity mismatches. For more details on the new regulations, see chapter V of the aforementioned FSR.

In this half, the SBIF has advanced on the implementation of the new CFR chapter, publishing for consultation a proposed chapter of its Updated Compilation of Regulations (RAN) that operationalizes the Central Bank regulations. The period of public comment ended on 10 May 2015. Complementarily, the SBIF proposed a draft of the new "liquidity situation" file for the Information Systems Manual, which will channel the information on maturity mismatches; the period of public consultation ended on 27 April 2015.

Changes to the regulations on bank credit risk provisions

Following a period of public consultation, the SBIF issued the definitive version of the regulatory changes on the calculation of credit risk provisions. The objective of the new regulations is to ensure that the provisions constituted by the banks adequately represent the credit risk present in their loan portfolios, as well as to provide guidelines that promote the development of best practices in risk assessment and management.

[1]/ Information on the volumes of operations processed by the payment systems can be found in the statistical appendix.

The changes affect the following areas: (i) provisions for mortgage loans, establishing standards for computing the minimum provisions for this portfolio, which explicitly consider delinquency and the loan-to-value ratio of the mortgages; (ii) guarantees for other portfolios, specifying the conditions under which these can be used to mitigate risk (that is, subtracted from the loan loss provision balance), including specifications on the substitution of the debtor's credit quality in the case of guarantees and sureties, the factors for determining the value of the real credit guarantees and the possibility of the deterioration of physical goods, with the corresponding drop in value, when the goods are delivered in leasing; and (iii) the substitution of the issuer by the debtor in factoring operations, adding the factoring category, which was previously implicit in other categories, and specifying the conditions under which the operation considers the seller of the invoice (in general, when payment responsibility is maintained) or the debtor of the invoice (payment responsibility is transferred).

These regulations will enter into effect on 1 January 2016.

Regulation on the availability of cash in automatic teller machines

To establish minimum operating standards, the SBIF issued a regulation defining a measure of the service availability of the network of automatic teller machines (ATMs), which cannot be below 95%. The SBIF further established that the board of directors of each bank will be responsible for providing the guidelines to ensure the implementation of the new service standards. Thus, the banks must adopt the necessary measures to ensure compliance in the face of a broad set of circumstances, with the sole exceptions of acts of vandalism that render the ATM inoperative; events outside the control of bank management, such as remodeling or closure of the premises where the ATM is located; and natural disasters or other unforeseeable events.

This regulation was published for public comment in December 2014, and the definitive norm was published in March. Starting in April, the banks had to start monitoring the minimum service availability index under the conditions established in the regulation and to submit the information to the SBIF. The full application of the provisions will begin on 1 July.

Regulations on life annuities

Following a period of public consultation, in January the SVS issued two regulations that introduce changes in the discount rate used for the constitution of technical reserves associated with life annuities and in the asset adequacy test that must be applied by life insurance companies.

General Rule (NCG) 374 modified the discount rate used for the constitution of technical reserves associated with life annuities, replacing the market rate, calculated on the basis of transactions involving state securities with more than eight years to maturity, with a discount rate vector (DRV). The DRV is obtained by summing 80% of the spread on AAA-rated financial instruments and the zero rate structure of the last three months, calculated on the basis of the average of transactions involving government securities at different maturities.

In addition, NCG 373 replaced the 3% discount rate used in the asset adequacy test with the same DRV.

The implementation of the new rules will be obligatory as of 1 June 2015, but it can be applied voluntarily for policies that go into effect starting on 1 March 2015.

Superintendence of Securities and Insurance (SVS) published for public consultation the norms governing life insurance with savings

In April, the SVS published for public comment a new regulatory framework that aims to make the sale of "life insurance with savings" more transparent and to promote informed buying decisions on the part of insurance customers.

The regulations, which are currently open for comment, primarily establish the responsibility for providing advisory services for insurance customers and insurance brokers, conditions on related publicity and requirements on the provision of information to insurance customers both prior to contracting and over the life of the contract. The regulations also include the specification that the insurer cannot impose charges on the insured for withdrawing the full amount saved in the policy and indexation of returns to a benchmark asset or interest rate.

