FINANCIAL STABILITY REPORT

Second Half 2015

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*/ This is a translation of a document originally written in Spanish. In case of discrepancy or difference in interpretation, the Spanish original prevails. Both versions are available at www.bcentral.cl.

CONTENTS*/

*/ The cutoff date for this *Financial Stability Report* was 30 November 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 foreign exchange 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

The external scenario relevant to Chile deteriorated during the second half of the year. Global growth and prospects were reduced, particularly for emerging economies, which have also been affected by lower commodity prices. In particular, China is slowing down and its stock markets are seeing major corrections that propagate to stock markets elsewhere. In Latin America, the growth outlook for 2016 has been revised downwards across the board, while inflationary pressures have narrowed the space for monetary policy making in the region. The Brazilian economy has recently suffered a sharp decline, which has triggered an abrupt depreciation of its currency, eroding the value of Chilean companies' investment in Brazil.

The U.S. has begun a process of monetary policy normalization, without major financial disruptions. After the Fed's announcement, the global financial markets experienced no significant turbulence. However, the recent interest rate hike marks the beginning of a normalization process that is expected to be gradual, and which en vez de whose consequences are yet to be seen. These may include a decompression of risk premiums, such as the term premiums of foreign interest rates, which could lead to exchange rate fluctuations and increased local long-term interest rates. According to the correlations observed in recent years, this pass-through would be substantial, yet less than proportionate to the adjustment of the external benchmark.

The divergence among developed countries' monetary policies has intensified. The normalization of the U.S. monetary policy contrasts with the monetary stimulus in place in the Eurozone, where short- and medium-term interest rates are at all-time lows. This divergence of policies has resulted in an overall appreciation of the dollar that has favored the decline of dollar-denominated commodity prices, while also affecting those emerging economies that have accumulated a large stock of external debt.

On the domestic front, short- and long-term interest rates are still low by historic standards. In this scenario, debt mutual fund volumes remain high, but might be reversed in the event of a sharp rise in long-term interest rates. This risk scenario couples with the reduced relative liquidity of the instruments that conform these portfolios.

The financial situation of local firms has not changed respect to the previous FSR, reflecting the greater fragility of the sector. The debt to GDP ratio, which has hovered near 114% since the end of 2014, rose to 121% in the third quarter of this year. Although a significant part of this increase

owes to valuation effects associated with the depreciation of the peso, the figure is high from a historic perspective. Moreover, the increase accumulated in the last seven years is high within the group of emerging countries. Although the financial indicators of firms that report to the SVS have not changed much since the last FSR, the leverage is high and the returns are low in a historic comparison. Several indicators suggest that the balance sheet exposure of firms to foreign exchange risk has remained low; however, the lower valuation of foreign investments has deteriorated the debt indicators of firms exposed to Brazil.

Home sales remain dynamic and prices are still on the rise, although at a lower pace in the recent past. Anticipated purchases due to the upcoming tax reform largely explain the greater dynamism of the sector's activity. Most sales correspond to dwellings whose construction is underway or are not built yet. The rise in housing prices has reflected in the dynamics of mortgage loans, which posted a real growth rate of around 10% mainly explained by the increase in loan average. It is worth noting that, although various credit indicators are stable (81% loan to value; 23% debt-to-income), an increase is observed in the share of households with more than one mortgage: from 20% to 25% in the last five years.

Vacant office space continues to grow, mainly due to lower absorption. The newly-built square meters available have generated an increase in the vacancy rate of class A and class B offices to more than 10%. At the same time, rent prices have dropped for both classes, a trend that is expected to continue in the coming months. As noted in the December 2014 FSR, life insurance companies have doubled their portfolios' exposure to the real-estate sector in the last ten years, reaching 16% of the total as of mid-2015.

Aggregate household indicators (i.e. debt and financial burden) have posted slight changes most recently. At June 2015, household debt equaled 62% of revenue, 80bp higher than at the end of 2014, maintaining its upward trend. Meanwhile, the financial burden dropped 14pb, closing at 14.7%. However, the latest Household Financial Survey showed an increase in the financial burden of upper-middle-income households compared to the 2011 figure.

Households' default indicators remain stable. However, the family compensation funds—which account for a small fraction of household debt (3.4%)—continue to increase their arrears. This situation, compounded by management problems, led to one of these institutions to default on its financial and social commitments, triggering intervention by its supervisor and calling for a restructuring process. These events led to an increase in the premiums of debt issued by these entities, but the effects on the rest of the financial system have been limited.

The lending activity of the banking system maintains limited growth, except for the mortgage portfolios. Growth in corporate and consumer loans remains slow. The deceleration of the commercial portfolio is consistent with the economic cycle, which coincides with the lower demand revealed by

the Bank Lending Survey in recent months. In the consumer-loan portfolio, it is worth mentioning the zero growth of the smaller amount segments, typically associated with lower-income borrowers; whereas in mortgage debt, the largest expansion comes from the segments of higher than US$180.000 loans partly explained by the dynamics of housing prices.

Banks' financial indicators reveal a weakening of the sector's strength. As of the third quarter of 2015, ROE decreased to 15%, largely explained by the reduction in net interest income. This is due to changes in portfolio composition from the higher-yield consumer and commercial segments to mortgage. Meanwhile, the capital adequacy ratio (CAR) continued to decline, to somewhat below 13% in August 2015, consolidating a fall of one percentage point in the last four years. This dynamic occurs in an international context where banks have tended to increase their capital levels in order to strengthen their capacity to respond to events of financial stress, in line with the new international capital regulations (Basel III).

Capital levels are sufficient to absorb the materialization of a severe stress scenario, with similar characteristics to the one examined in the last FSR. However, the reduced financial strength of the banking system affects the outcome, reinforcing the need for banks to maintain adequate levels of provisions and capital.

I. EXTERNAL ENVIRONMENT AND FINANCIAL RISKS

The external scenario relevant for Chile has deteriorated over the course of the second half of the year: world growth and the growth outlook have declined; commodity prices have fallen again; and the divergence of monetary policy in developed countries has intensified, further strengthening the dollar and increasing emerging market spreads. In addition, global financial markets have seen substantial volatility.

EVOLUTION OF THE BASELINE SCENARIO

The United States began normalizing its monetary policy, whereas the Eurozone extended the implementation of its monetary stimulus program.

At its December 2015 meeting, the U.S. Federal Reserve (the Fed) raised its policy rate to a range of 0.25–0.50%, in a unanimous decision that was expected by the markets. According to members of the Federal Open Market Committee (FOMC), the normalization process will be more gradual than signaled at the September meeting, although the outlook for the long-term rate has not changed (figure I.1). The decision was based on improvements in the labor market and the growth outlook. Going forward, the risks should be broadly unbiased, inflation should converge to the 2% target, and oil and import prices should normalize.

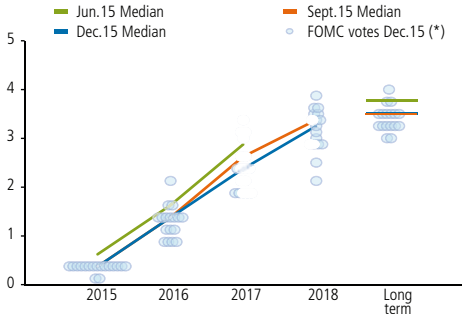
Given that the decision was expected, the immediate reaction of the markets was moderate, even though this was the first increase since 2007. The U.S. stock exchange rose on the day of the announcement, while long rates were adjusted downward (figure I.2). Emerging market spreads were mostly stable, with a few exceptions such as Brazil and Argentina where the changes were explained by isolated events.

In Europe, the ECB cut its deposit rate from –0.2 to –0.3% and announced that it would maintain its monthly purchase program of 60 million euros, with an extension through March 2017 (figure I.3).

Economic activity continued to slow in several countries in the region, especially Brazil.

Market growth forecasts for emerging economies in 2015 and 2016 have been adjusted steadily downward, especially for Latin America (figure I.4). The outlook for Brazil has deteriorated, reflecting some large macroeconomic

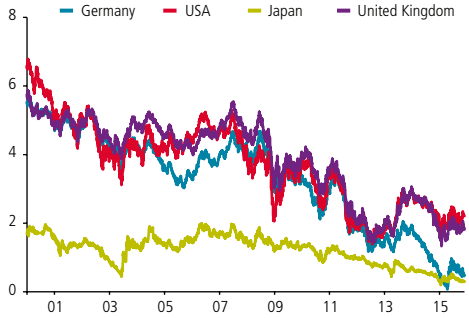
FIGURE I.1
Expected U.S. reference rate at year-end
(percent)



(*) The circles indicate the value (rounded to the nearest 1/8 percentage point) of the individual opinion of FOMC participants on what will be the mid-point of the range for the U.S. reference rate, or the target rate, at year-end and in the long term.