Report by the Working Group on Strengthening the Institutional Framework of Capital Markets

This working group is made up of capital market experts commissioned by the Finance Ministry to analyze the draft bill creating the Securities and Insurance Commission (SIC) and to determine which aspects of the bill need to be reinforced or modified to advance toward an efficient and effective institutional framework for capital market regulation and supervision. The group was also tasked with reviewing other aspects of the legislation to ensure an adequate development and functioning of the capital market in accordance with high standards of transparency and consumer and investor protection. The working group presented its report in April.

In 2013, the executive branch presented a draft bill to transform the current SVS into a commission directed by a collegiate body. In this context, the recommendations contained in the report address different aspects of the possible future functioning of the SIC, such as its corporate governance, employment structure, funding, regulatory authority and sanctioning procedures. The report also contains recommendations on the development and functioning of the securities and insurance markets, the stock markets and the regulatory perimeter of the SIC.

Innovations in the national financial system

At the international level, technological developments have facilitated the emergence of a number of innovative business models. These have enabled the facilitation and massification of financial operations such as money lending and securities trading. Thus, in recent years platforms have been developed

that allow natural persons to offer credit to natural or legal persons that need it (crowdfunding) or to directly access and carry out investments in different financial instruments. The development of such innovations in the national financial system is still incipient. Despite their benefits, these innovations can have effects that are not necessarily neutral from the regulator's perspective (box V.1).

Other important documents

Tables V.1 and V.2 present the main regulations published and opened for public comment, respectively.

TABLE V.1
Main regulations issued in the first half of 2015

Date	Agency	Regulation	Material and objectives
30-12-2014	SBIF	CIRCULAR.3.573 TO BANKS REPLACES CHAPTER B-1 AND MODIFIES CHAPTER B-2, OF THE COMPENDIUM OF ACCOUNTING REGULATIONS	Establishes a standard method for determining the minimum provisions on residential mortgage loans, which explicitly takes into account delinquency and the loan-to-value ratio of the mortgage.
13-01-2015	SVS	NCG 318 AND NCG 209	Life annuities: NCG 318 introduces changes in the discount rates used for the constitution of technical reserves associated with life annuities, while NCG 209 replaces the discount rate used in the asset adequacy test that must be performed by companies with life annuity liabilities, as part of the solvency requirements that are applied to them.
21-01-2015	SVS	NCG 376	Issues a series of instructions on the investment scheme applicable to mutual funds and investment funds.
09-03-2015	SVS	NCG 380	Raises the standards regulating the broker-client relationship through the application of more stringent requirements in the contractual relationship between the two; transparency in stock exchange operations; detection and resolution of conflicts of interest, and the establishment of a registry with supporting documentation, among other provisions.
17-03-2015	SBIF	MODIFICATION OF RAN CHAPTER 1-7	Defines a measure of the availability of service in the network of ATMs, in order to establish minimum standards.
14-05-2015	SBIF	CIRCULAR.3.582 TO BANKS MODIFICATION OF RAN CHAPTER 1-13	Introduces adjustments in the methodology for evaluating and classifying management, carried out by the Superintendence, in particular to update information on the evaluations to classify banks.

TABLE V.2
Main regulations published for public comment in the first half of 2015

Date	Agency	Regulation	Material and objectives
10-02-2015	SBIF	NEW CHAPTER REGULATIONS ON LIQUIDITY POSITION AND MANAGEMENT	Adjusts the regulations on the measurement and management of banks' liquidity position, in accordance with international best practices and with the provisions of Chapter III.B.2.1 of the Central Bank of Chile's Compendium of Financial Regulations.
22-01-2015	SBIF, SVS	MODIFICATION TO SVS NCG 30, SBIF CIRCULAR TO BANKS 3530, COOPERATIVES 147 AND AFFILIATES 62	Adjusts the regulations on the measurement and management of banks' liquidity position, in accordance with international best practices and with the provisions of Chapter III.B.2.1 of the Central Bank of Chile's Compendium of Financial Regulations.
02-03-2015	SVS	DRAFT LEGISLATION ON "STRENGTHENING THE CORPORATE GOVERNANCE STANDARDS OF PUBLICLY TRADED CORPORATIONS" INCORPORATING IMPROVEMENTS TO NCG 341 AND ADJUSTMENTS TO NCG 30	Improves the information that local publicly traded corporations report in the area of corporate governance and incorporates the diffusion of practices related to social responsibility and sustainable development.
09-04-2015	SVS	NEW REGULATIONS ON THE SALE OF LIFE INSURANCE WITH SAVINGS	Increases the transparency in the sale of these insurance plans and aims to promote informed buying decisions by insurance customers. Reinforces the regulation on issues such as the clarity of the text of the policy, the publicity and information provided to insurance customers and the responsibility of providing advisory services to insurance customers and brokers. The provisions include the stipulation that the insurer cannot impose charges on the withdrawal of the amount saved under the policy.

INTERNATIONAL REGULATION

Creation of a new Payment Systems Regulator in the United Kingdom

In December 2013, the financial services law in the United Kingdom[2]/ established the creation of a Payment Systems Regulator (PSR). This entity began operating in April 2015. It is a subsidiary of the Financial Conduct Authority, but it operates independently and has its own statutes and corporate governance.

The objective of this new regulatory institution is to promote competition and innovation in the country's payment systems[3]/ and to ensure that they are developed and operated in the best interest of users. The declared objective of the U.K. authorities is to have world-class payment systems, given their vital role for the financial system.

This agency will exercise its authority over the payment systems designated by the U.K. Treasury. To date, the regulated entities include large-value interbank payment systems, check and ATM clearing houses, the interbank system for processing debits associated with wage and bill payments and the systems operated by some international credit card brands[4]/.

This initiative confirms the importance of all payment systems, not just large-value systems, in the financial lives of citizens and the protection of their rights. A large share of the problems reported to consumer protection agencies involve negative experiences associated with the functioning of different means of retail payment, such as the charging of commissions on stored-value cards or the processing of minimum payments on credit cards.

Directive for the restructuring and resolution of credit entities and investment services companies in the European Union

The Bank Recovery and Resolution Directive (BRRD) entered into force in the European Union in January, to establish a uniform regulatory framework for the resolution of large banks and investment companies applicable to all member countries, thereby harmonizing and improving the tools for facing banking crises in the European Union. The declared objective is to ensure that shareholders and creditors—and not taxpayers—shoulder the costs and losses of a failed bank.

[2]/ The Financial Services (Banking Reform) Act of 2013.

[3]/ The payment systems subject to this regulatory entity will be chosen by the HM Treasury of the United Kingdom. In particular, the regulator will oversee the largest, most important payment systems, whose failure or disruption would have serious consequences for users.

[4]/ BacsC&C, CHAPS, Faster Payments Scheme, LINK, Northern Ireland Cheque Clearing, Mastercard and Visa Europe (Visa).

Among the measures included in the directive, the BRRD grants the authorities the power to intervene in bank operations in order to prevent insolvency. In the event of intervention, the authorities have the tools for restructuring the institution and allocating losses to shareholders and creditors according to a clearly defined hierarchy. They can also implement a plan for the resolution of failed banks so as to preserve their most critical functions and avoid having taxpayers finance a rescue. The BRRD also addresses cooperation agreements that must be in place between the authorities of a bank's home country and the authorities of the country in which it operates, and it assigns a coordinating and mediating role to the European Banking Authority in case of disagreements. Finally, a Single Resolution Fund will be created in 2016 for countries whose currency is the euro.

This new directive was used for the first time in March for the resolution of a bank in Austria[5]/.

Other important documents

Table V.3 presents the main documents published on regulatory issues at the international level.