Source: U.S. Federal Reserve System.

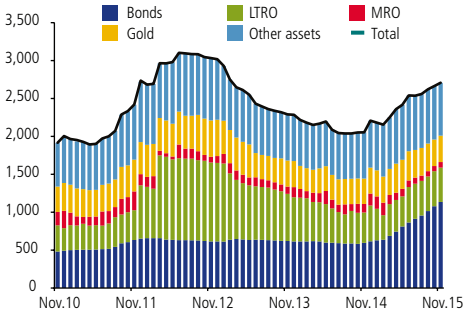
FIGURE I.2
Long-term government bond rates (*)
(percent)



(*) Updated to 17 December 2015.

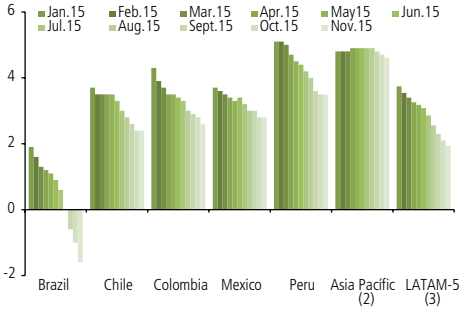
Source: Bloomberg.

FIGURE I.3
European Central Bank balance sheet
(€ billion)



Source: CEIC.

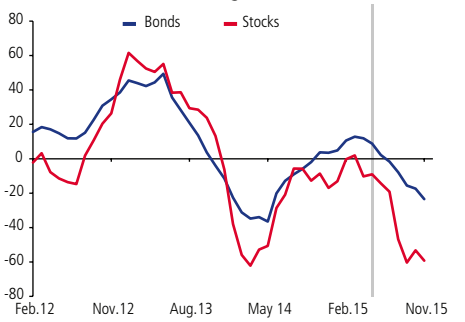
FIGURE I.4
Growth forecast revisions for 2016 (1)
(percent)



(1) 2016 GDP growth expectations from January to November 2015.
(2) Asia Pacific: Average of Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, South Korea, Sri Lanka, Thailand, Taiwan and Vietnam.
(3) LATAM-5: Average of Brazil, Chile, Colombia, Mexico and Peru.

Source: Consensus Forecast.

FIGURE I.5
Portfolio flows to emerging economies (1) (2)
(US$ billion, 12-month moving sum)



(1) Investment fund portfolio flows to emerging Europe, emerging Asia and Latin America. Data for November 2015 include flows from the1st to the 25th.
(2) The vertical line indicates the cutoff date for the last FSR.

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

imbalances and uncertainty with regard to the execution of the fiscal plan. Although the depreciation of the Brazilian currency has alleviated the current account deficit, it has also affected inflation, leading to monetary policy rate hikes and the implementation of a new program of foreign currency contracts to sell dollars on a given date but with payment in reales. The reduction in the oil price and the economy's strong trade links with China (20% of exports) contributed to the decline in the outlook. The banking sector is still solvent, but profitability decreased as a result of higher provisions due to the deterioration in the loan portfolio. Late in the year, the head of one bank was tied to the country's corruption scandals, which triggered volatility in the domestic financial market.

In Colombia and Peru, the economy continued to slow, while inflationary pressures led to tighter monetary policies. Both economies have been marked by a steady deterioration in their terms of trade and high fiscal and current account deficits.

The growth of China has slowed, and turbulence in the Chinese financial markets has affected the international markets.

China's growth was under 7%, with a weakening of the industrial sector and higher growth in the services sector. However, fears of a sharper slowdown have eased. The latest five-year plan announced by the authorities points to maintaining an annual GDP growth rate of less than 6.5% from 2016 to 2020.

The growth of nonbank credit has moderated, thanks in part to measures taken by the authorities. Nevertheless, there are still strong links with the banking sector, and credit to the private sector remains high, at around 200% of GDP.

The Chinese financial markets saw some turbulence in the third quarter of the year: the stock market plummeted, and the yuan was devaluated unexpectedly. Housing prices also dropped sharply. These events triggered volatility in the international markets, reducing the appetite for risk and affecting mainly emerging economies, which recorded steep declines in their stock markets, large capital outflows, currency depreciations, and increases in their spreads.

EXTERNAL SITUATION FOR CHILE

Since mid-2015, capital inflows to emerging economies, including Chile, have contracted (figure I.5).

In Chile, gross capital inflows fell from 11.0% to 8.9% of GDP between the first and third quarters of 2015, which was mainly explained by the reduction in portfolio flows—fixed income and equity. Equity flows fell from 0.6% to –0.1% of GDP in the same period (figure I.6). External loan flows continued to be

negative, reflecting the large amount of amortization by firms and banks. This was partially offset by lower gross capital outflows by institutional investors, which have reduced their holdings overseas.

In Chile, external liquidity remains stable, as does the coverage of short-term external financing needs. The net debit international investment position deteriorated slightly.

In the third quarter, total external debt was around 61% of GDP. The share of short-term external debt decreased to 10.9% of the total (versus 12.0% in the first quarter of 2015), while residual short-term external debt declined to 14.8% of GDP, similar to the level of late 2014. The coverage of short-term liabilities by international reserves and sovereign wealth funds was stable (figure I.7). The NIIP deteriorated as foreign investments of the pension funds were negatively affected by the drop in the international stock markets (figure I.8).

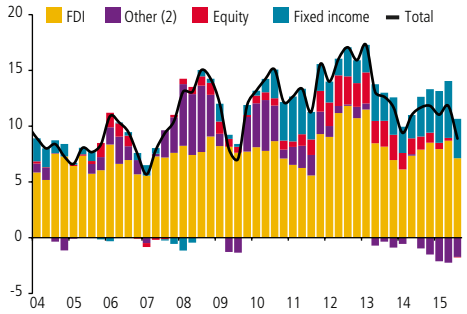
MAIN EXTERNAL THREATS TO FINANCIAL STABILITY

Monetary policy announcements in the large economic blocs could increase volatility in international financial markets.

Since May 2013, when the discussion about ending the quantitative easing measures in the United States started, the dollar has appreciated around 20% globally. This has had a number of effects, including a drop in dollar-denominated commodity prices, which also reflected supply and demand factors in different markets. In emerging economies, the impact was felt in a slowdown in activity and a disruption of private and public spending balances. Going forward, the U.S. monetary policy normalization is expected to cause further appreciation of the dollar at the global level, accentuating the channels mentioned above, especially if the Eurozone and other developed economies maintain their expansionary monetary policies. The strengthening of the dollar could also heighten currency risk in emerging economies with a high level of dollar-denominated debt. The available evidence for Chile indicates that currency risk is relatively stable (chapter III).

The recent initiation of monetary policy normalization in the United States could cause a spread decompression, including the term spread on long-term U.S. Treasury rates, which are still low by historical standards. This decompression could lead to a widespread increase in the yields on high-risk assets at the global level. In Chile, this could be reflected in increased interest rates on

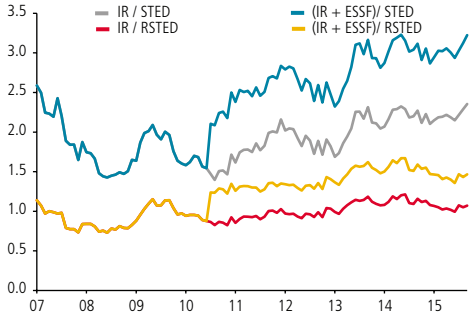
FIGURE I.6
Gross capital inflows to Chile (1)
(percent of GDP)



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

Source: Central Bank of Chile.

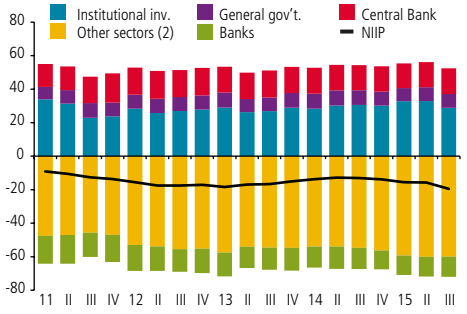
FIGURE I.7
Coverage of short-term liabilities (*)
(ratio)



(*) IR: International reserves; STED: short-term external debt; RSTED: residual short-term external debt; ESSF: Economic and Social Stabilization Fund.

Source: Central Bank of Chile.

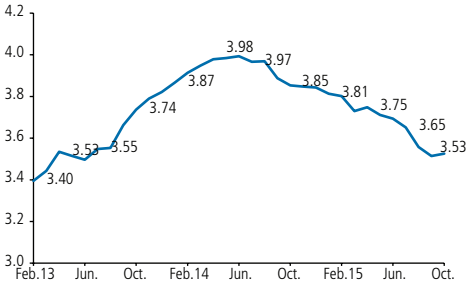
FIGURE I.8
Net international investment position (NIIP)
(percent of GDP (1))



(1) GDP at real constant exchange rate (fixed-base index: Sept.15 = 100).
(2) Nonfinancial firms and households.

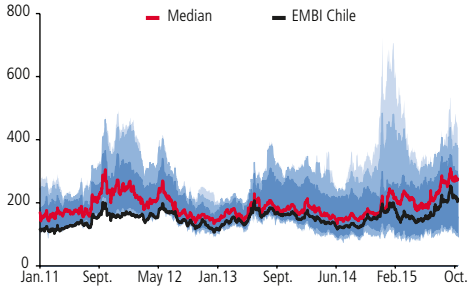
Source: Central Bank of Chile.

FIGURE I.9
Chinese reserves in foreign currency
(US$ trillion)



Source: State Administration of Foreign Exchange, China.

FIGURE I.10
Sovereign spread for selected economies (1) (2) (3) (4)
(basis points)



(1) Includes Brazil, Chile, China, Colombia, India, Indonesia, Lithuania, Malaysia, Mexico, Peru, the Philippines, Poland, Russia, South Africa and Turkey.
(2) Areas correspond to the maximum, 90th percentile, 75th percentile, median, 25th percentile, 10th percentile and minimum values of the EMBI.
(3) EMBI India included as of 31 October 2012.
(4) The peak on 16 December 2014 corresponds to the ruble depreciation.

Source: Bloomberg.

long-term bonds (chapter II). There could also be new episodes of volatility in the global financial markets deriving from the discrepancy between market expectations and the Fed's projection of the speed and extent of the policy rate increases.

Changes in financial market structure could exacerbate some of the risks in the international scenario.

There is some concern in international circles about the ability of the global sovereign and corporate fixed-income markets to absorb large volumes of asset liquidations, for example, in response to the spread increases discussed above. This concern stems from changes in the structure of financial markets, which are characterized by a growing use of automated trading systems and an increase in the share of investors with indexed portfolios to the detriment of broker dealers[1]/.

Some of this concern is based on the sensitivity of the external financial markets to various recent shocks. In particular, in May 2013 and October 2014, there were big corrections in U.S. Treasury bond rates. If these movements were to be repeated or to become more frequent or longer lasting, it could cause stress in fixed-income markets and possibly generate contagion to other markets.

The deterioration of the emerging economies and their financial markets could have repercussions in the local economy.

Chile is exposed to some of the region's economies not only through the real channel, but also through a financial channel deriving from the valuation of foreign investment. Thus, the scenario described for Brazil implies a greater risk for local firms with investments in that country. The depreciation of the Brazilian real relative to the Chilean peso and the U.S. dollar has implied a reduction in equity for a group of firms exposed to this market, which has increased their debt indicators (chapter III).

Moreover, a greater deterioration of the macroeconomic situation in the region, especially in Brazil, could generate changes in the portfolio allocation of institutional investors. This scenario would imply sharp corrections in asset prices, which would contribute to financial market volatility.

In the case of China, Chile has few direct financial links, but the response to the Shanghai Stock Exchange crash in August of this year stands as a warning of the extent of the impact that disruptions in the Chinese financial markets can have on global markets. This factor deserves special attention due to the financial liberalization process currently underway in that country. Greater

[1]/ FSR, First half 2015, box I.1

capital opening could potentially increase volatility in the Chinese currency market and put additional pressure through the sale of international reserves, which have been dropping systematically for over a year (figure I.9). Finally, while fears of a sharper slowdown in China have attenuated, the economy's growth recomposition in favor of the consumer and other tertiary sectors—more closely associated with services an less demanding of commodities—affects the prices of commodities, in particular copper.

Chile is currently in a less favorable position than in previous FSRs. However, should any of the risk scenarios materialize, the impact would be smaller than in other economies in the region.

In the most recent period, Chile's cost of external financing (EMBI) has stayed below the median of a sample of emerging economies, despite the decompression of spreads since mid-year (figure I.10).

Nevertheless, this indicator can be expected to increase in the event that one or more of the risk scenarios described above materializes. A quantification of these risks for Chile and other economies in the region (Colombia, Mexico and Peru) shows that the impact of shocks to global variables such as the implicit volatility of the U.S. stock market (the VIX) or the appreciation of the dollar against a basket of currencies (the Broad index) is relatively homogeneous across these economies. In contrast, an increase in Brazil's spread has a heterogeneous impact on external financing costs in these countries, to which Chile is relatively less sensitive (box I.1).

BOX I.1
EXTERNAL FINANCIAL RISKS AND SOVEREIGN SPREADS

This box presents a quantification of the impact on sovereign spreads in a group of Latin American countries, measured by the EMBI, of unexpected changes (shocks) in external macroeconomic variables[1]/. These variables were chosen to approximate the risks described in chapter I: namely, abrupt changes in global volatility and a deterioration of emerging economies.

The results show that a shock to global variables (VIX and Broad) has a homogeneous impact among countries, whereas a temporary increase in Brazil's spread triggers a significant increase in the EMBI for the Latin American countries included in the sample, although the effect varies somewhat by country.

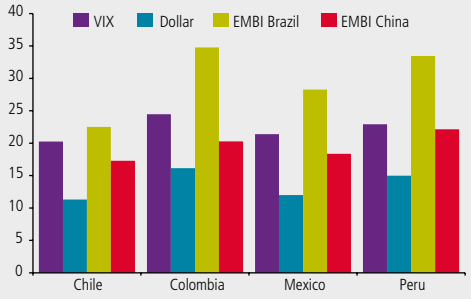
Methodology and results

Vector autoregressive (VAR) models were estimated for Chile, Colombia, Mexico and Peru, including the following variables[2]/: the country's EMBI spread, the EMBI Brazil, the EMBI China, the VIX, the ten-year U.S. Treasury bond differential, and the Broad index, constructed using a basket of currencies against the U.S. dollar.

According to the estimates, a shock to the global risk aversion measure (VIX) has a significant impact on all the economies analyzed and is one of the most important external factors. The Broad index, which captures the large appreciation of the dollar, has a smaller impact (figure I.11)[3]/.

The impact of a worsening of the economic situation of emerging economies is captured through the EMBI spreads for China and Brazil. The former has a similar impact to the VIX for most of the countries, while a shock to the EMBI Brazil has a relatively larger impact on the rest of the countries in the sample.

FIGURE I.11
Estimate of the impact on the sovereign spread of a selection of external financial shocks (1) (2)
(percent accumulated in three months)



(1) Generalized impulse response function (Pesaran and Shin, 1998).
(2) Size of shock equals one standard deviation of the corresponding series.
Source: Medel and Moreno (2015).

Implications for Chile

As highlighted in chapter I, the most imminent risks have to do with a sharp increase in financial market volatility and a deterioration in the economic situation of the emerging economies. In the former case, the estimates suggest that a 15 percentage point rise in the VIX—equivalent to the event in August 2015 associated with the Shanghai Stock Exchange crash—could increase the EMBI spread for Chile by around 80 basis points at the end of a quarter.

With regard to the latter, an unexpected increase in the Chinese spread—for example, of 60 basis points, equivalent to the increase in May 2013 (Taper Tantrum)—could increase Chile's EMBI spread by 45 basis points in a quarter. This effect is greater if the copper price channel is also taken into account (Medel and Moreno, 2015).

[1]/ The analysis does not include structural variables because they generally present variations at a lower frequency.
[2]/ The estimates are carried out separately for each country, so the comparison of the country responses in not direct. The VAR is first order, it uses monthly data from May 1999 to September 2015 and the EMBI, VIX and Broad variables are in logs.
[3]/ The impact of unexpected changes in the U.S. treasury bond interest rates is not significant except for Chile, where the impact is negative. The negative relationship between these variables is a recent phenomenon, which is also observed for the term spread component of the U.S. Treasury bond. See FSR, First half of 2014, box I.1.

II. LOCAL FINANCIAL MARKETS

Short- and long-term financing costs remain low in the capital markets, although bond issues have been less dynamic, in part due to a lower need for debt restructuring.

MONEY AND FIXED-INCOME MARKETS

Financing conditions in the money market in pesos remain loose.

Although money market rates have increased in recent months, they remain low from a historical perspective (statistical appendix). This is consistent with the Central Bank's communications regarding a less expansionary monetary policy rate (MPR) and with market expectations for the rate path. Prime-swap spreads have increased recently, in line with seasonal trends (figure II.1). Relative to the last FSR, there is less dispersion in bank deposit rates, after widening for several consecutive halves.