TABLE V.3
List of documents reviewed

Document	Title	Organization	Solvency / Liquidity	Infrastructure / Transparency	SIFIs	Resolution	Risk mgmt. / Governance	Supervision	Other
1/	Capital floors: the design of a framework based on standardized approaches - consultative document	BIS	*						
2/	Revisions to the standardized approach for credit risk - consultative document	BIS					*		
3/	Revised Pillar 3 disclosure requirements	BIS		*					
4/	Basel III Monitoring Report	BIS	*				*	*	
5/	Margin requirements for non-centrally cleared derivatives	BIS		*					
6/	Public quantitative disclosure standards for central counterparties	BIS		*			*		
7/	Central bank operating frameworks and collateral markets	BIS							*
8/	Eighth progress report on adoption of the Basel regulatory framework	BIS	*	*	*		*	*	
9/	Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions - Consultative document	FSB / IOSCO			*				
10/	Abbreviated terms of reference for second thematic peer review on resolution regimes	FSB				*			
11/	Financial integration in Europe, 2015 - Chapter 2 Further progress in the implementation	ECB	*			*		*	
12/	Virtual currency schemes - a further analysis	ECB							*
13/	Strategies for Improving the U.S. Payment System	Fed		*					

Source: Website of each institution.

[5]/ Heta Asset Resolution AG, the "bad bank" created after the insolvency of Hypo Alde Adria.

BOX V.1
INNOVATIONS IN THE INTERNATIONAL FINANCIAL SYSTEM AND THEIR SITUATION IN CHILE

This box describes two types of innovation that have emerged in both the international and local financial systems: platforms for online trading and crowdfunding. In each case, the analysis addresses key issues from the perspective of financial regulation.

A. Platforms for online securities trading

In countries such as Australia, the United Kingdom and the United States, there are many different platforms for trading securities online. These platforms facilitate retail investors' access to a wide range of instruments, such as stocks, bonds, commodities, currencies, ETFs and various types of derivatives. This set of instruments also includes the so-called contracts for differences (CFD)[1/], although their transaction via these platforms is not authorized in all markets.

Situation in Chile

This type of platform is also available in Chile. The current legislation does not establish restrictions on unsupervised corporations operating platforms for trading financial instruments that are not classified as publicly issued securities under the Securities Market Law. This includes CDFs, in accordance with a 2012 ruling by the SVS. However, there are other regulatory elements that are applicable to the trading of these instruments. For example, the operation of these platforms must comply with the Central Bank's foreign exchange regulations. Thus, if none of the entities involved is authorized to operate in the Formal Exchange Market (FEM), then in the event that the transactions involve investment in foreign instruments, the investors must comply with the regulations specified in Chapter XII of the Compendium of Foreign Exchange Regulations. This implies settling the associated payments through an authorized FEM entity and, if the transaction exceeds the applicable thresholds established in the regulations, to report the investment to the Central Bank of Chile.

In the case of derivatives traded on these platforms, such as CFDs, if either of the counterparties is domiciled or resident overseas, they must comply with the provisions of Chapter IX of the Compendium of Foreign Exchange Regulations. The provisions contained therein are similar to those mentioned above, for derivatives with underlying assets that are subject to the provisions. For reference, the information reported by entities authorized to operate in the FEM represents approximately 96% of the transactions in the Chilean foreign exchange market (Villena and Salinas, 2014).

Similarly, eventual CFD operations carried out by banks would be subject to the General Banking Law and, therefore, to the financial regulations issued by the Central Bank on derivative instruments, in addition to the applicable specialized supervision by the SBIF. Thus, Chapter III.D.1 of the Compendium of Financial Regulations establishes that banks cannot carry out derivative operations using underlying assets other than interest rates and currencies, authorized indexation units and certain fixed-income instruments; it also establishes requirements on contract formalization, which in practice would prevent banks from taking part in this type of operation, especially if they involve stocks or stock price indices.

These transactions would also be subject to the consumer financial protection legislation passed in 2012. Independently of where the trading platform is installed, the conditions on the supply or provision of services must be clearly defined, and they must publicly state information such as the ownership and holding of the instruments, their possible custody, the use of the invested resources and how the accounts will be settled.

Finally, while the operation of these platforms does not represent an obvious risk for financial stability, and over and above the analysis of the different ways to regulate and supervise cross-country access to and use of this type of platform or the instruments that are traded on them, it is important for investors to be aware of the risks involved in these operations. This implies understanding not only on the risks inherent in a leveraged investment in volatile instruments, but also on the associated legal risks.

[1/] A contract for differences is an agreement through which the participants exchange the difference in the value of an underlying asset between the start date of the contract and the closing date. If the value increases, the seller pays the buyer the difference. If the value decreases, the buyer pays the seller the difference. The underlying assets can be currencies, commodity prices, stock indices, stock prices, interest rates and so forth.

B. Development of crowdfunding initiatives

Crowdfunding is a form of participative financing that has grown strongly in recent years at the international level. Essentially, this tool, which has been boosted by the use of the Internet, allows the supply of funding for projects spearheaded by legal or natural persons. The benefits include an increase in funding alternatives and, for some people or businesses, the provision of cheaper financing than traditional sources (Zhang and Liu, 2012).

Depending on the type of payback received by the person or entity that provides the resources, crowdfunding can be classified into different modalities. Four of the most common are the following: (i) donations, where there is no expectation of compensation in exchange for the amount given; (ii) rewards, where the donor obtains some type of good, service or public recognition rather than financial compensation; (iii) equity or royalty, where the compensation is proportional to the contribution and contingent on the success of the project being financed; and (iv) lending, where the person or business that receives the financing formally contracts a debt with the donor. The latter two modalities are the most relevant from the perspective of financial regulation, and they are analogous to activities that are normally subject to some type of regulation.

Worldwide, there are over 1,200 web platforms for carrying out some type of crowdfunding. The amounts involved have grown continuously, for all modalities and on all the continents. It is currently estimated that the accumulated stock of funds raised exceeds US$25 billion, most of which is under the lending modality[2]/. Some of the better-known platforms tend to account for the biggest share of operations[3]/.

In countries where crowdfunding is more developed (United States, United Kingdom, France, Italy and Spain), some aspects are regulated, especially in the case of lending and equity crowdfunding. In general terms, regulation aims to protect the investor, to promote an adequate level of transparency about the project that is seeking financing and to mitigate potential conflicts of interest of the platform managers. This regulation tends to fall under the authority of securities regulators.

Situation in Chile

At the local level, there are digital platforms that perform this type of activity. According to the available information, over the last four years, these platforms have been involved in financing projects totaling nearly Ch$32.4 billion, which is strongly concentrated in one platform. Although some platforms have received state financing in the form of seed capital, and the use of these platforms by export firms has been promoted at the government level, there are doubts about possible conflicts between some of these business model and the General Banking Law.

The current legal framework establishes that certain activities can only be performed by banks or other entities authorized by law, and it is the supervisor's role to ensure that the legal framework is respected. If the operation of crowdfunding platforms necessarily involves taking deposits from the public or the intermediation of money, the legal framework imposes a restriction on the development of these initiatives. If that is not the case, these initiatives remain outside the regulatory perimeter. Neither of these situations is desirable.

While crowdfunding can provide new sources of financing and potentially increase competition in the supply of credit, there are reasonable concerns about the potential risks that this type of platform could involve. For example, there could be doubts about whether the investors are adequately informed about the level of risk they are assuming; who verifies whether the information provided by the platform is truthful and how they do so; or whether there are adequate safeguards against the operational risks of fraud and money laundering. These are important issues related to confidence and public trust, which have led to the regulation of this type of platform in other countries.

Financial innovation usually presents challenges for the regulatory framework. In the case of crowdfunding, it could be necessary to establish a regulatory response that adequately reconciles the potential risks and benefits and that provides certainty to all the potential actors involved. In that sense, some of the concerns of regulators in other jurisdictions, such as their policy response, could be of interest to Chile.