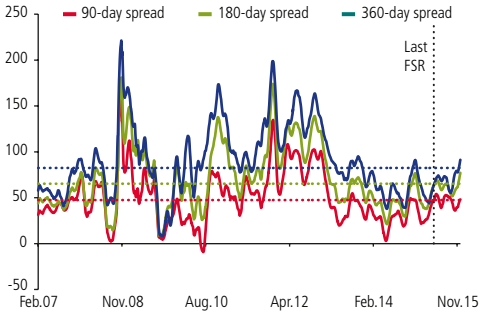
Long-term interest rates are still low from a historical perspective, although they could increase in the short term.

Interest rates on sovereign bonds remain at the lower end of their historical distribution, but they have risen slightly in the most recent period, in line with movements in international benchmarks (figure II.2). There is a risk that the local long-term interest rate could rise as a result of the recent initiation of monetary policy normalization in the United States (chapter I), if this process leads to an increase in external long rates.

The Fed's actions could also affect external long rates via the term spread component, which, according to recent estimates, is at record lows. A lower risk appetite on the part of investors could widen the spread and thus increase U.S. long rates.

The pass-through coefficient from external to domestic long rates, for both the rate level and the term spread, has been declining in recent years (figure II.3). This is consistent with a lower participation of nonresident investors in the local

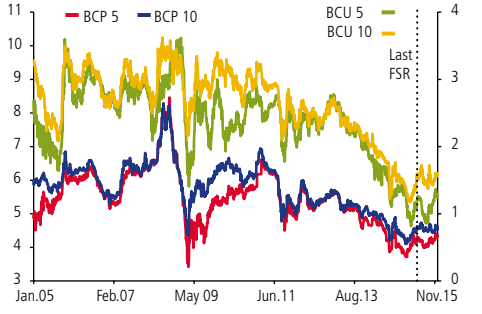
FIGURE II.1
Money market in pesos (1)(2)
(monthly moving average, basis points)



(1) Average interbank prime-swap spread.
(2) Horizontal dotted lines indicate the series average for 2005–2015.

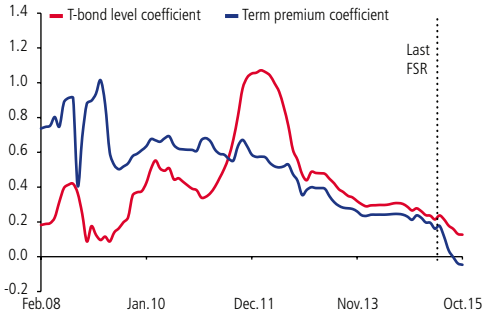
Source: Central Bank of Chile.

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



Source: Central Bank of Chile.

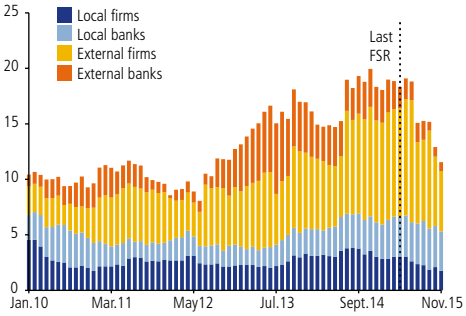
FIGURE II.3
Pass-through coefficient of external rates (*)
(percent)



(*) The blue line indicates the T-bond level pass-through coefficient. The red line indicates the term premium pass-through coefficient, according to estimates by Adrian et al. (2014).

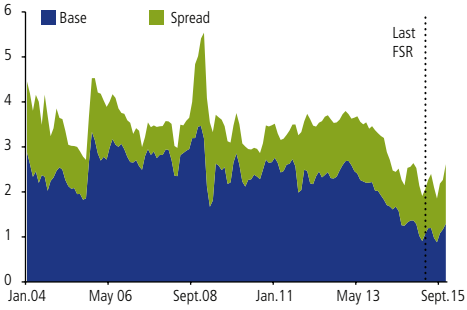
Source: Central Bank of Chile.

FIGURE II.4
Corporate bond issues
(US$ billion accumulated in 12 months)



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

FIGURE II.5
Corporate funding costs and destination of funds (*)
(percent)



(*) UF-denominated bonds issued by private firms, with a credit rating of AA and a duration of around 5 years.

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

sovereign debt market (box II.1). However, the pass-through tends to increase in periods of international financial turbulence, so local sovereign rates should be monitored in the event that this scenario occurs.

Bond issues are slower than in the last three years.

Local corporate bond issues have been less dynamic since the last FSR, which suggests that the demand for debt restructuring may have ended. Bank bond issues have fallen overseas but been stable domestically, consistent with the lower relative cost of financing in the local market. On aggregate, bond issues fell almost 40% in twelve months (figure II.4).

The average funding cost of private issuers with a credit rating of AA is similar to the last FSR, due to a stable spread and base (figure II.5).

The exception is the cost of bonds issued by the family compensation funds, which saw a marked increase in their spreads in the second half of 2015 (figure II.6). The financial difficulties of La Araucana, which is currently undergoing corporate reorganization[1]/, have affected the funding costs of other issuers in this segment. These issuers have few direct ties with the banking sector (chapter IV).

INSTITUTIONAL INVESTORS

The mutual and pension funds remain active in the local debt market, while the life insurance companies continue to increase their international fixed-income and domestic real estate investments.

Since late August, the volume managed by the mutual funds contracted by UF 41 million. This was most evident in the debt mutual funds (type 3), which recorded outflows of over UF 58 million, or nearly 16% of equity, after peaking in mid-2014. Some of these withdrawals were transferred to relatively lower risk funds (type 1), but the system still registered a net outflow in the period (figure II.7).

These equity outflows are related to the negative earnings of the past few months, mainly due to the marginal reversion of short- and medium-term interest rates. Some companies in the industry were also affected by the uncertainty generated from having family compensation fund bonds in their portfolios, despite being a relatively minor share (less than 1%).

[1]/ The corporate reorganization mechanism is part of the Insolvency and Reorganization Law, which aims to promote restructuring and the negotiation of liabilities with creditors.

A risk associated with this development is lower relative liquidity, as suggested by the current liquidity duration measure of the fixed-income portfolio (where a higher value indicates lower liquidity). The upward trend is essentially due to the larger size of the portfolio relative to the market volume (figure II.8).

The investment portfolio of the type 3 mutual funds also has a high exposure to bank issuers, at 70%. Consequently, any sudden liquidation could have a significant impact on the prices of these assets.

Pension funds, in turn, have been marked by the repatriation of foreign currency in the last two quarters. In that period, they accumulated over US$5.200 billion between local bank deposits and sovereign bonds, thus fulfilling a shock-absorbing role in the short- and medium-term financing of different agents in the system (figure II.9). In general, this reflects the more volatile international context, characterized by lower relative returns, and to some extent the movement of affiliates into less risky funds.

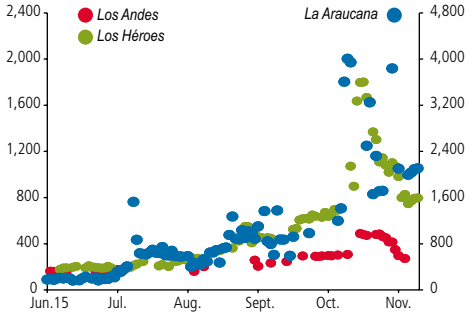
The investment flows of the life insurance companies (LICs) continue to be skewed toward instruments with underlying real estate assets and international private fixed-income securities with an average rating of BBB, investments that carry a higher relative risk (figure II.10). This dynamic was pointed out in the FSR for the second half of 2014. Given the current regulations, this greater risk-taking has not led to higher capital requirements. Factors associated with higher vacancy rates in the national real estate market (chapter III) and a possible adverse scenario for emerging market corporate bonds are variables that could put pressure on the returns of the aggregate portfolio.

STOCK AND FOREIGN EXCHANGE MARKETS

The dollar continues to strengthen at the global level, while the local stock market has followed a similar trend to other emerging economies.

On the cutoff date for this FSR, the Chilean peso was around $711 to the dollar. This represents an accumulated depreciation of 17% in the year, which is in line with the currency depreciation of comparable countries (table II.1). This trend is mainly due to the global strengthening of the U.S. dollar (the Broad index) and, to a lesser extent, the deterioration in commodity prices. In this context, the volatility of the peso-dollar exchange rate has increased, at nearly 10% in annual terms and around the median of a large sample of countries (statistical appendix).

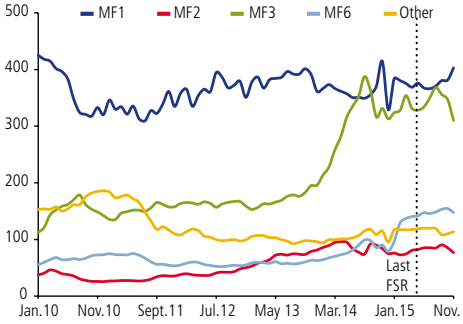
FIGURE II.6
Family compensation fund spread (*)
(basis points)



(*) Spread on peso-denominated corporate bonds relative to nominal sovereign bonds with the same maturity. Includes bonds from 2 to 20 years.