[2]/ Abarca (2015).
[3]/ For example, Prosper and Lending Club.

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GLOSSARY

Acid liquidity: The acid-test ratio, or the ratio between current assets net of inventory and current liabilities.

Asset-swap spread: The difference between the yield of a bond and the Libor curve, expressed in basis points.

Average interbank interest rate swap (*promedio cámara*): Derivatives contract between two parties, who carry out an exchange of flows at future dates, between a fixed rate established when the contract is written and a variable rate (fixed-for-floating swap). The variable rate corresponds to the average interest rate in the interbank clearing house (*cámara*), which in turn is derived from the average clearing house index.

Basel III: A set of new capital and liquidity requirements for the banking industry, developed by the BIS with the aim of substantially strengthening the Basel II capital framework. The objectives include the following: raise the quality, consistency and transparency of the capital base; strengthen risk hedging; introduce leverage limits; promote a countercyclical capital framework; and introduce a global liquidity standard. These requirements will be implemented gradually through 2019.

Bid-ask spread: The difference between the minimum sale price (the bid price) and the maximum purchase price (the ask price) of a given asset.

Bund: Sovereign bond issued by the government of Germany.

CAR: Capital adequacy ratio. A measure of a bank's financial soundness, measured as the ratio of effective equity to credit-risk-weighted assets.

Central counterparty: An intermediary that acts as the buyer for all sellers and as the seller for all buyers in a given market.

Certificate of deposit: A certificate issued by a bank, in recognition of having received a deposit for a specified period and at a specified interest rate. Essentially, it is a type of negotiable fixed-term deposit (documented by the certificate).

Conventional maximum interest rate: The upper limit on lending interest rates, which is 50% over the current interest rate. It is set by the SBIF, and exceeding this limit is sanctioned by Law 18,010.

Core capital: Paid-in capital plus bank reserves and period earnings, net of provisions for the distribution of dividends.

Countercyclical provisions: Bank provisions constituted when the macroeconomic scenario is favorable and released when the environment deteriorates, thereby promoting a more stable evolution of provisions across the cycle.

Credit risk: The possibility that a bank borrower or counterparty will fail to meet its contractual obligation, whether in interest or capital.

Cross-currency swap: Derivatives contract between two parties, who agree to periodically exchange principal and interest payments between two different currencies, on a benchmark amount and for a specified period.

Currency mismatch: The difference between foreign currency liabilities and foreign currency assets, less the net position in derivatives (the difference between buy and sell positions in derivatives contracts). An alternative measure is calculated as the difference between external debt and the net derivatives position, scaled by exports minus imports.

Currency risk: Exposure to losses caused by adverse changes in the value of the foreign currencies in which the instruments, contracts and other transactions recorded on the balance sheet are denominated.

Default of 90 days or more: The total amount of a loan that is past due by 90 days or longer, even if only some of the monthly payments are past due.

Delinquent loans: Loans that are past due by more than 30 days from the maturity date. The full amount of the loan is considered delinquent.

Deposit insurance: Bank funds—common to a given financial system—that back retail deposits (usually from private individuals).

DTI: Debt-to-income ratio. Measures the debt held by households with different financial and nonfinancial entities as a percentage of their disposable income.

Effective equity: The sum of Tier 1 and Tier 2 capital. The latter mainly includes subordinated bonds and additional provisions.

EMBI (Emerging Market Bond Index) spread: The most commonly used measure of an economy's risk. The difference between the return on a country's sovereign debt in dollars issued in international markets and U.S. Treasury bonds (see sovereign spread).

Financial debt: Debt that pays interest, measured as bank debt, plus public liabilities (bonds and commercial papers).

Financial indebtedness: Ratio of financial indebtedness, measured as financial debt/(Equity plus minority interest).

FIR: Financial burden-to-income ratio. Measures the payments that households must make to fulfill their consumer and mortgage loan commitments, as a percentage of their disposable income.

Gross capital inflows: Net purchases of domestic assets by nonresidents.

High-yield bonds: bonds with a high risk that the issuer will not pay the interest and principal, which therefore offer a high return rate.

Indexation margin: Difference between the indexation adjustments earned and paid by banks, measured relative to total bank assets.

Interest coverage ratio: A measure of repayment capacity, defined as the ratio of EBITDA to financial expense.

Interest margin: Difference between the interest earned and paid by banks, measured relative to total bank assets.

Interest rate risk: Exposure to losses caused by adverse changes in interest rates, which affect the value of the instruments, contracts and other transactions recorded on the balance sheet.

Leverage: Measured as the banks' debt over equity; used as a complementary tool to capital adequacy requirements.

Liquidity coverage ratio (LCR): A measure designed to ensure that a bank has sufficient high-quality liquid assets to survive a 30-day liquidity stress scenario. Defined as the ratio of high-quality liquid assets to total net cash outflows for the 30-day stress scenario.

Liquidity risk: The risk that a counterparty (or participant in the payments system) will not be able to meet its obligations when they come due, although

it may be able to do so in the future. Liquidity risk does not necessarily imply that the counterparty is insolvent.

Market risk exposure (MRE): Exposure to interest rate risk on the trading book and to currency risk on the balance sheet.

Market risk: The potential loss in value of the net positions held by a financial entity, as the result of adverse changes in market prices.

MOVE: Index of the normalized implied volatility on one-month U.S. Treasury options, weighted on the 2-, 5-, 10- and 30- year contracts.

Net interest margin: Difference between interests and indexation adjustments earned and paid by banks, measured relative to total bank assets.

Net stable funding ratio (NSFR): A measure designed to complement the LCR by ensuring an asset and liability profile that is sustainable in the long term (one year). Defined as the ratio of the amount of available stable funding to the amount of required stable funding, equal to the weighted sum of liabilities and assets, respectively.

Nonperforming loans: Bank loans, or a fraction thereof, that are past due by up to 90 days from the maturity date. On loans with fixed monthly payments, only the amount of the past-due payment is considered, although the full amount of the loan could be transferred to the nonperforming portfolio if acceleration clauses are enforced.

NPL ratio: Nonperforming loans ratio. A measure of credit risk, calculated as the ratio between nonperforming loans and total loans.

Office absorption: The change in the occupied square meters of office space between one period and the next.

Office production: The usable surface area of office space in new buildings that passed the final municipal inspection in the period.

Operating income: A bank's earnings, including the interest margin, indexation margin, commissions, foreign exchange operations, financial operations, recovery of write-offs and other operating income.

Primary dealers: firms that buy sovereign bonds directly from the government with the intention of reselling them to other entities, thereby acting as a market maker for sovereign bonds.

Prime-swap spread: The difference between the prime deposit rate and the average interbank swap rate. Used as a benchmark for analyzing liquidity conditions in the banking sector.

Provisions coverage ratio: Measure of a bank's provisions relative to nonperforming loans.

Repo: Repurchase (reverse repurchase) agreement. A sale (purchase) collateralized with an agreement or commitment to repurchase (sell back) the security for a given price at a given time.

Repricing: A component of interest rate risk, corresponding to the exposure to losses caused by rolling over of assets and liabilities with different maturities under different financial conditions.

Residual short-term external debt: External debt coming due within 12 months of a given date (that is, short-term external debt plus the current portion of long-term external debt).

Revolving credit: Under this loan facility, which is generally associated with lines of credit and credit cards, a borrower can repay less than the total amount borrowed in the "minimum payment" period. The balance generates a new debt (revolving loan), to which the effective interest rate for the period is applied and added to the loan balance.

Risk-weighted assets: Bank assets weighted on the basis of five risk categories, set forth in Article 67 of the General Banking Law. The ratio of capital to risk-weighted assets serves as a measure of capital adequacy (known as the Basel ratio), which is internationally accepted as a measure of bank solvency.

ROA: Return on assets. Measured as the ratio of earnings after taxes, amortizations and extraordinary items to total assets.