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

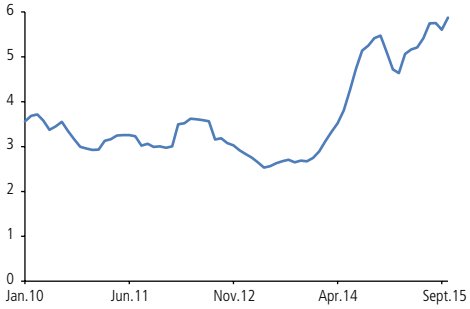
FIGURE II.7
Mutual fund equity (*)
(UF million)



(*) Type of fund: MF1: Debt with a duration of 90 days or less; MF2: Debt with a duration of 365 days or less; MF3: Medium- and long-term debt; MF6: Unrestricted investment; Other: Includes fund types 4, 5, 7 and 8.

Source: Superintendence of Securities and Insurance (SVS , for its name in Spanish).

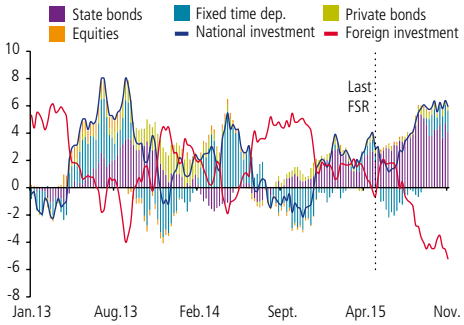
FIGURE II.8
Liquidity duration of bonds in MF3 (*)
(days)



(*) Liquidity duration is defined as the moving average of the ratio between the value of the fixed-income assets in the portfolio and the daily average volume traded in secondary markets for these same assets.

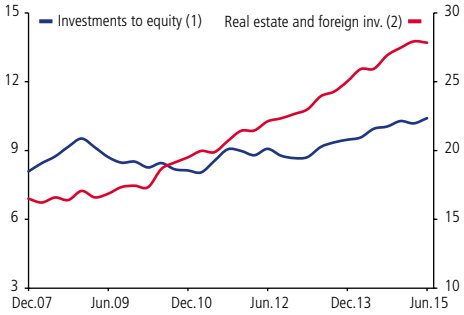
Source: Central Bank of Chile.

FIGURE II.9
Pension fund portfolio flows
(billions of US$ accumulated in 6 months)



Source: Central Bank of Chile, based on data from the Superintendence of Securities and Insurance (SVS , for its name in Spanish).

FIGURE II.10
Life insurance company investment portfolio
(percent)



(1) Includes investment portfolio assets, except those backing products with savings. Other leverage measures substituting "technical reserves" or "total assets" for "investments" show a similar trend.
(2) Includes real estate investments, leasing contracts and total overseas investments.

Source: Central Bank of Chile, based on data from the Superintendence of Securities and Insurance (SVS , for its name in Spanish).

TABLE II.1
Comparison of exchange rates
(percent, local currency to the US$)

Period	Chile	Commodity exporters (1)	Countries in the region (2)	Dollar index
2012	-7.6	-4.3	-3.0	-0.6
2013	9.8	8.4	8.8	0.3
2014	15.4	11.5	13.8	12.7
2015 (3)	17.2	15.9	25.9	6.9
Q I	3.1	7.4	9.3	9.0
Q II	3.5	1.4	1.4	-2.7
Q III	9.0	6.8	12.8	0.0
Q IV	2.1	-0.4	0.4	4.1

(1) Australia, Canada, Norway and New Zealand.
(2) Brazil, Colombia, Mexico and Peru.
(3) Data as of 30 November 2015

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

The Chilean stock market fell 5% measured in local currency between January and November of this year. This is in line with other emerging economies, in particular commodity exporters (table II.2). The market was also more volatile, at nearly 11% in annual terms, which is slightly below the median for a large group of emerging countries (statistical appendix).

TABLE II.2
Comparison of stock market returns
(percent, return in local currency)

Period	Chile	LatAm (1)	Commodity exporters (2)	Developed (3)	Other 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	4.2	2.3	8.1	5.3	10.4
2015 (5)	-5.1	-1.2	-3.8	2.4	-2.0
Q I	1.7	3.1	3.4	8.4	2.2
Q II	-1.1	2.6	-3.3	-4.7	0.6
Q III	-3.8	-12.2	-7.5	-9.1	-6.4
Q IV	-0.8	4.4	3.4	7.9	1.4

(1) Argentina, Brazil, Colombia and Peru.
(2) Australia, Canada, Norway and New Zealand.
(3) Australia, Canada, France, Germany, Norway, New Zealand, United Kingdom and United States.
(4) Croatia, Czech Republic, Hungary, India, Indonesia, Malaysia, Mexico, Philippines, Poland, South Africa and Turkey.
(5) Data through 30 November 2015.

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

BOX II.1
NONRESIDENT INVESTMENT IN LOCAL SOVEREIGN BONDS

The profile and behavior of the investor base is critical for the analysis of sudden stops and roll-over risk. In general, empirical evidence shows that a greater exposure to or higher sovereign bond financing from nonresident investors is manifested in lower rates and greater sensitivity to global financial conditions[1]/.

This box reports on the measurement of this indicator for Chile, which is low compared with other economies in the region. This could mitigate volatility associated with sharp increases in external rates.

Methodology

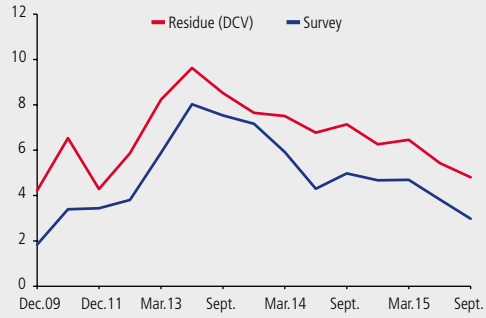
There are two approaches for estimating exposure to nonresident investors in sovereign bonds. The first considers total gross debt issued by the central government (excluding the Central Bank), including debt issued in both local and foreign markets and considering loans as well as bond issues (Arslanalp and Tsuda, 2014). The second approach, used in this box, considers only sovereign bonds issued in the local market, including both Treasury and Central Bank bonds.

Results

A first estimate for the second approach is obtained from the local sovereign bond registry maintained by the Central Securities Depository (CSD). In this source, it is possible to identify the local investor base, but not the foreign base. However, local custodian banks generally record these positions in accounts designated as "Clients," which can be used to estimate an upper bound on the positions held by this type of investor. Based on this estimate, local investors, which include pension funds, mutual funds, life insurance companies and banks, explain over 95% of local sovereign bond positions as of late September 2015, such that the upper limit on nonresident investment is under 5% (figure II.11).

Alternatively, the Central Bank of Chile conducts a survey of the main custodian banks in the market on the balances held by foreign investors in different local financial instruments, including sovereign bonds. Based on this information, the nonresident position as of September 2015 is close to 3% of the available stock of local sovereign bonds.

FIGURE II.11
Share of nonresident investors in local sovereign bonds in Chile
(percent)



Sources: Central Bank of Chile and CSD.

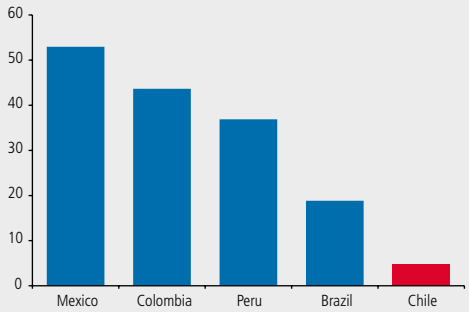
The two series, based on different sources of information, follow a very similar trend. Both series peak in June 2013, consistent with the launch of global depository notes (GDN) a few months earlier, which facilitate investment in local sovereign bonds by nonresident investors[2]/. This is followed by a drop that continues today, in line with the fixed-income outflows.

From an international perspective, the share of nonresident investors in Chile is significantly lower than the share in other countries in the region (figure II.12).

[1]/ See, for example, Peiris (2010), Andritzky (2012), Jaramillo and Weber (2013), Ebeke and Lu (2014), Ebeke and Kyobe (2015) and, more recently, GFSR (2015a).

[2]/ For more details, see the FSR for the first and second halves of 2013.

FIGURE II.12
Domestic sovereign bond holdings by nonresident investors in the region (*)
(percent)



(*) Data as of September 2015, except Mexico and Colombia, which end in June 2015.
Sources: Respective central banks and IMF.

Final comments

According to international empirical evidence, the relatively low share of nonresident investors could have positive effects in terms of a lower transmission of external shocks to local long-term rates. There have been two recent episodes of international interest rate hikes, the so-called tapering talk[3]/ episode in May 2013 and the German sovereign bond rate increase in February 2015. In both cases, the local sovereign rate in Chile reacted less than other economies in the region, where the pass-through was significantly higher.

[3]/ For more details, see the FSR for the second half of 2013.

III. CREDIT USERS

FIRMS

The debt of firms increased to 121% of GDP in the third quarter of 2015 (figure III.1).

After two quarters of stabilization, debt as a percent of GDP increased in the third quarter, essentially due to foreign debt and a marginal increase in local bank debt. Within external debt, there was a particular increase in external bonds, which was mainly explained by a specific placement. The valuation effect of the peso depreciation continued to be an important factor, accounting for nearly half the annual growth of external debt in September (table III.1).

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

Indicator	2010	2011	2012	2013	2014	2015			Share	Contribution to growth
	IV	IV	IV	IV	IV	I	II	III		
Local debt	**3.6**	**12.3**	**7.4**	**6.7**	**1.5**	**2.6**	**3.8**	**4.6**	**58.2**	**2.9**
Bank and other loans	4.8	14.1	9.6	7.1	2.7	4.4	5.3	6.5	47.9	3.3
Commercial loans (2)	3.6	13.8	9.9	7.7	2.7	4.9	6.1	7.5	43.2	3.4
Factoring and leasing (3)	15.3	16.6	7.5	2.7	1.9	1.1	-1.5	-1.7	4.7	-0.1
Locally listed instruments (4)	-0.2	6.0	-0.6	5.1	-3.1	-4.9	-2.6	-3.7	10.3	-0.4
External debt (5)	**6.9**	**17.7**	**9.2**	**27.5**	**27.2**	**23.3**	**22.2**	**25.0**	**41.8**	**9.4**
Loans (6)	-10.7	6.4	0.4	5.2	14.1	3.9	-0.4	7.7	9.3	0.7
Trade credit	20.3	28.3	-19.1	-0.7	-3.6	-4.7	-6.2	2.4	2.6	0.1
Bonds	24.0	27.8	12.2	42.1	43.3	45.0	49.5	36.9	13.4	4.1
FDI-related loans	22.5	20.3	37.1	50.0	33.0	28.8	26.1	32.3	16.4	4.5
Total	**4.5**	**13.8**	**7.9**	**12.9**	**10.2**	**10.0**	**10.4**	**12.2**	**100**	**12.2**

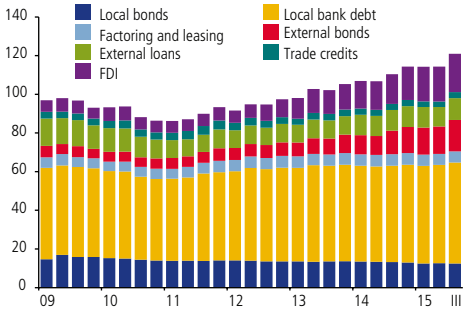
(1) Based on firm-level administrative records, with the exception of factoring and leasing, securitized bonds and commercial papers.
(2) Includes commercial loans to firms and individuals, foreign trade loans and contingent loans.
(3) Factoring includes banks and nonbank institutions.
(4) Corporate bonds, securitized bonds with nonbank underlying assets and commercial papers.
(5) Converted to pesos using the average exchange rate in the last month of the quarter.
(6) Includes multilateral organizations.

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

The largest contribution to the debt-to-GDP ratio comes from firms that have external debt (figure III.2). For these firms, local bank debt represents a less important source of financing, whereas the opposite is true for firms with no external debt. As discussed in the last FSR, bank financing is important for firms that do not report to the SVS. In the last six years, firms that do not report to the SVS and that do not hold any external debt explained a large share of the growth in commercial loans, even in periods of lower growth (figure III.3)[1]/.

[1]/ For details on the evolution and characterization of the debt of nonbank firms in Chile, see Fernández et al. (2015a).

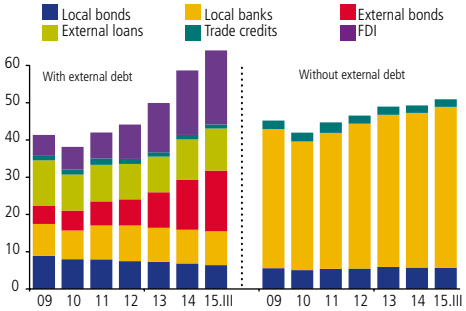
FIGURE III.1
Total debt of nonbank firms (1) (2)
(percent of GDP)



(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.

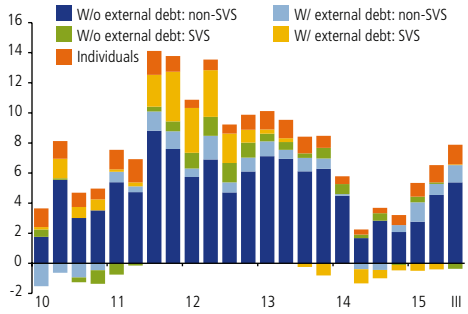
FIGURE III.2
Total debt of firms with and without external debt (1) (2) (3)
(percent of GDP)



(1) Firms with external debt are defined as having had external loans, external bonds or FDI at least once between 2009 and 2015.
(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.

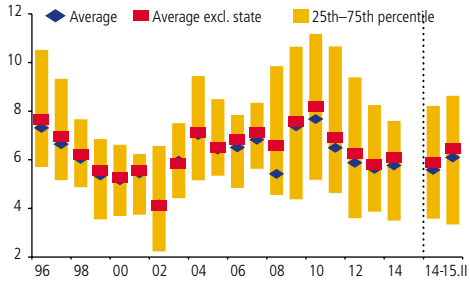
FIGURE III.3
Contribution to the growth of local bank debt (1) (2) (3)
(percent)



(1) Includes contingent loans.
(2) Definition of SVS firms includes direct affiliates.
(3) Firms with external debt are defined as having had external loans, external bonds or FDI at least once between 2009 and 2015.

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

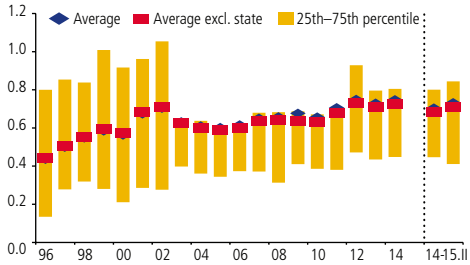
FIGURE III.4
Corporate sector profitability (1) (2)
(percent)



(1) Earnings before interest and taxes in 12 months over total assets.
(2) To the left of the dotted line, annual data through 2014. To the right, a comparison of June 2014 and June 2015.

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

FIGURE III.5
Corporate sector indebtedness (1) (2)
(times)



(1) Debt-equity ratio.
(2) To the left of the dotted line, annual data through 2014. To the right, a comparison of June 2014 and June 2015.

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

External debt issuers contributed significantly to the growth of local bank debt in 2011 and 2012, but in the past few years their external funding sources have grown, to the detriment of domestic sources. This is consistent with the use of corporate issues to refinance liabilities (chapter II).

Financial indicators for firms that report to the SVS have not changed significantly relative to the last FSR, with a high debt level and low earnings from a historical perspective.

Earnings were slightly higher in June 2015 than in the same month of 2014 (figure III.4)[2]/. With regard to debt, data for June 2015 and year-end 2014 point to a tighter situation relative to the 2003–2010 average (figure III.5). This has not been reflected in higher financial expense, however, which has been stable at 6%, measured over financial debt, in the last five years. Thus, the lower interest coverage ratio in the last three years mainly reflects operational performance and not the cost of financing for this group of firms (figure III.6). These trends hold based on preliminary data for the third quarter (statistical appendix).

Various indicators suggest that firms' financial exposure to currency risk has been stable.

Since December 2014, foreign currency debt represents around 55% of total debt. The share of local foreign currency debt has been stable at 10% of the total since 2011 (statistical appendix).

The currency mismatch of SVS firms that report their balance sheets in pesos presents a more hedged position against a depreciation (statistical appendix). At the extreme of the distribution, firms with a mismatch of over 10%—firms whose balance sheets could be affected by a depreciation of the peso—are stable as a share of the sector's assets (figure III.7). Tracking of a sample of recent issues by firms that keep their books in pesos points to the use of currency derivatives to mitigate currency risk. In particular, cross-currency swaps have similar maturities to the bonds, which indicates lower rollover risk, but there is variation in terms of the amount covered, suggesting some degree of exchange rate exposure.