ROE: Return on equity. Measured as the ratio of earnings after taxes, amortizations and extraordinary items to shareholders' equity plus minority interest. It is the shareholders' return.

Senior bonds: Ordinary long-term bonds issued by banks.

Single investment account: One of the products offered by the Chilean life insurance companies, which corresponds to an insurance plan that combines protection and saving. Categorized as private non-retirement savings.

Sovereign spread: The difference between the interest rate on a U.S. Treasury bond and the interest rate on debt instruments issued in local or foreign currency by the government of a given country.

Subordinate bonds: Long-term bonds issued by banks, with an average maturity of not less than five years and with no prepayment clauses. Because subordinate bonds are repaid after the claims of other creditors are settled in the case of bank liquidation, a share of these bonds is computed as effective equity.

Substandard loans: Individually evaluated loans to firms with a significant worsening of their repayment capacity and little cushion for meeting their financial liabilities in the short term. The loans in this portfolio are more than 30 days delinquent.

Syndicated loans: Financing provided by a group of banks or financial institutions, under a single loan contract, with the goal of diversifying the risks associated with a very large loan.

Tier 1 capital: Core capital plus declared reserves or retained earnings. May also include non-redeemable non-cumulative preferred stock.

Tier 2 capital: Also called supplementary capital. Bank equity exceeding Tier 1 capital. Includes subordinated bonds, up to 50% of Tier 1 capital, and general provisions up to 1.25% of risk-weighted assets.

UIR: Unpaid installment ratio. A measure of credit risk calculated as the ratio of loan installments that are past due by over 90 days to the total debt. For commercial loans to firms, the delinquent installments are past due by up to three years; for commercial loans to people, up to one year.

VIX: Stock volatility index, based on S&P 500 index options contracts (at one month).

VXY: Currency volatility index, based on foreign exchange forward options, weighted by turnover.

ABBREVIATIONS

Achef: *Asociación Chilena de Empresas de Factoring* (Association of Chilean Factoring Firms).
AFP: *Administradoras de Fondos de Pensiones* (Pension fund administrators).
ASW: Asset-swap spread.
BCS: *Bolsa de Comercio de Santiago* (Santiago Stock Exchange).
BCU: Central Bank bonds denominated in UFs.
BIS: Bank for International Settlements.
BLS: Bank Lending Survey.
BOE: Bank of England.
CDS: Credit default swap.
CGFS: Committee on the Global Financial System.
CMR: Conventional maximum rate.
CSD: Central Securities Depository.
ECB: European Central Bank.
EMBI: Emerging Market Bond Index.
ESSF: Economic and Social Stabilization Fund.
ETF: Exchange-traded fund.
FDI: Foreign direct investment.
FFR: Federal funds rate (U.S. Federal Reserve policy rate).
FI: Fixed income.
FOMC: Federal Open Market Committee.
FSI: Financial soundness indicators.
FSR: Financial Stability Report.
FTD: Fixed-term deposit.
GBL: General Banking Law.
GDN: Global depositary notes.
IPSA: *Índice de Precios Selectivo de Acciones* (Selective Stock Price Index).
IR: International reserves.
MSCI: Morgan Stanley Capital International.
NIIP: Net international investment position.
OFR: Office of Financial Research.
PF: Pension funds.
PRF: Pension Reserve Fund.
RSTED: Residual short-term external debt.
SBIF: *Superintendencia de Bancos e Instituciones Financieras* (Superintendence of Banks and Financial Institutions).
SII: *Servicio de Impuestos Internos* (Internal Revenue Service).
SP: *Superintendencia de Pensiones* (Superintendence of Pensions).
SuSeSo: *Superintendencia de Seguridad Social* (Superintendence of Social Security).
SVS: *Superintendencia de Valores y Seguros* (Superintendence of Securities and Insurance).
UF: *Unidad de Fomento*, an inflation-indexed unit of account.
UIR: Unpaid installment ratio.
VI: Variable income.
VIX: Volatility index.

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