More broadly, exchange rate fluctuations and changes in macroeconomic conditions can affect firms with overseas investments. This should be reflected in a reduction in equity, especially when there is a difference between the operational currency of the business and the functional currency used by the firm. In this sense, the strong depreciation of the Brazilian real has affected firms with investments in that country. Thus, equity adjustments have raised the debt level of exposed firms (figure III.8).

[2]/ Caution is advised when comparing these figures with year-end data, since some firms only report their financial statements to the SVS in December. Together, these firms account for less than 10% of total assets and are mainly concentrated in the "services and other" and "transport and telecommunications" sectors.

In recent quarters, the 90-day delinquency rate has not deteriorated further, but remains above the average of the last five years (figure III.9).

The 90-day delinquency rate has decreased in the productive, fishing and construction sectors, although it is still above historical standards. Sectors with a high share of debt, such as trade, transport and agriculture, recorded an increase (figure III.10). Within the productive sector, the share of installments that are more than a year past due has increased over the last 18 months, deteriorating the composition of the 90-day delinquency rate (figure III.11). This reflects the fact that firms that are further past due are less likely to regularize their status in the short term (box III.1).

In sum, the financial situation of local firms continues to point to increased fragility in this sector, as in the last FSR. Aggregate debt to GDP was stable at almost 114% in the first half of the year, but it rose to 121% in the third quarter, largely due to valuation effects deriving from the exchange rate depreciation. However, the current level is high by historical standards and higher than the level observed in emerging economies (GFSR, 2015b). The financial indicators of firms that report to the SVS have not changed significantly as of the third quarter of 2015. Currency mismatches and foreign currency debt levels indicate that balance sheet exposure to currency risk has been kept at all-time lows. However, the lower valuation of overseas investments has caused a deterioration of debt indicators in firms with exposure to Brazil. Finally, payment indicators have improved at the margin, but the portfolio in arrears is still high from a historical perspective, and the share of installments that are more than a year past due has increased.

REAL ESTATE SECTOR

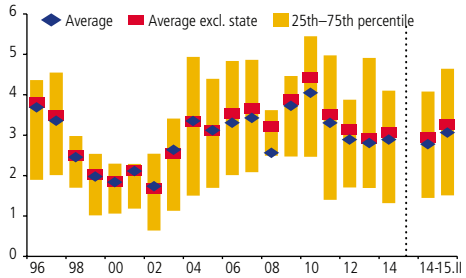
New home sales in Santiago achieved record growth in 2015, largely for homes under construction (figure III.12)

As indicated in the last FSR, the dynamic trend in home sales in 2015—over 14,000 units in the third quarter—was largely due to the moving up of purchases before the new tax law charging VAT on home sales enters into effect, although other factors, such as demographic changes and the role of retail investors, may also have contributed. With regard to completion, only 5% of homes are available for immediate delivery, a historically low share. Moreover, almost 70% of sales in the third quarter were in the site work phase and groundbreaking had not yet begun. Together with a reduction in building costs, this implies that the sector will remain robust at least through the first half of 2016.

Home prices continued to rise in the third quarter of 2015, although growth rates have slowed at the margin (figure III.13).

The CChC new house price index for Santiago increased 7.6% in annual terms in the third quarter, with no change relative to the previous quarter. Market participants believe that some of the growth in the index, which includes buyers' purchase contracts, could be reflecting advance purchases to avoid paying VAT. In the second quarter, the house price index (HPI) calculated by

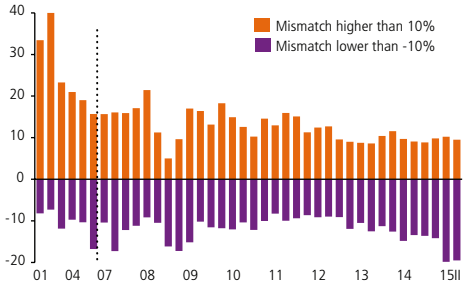
FIGURE III.6
Corporate sector interest coverage ratio (1) (2)
(times)



(1) Ratio of earnings before interest and taxes in 12 months to annual financial expense.
(2) To the left of the dotted line, annual data through 2014. To the right, a comparison of June 2014 and June 2015.

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

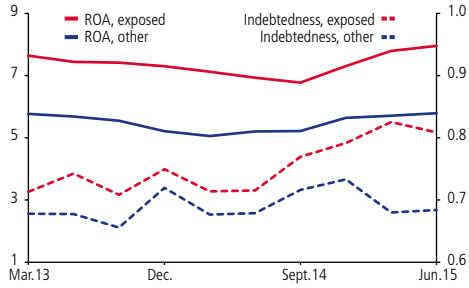
FIGURE III.7
Mismatch of firms in the corporate sector (1) (2) (3)
(percent of total assets)



(1) Based on a sample of firms that report their balance sheets in 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 dotted line, annual data through 2006. To the right, quarterly data.

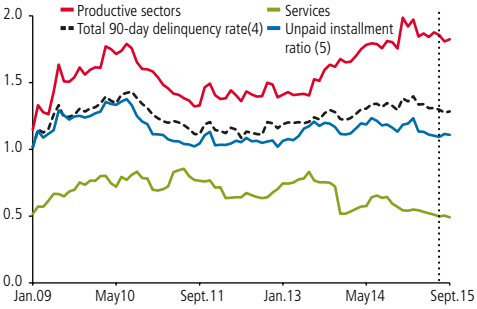
Source: Central Bank of Chile, based on data from the SVS.

FIGURE III.8
Profitability and indebtedness of firms with exposure to Brazil (*)
(percent, times)



(*) Based on a sample of firms defined by the share of income and assets originating from Brazil.
Source: Central Bank of Chile, based on data from the SVS.

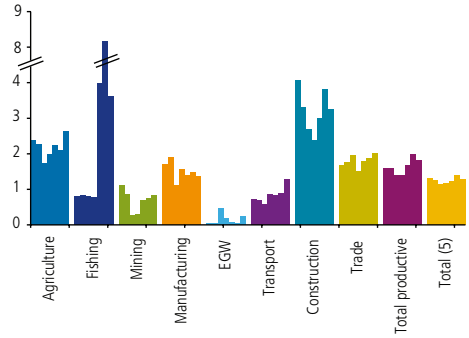
FIGURE III.9
90-day delinquency rate (1) (2) (3)
(percent of loans)



(1) Loans exclude contingent credit.
(2) The vertical dotted line indicates the cutoff date of the last FSR.
(3) Classification of economic activity is from a 2014 business directory. The results are subject to change to the extent that information is updated.
(4) Includes loans with out sectoral classification and personal loans.
(5) Nonperforming loan ratio includes credit contingent on the loans and not foreign trade credit.

Source: Central Bank of Chile, based on data from SBIF and National Statistics Institute (INE).

FIGURE III.10
90-day delinquency rate (1) (2) (3) (4)
(percent of loans)



(1) The sectors listed are productive sectors. Excludes individuals and firms without a sectoral classification.
(2) Data for December, from 2009 to 2014. The last bar is for September 2015.
(3) Excluding contingent loans.
(4) Classification of economic activity is taken from a 2014 business directory. The results are subject to change as information is updated.
(5) Includes services, loans without a sectoral classification, and personal loans.

Source: Own elaboration, based on data from SBIF and INE.

the Central Bank based on actual new and used property transactions grew 3.7% at the national level and 5.5% in the Santiago Metropolitan Region. By region, the growth rate of prices was lowest in the north, where house and apartment price indicators have been stable since late 2012; this coincides with the slowdown in economic activity in the region. The dynamics of the aggregate HPI are consistent with the evolution of the economic variables that affect it, in particular lower mortgage interest rates.

The ratio of the house price and the buyer's annual income increased significantly over the last decade in all regions of the country. However, the available data point to a smaller increase in 2014 relative to previous years (table III.2).

TABLE III.2
Ratio of house price to income
(times)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
North	2.0	2.1	2.1	2.2	2.4	2.5	2.3	2.6	2.9	3.3	3.5
Center	2.0	2.1	2.1	2.1	2.0	2.2	2.5	2.3	2.4	2.8	2.8
Stgo. MR	2.9	3.0	3.0	3.1	3.1	3.2	3.1	3.4	3.8	3.8	3.9
South	2.1	2.2	2.3	2.3	2.1	2.3	2.6	2.5	2.7	2.7	2.9
Total	**2.5**	**2.5**	**2.6**	**2.6**	**2.6**	**2.7**	**2.8**	**2.8**	**3.1**	**3.3**	**3.4**

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

Mortgage financing continues to be important for the sector, accounting for 70% of sales of over UF1,000. In the second quarter, the loan-to-value (LTV) ratio averaged 81%, with a high concentration of sales with an LTV of 90% (figure III.14). Mortgages with an LTV of 100% continue to account for less than 3% of the total. In the fourth quarter of 2014, the ratio of the estimated mortgage payments to the buyer's income (DTI) was stable at 23%, on average, with a median of 20%. Less than 10% of sales have a DTI of over 40%. At year-end 2014, the share of high-leverage loans (LTV of over 90%) with high debt service (DTI over 30%) remained low, at less than 4% of the total, which represents an improvement over the shares of 7% in 2012 and 5% in 2013.

Although financing conditions (LTV and DTI) have been stable at the margin, the share of debtors with more than one bank mortgage continued to rise, representing 25% of the stock in mid-2015 (20% in 2010). This situation needs to be monitored, as market indicators suggest that the "buy to rent" strategy is becoming less attractive: gross profitability in the Santiago Metropolitan Region is low at 6%, versus an average of 7.5% from 2007 to 2012.

Low absorption continues to increase the office-space vacancy rate.

In 2015 the growth of available square meters in the office market slowed somewhat since 2014—especially for class A/A+ office space. However, the low level of absorption increased the vacancy rate, which exceeded 8.5% for class A/A+ office space and 12% for class B (figure III.15). This has also affected rental prices, which fell 8% for class A office space and were stable for class B. Forecasts for new office projects coming on the market have been reduced to about 130,000 square meters of class A/A+ office space in 2016. If the current absorption dynamics continue, the vacancy rate could approach 12%.

In sum, the residential real estate sector remains dynamic, largely due to advance purchases. Given the large share of home sales in the off-plan or construction phases, the sector is expected to continue to be dynamic at least through the first half of 2016. Nevertheless, closing on the purchase contracts associated with these sales could be affected by a deterioration in buyers' payment conditions. Prices continue to rise, although some regions have stabilized at the margin.

In the office sector, the vacancy rate has increased, although the production of premium office space has slowed somewhat. As indicated in the last FSR, vacancy rate cycles are relatively persistent, which should be incorporated into the risk assessments of agents with exposure to the sector.

HOUSEHOLDS

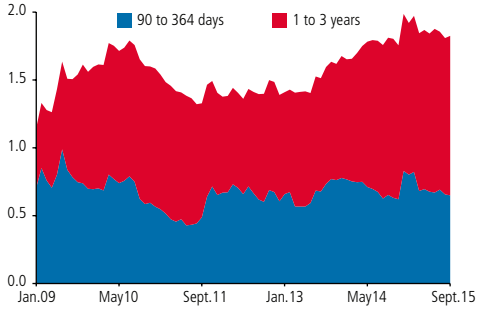
The household debt-to-income (DTI) ratio continued to rise, while the financial burden-to-income ratio (FIR) was stable (figure III.16).

In the second quarter of 2015, the DTI increased to 61.6%, 0.8 percentage points higher than at the cutoff date of the previous FSR (fourth quarter of 2014). The increase is primarily explained by growth in bank mortgage debt. In contrast, the FIR declined marginally to 14.7% in the same period, due to a lower contribution from consumer debt, which usually involves higher interest rates[3]/.

Data from the 2014 Household Financial Survey are consistent with the evolution of the aggregate debt level and financial burden, when measured equivalently. In terms of the distribution, medium-high income households have a higher debt level, while lower-income households have a higher financial burden. Finally, estimates of the sector's risk suggest that there has not been an increase relative to 2011 (box III.2).

[3]/ This FSR presents revised and updated data on the FIR, which follows the trend in previous reports but at a slightly higher level.

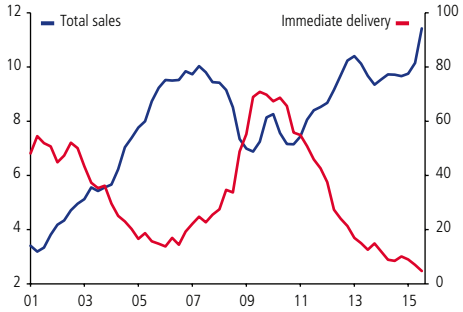
FIGURE III.11
UIR, by length of arrears (1) (2) (3)
(percent of loans)



(1) Includes only productive sectors.
(2) Excludes contingent loans.
(3) Classification of economic activity is from a 2014 business directory. The results are subject to change to the extent that information is updated.

Source: Own elaboration, based on data from SBIF and INE.

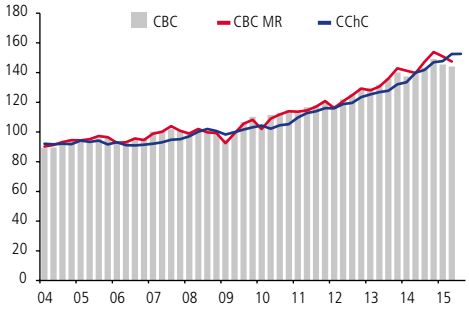
FIGURE III.12
New home sales in Santiago (*)
(thousands of units, annual moving average; percent)



(*) Includes gross buyers' purchase contracts.

Source: GFK Adimark.

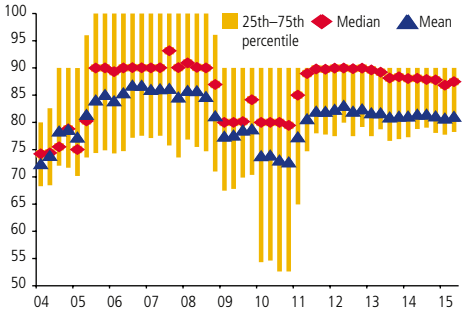
FIGURE III.13
Home prices in real terms (*)
(fixed-base index: 2008=100)



(*) HPI, stratified method. CChC uses a new house hedonic model.

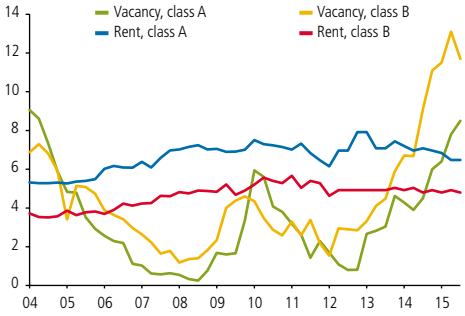
Source: Central Bank of Chile, based on data from the Internal Revenue Service (SII) and CChC.

FIGURE III.14
Residential loan-to-value ratio
(percent)



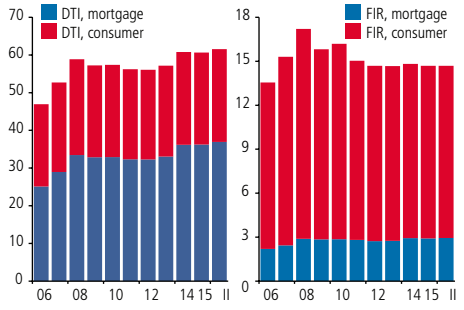
Source: Central Bank of Chile, based on data from SII.

FIGURE III.15
Vacancy rate and annual rental prices
(percent, UF per m²)



Source: CBRE.

FIGURE III.16
Household indebtedness (1)(2)
(percent of disposable income)



(1) The latest data use estimates for interest rates on lines of credit and credit cards.
(2) Annual data, except for the last two bars in each figure, which use quarterly data.

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

In 2015, the annual growth rate of total household debt stabilized at around 7%, mainly due to dynamic mortgage debt and a slowdown in consumer debt.

Consumer debt slowed steadily starting in late 2013 and continuing throughout 2014, before stabilizing this year, with an annual growth rate of 3.4% in the second quarter. The growth of debt with the banking sector has been particularly slow for the last three quarters (table III.3)[4]/. By loan amount, loans of less than UF200 posted null growth. Nonbank credit providers saw something of a recovery, especially savings and loan cooperatives, which grew 0.3% in real annual terms after falling since 2011. However, the debt stock held by the cooperatives remains below the 2008 level.

Household mortgage debt continued to grow faster than consumer debt, mainly through an increase in the average debt in this segment (statistical appendix). Larger mortgage segments recorded the highest growth rates, in line with the evolution of house prices (figure III.17). An analysis based on granular data shows that the intensive growth of new debtors has been mainly in loans of over UF5,000, with a corresponding fall in loans of less than UF1,000.

TABLE III.3
Household debt
(real annual change, percent)

	2010	2011	2012	2013	2014				2015		Contribution to growth (2)	Share (2)
	IV	IV	IV	IV	I	II	III	IV	I	II (1)		
Mortgage	**7.0**	**7.1**	**7.6**	**8.9**	**9.2**	**9.2**	**9.6**	**9.9**	**9.5**	**9.9**	**5.8**	**59.6**
Bank	9.1	8.2	8.3	9.1	9.4	9.4	10.1	10.5	10.3	10.8	5.6	53.9
Nonbank (3)	-5.8	-0.7	2.0	7.4	7.8	7.2	5.6	4.8	2.6	2.5	0.2	5.7
Consumer	**7.2**	**6.9**	**6.8**	**7.4**	**6.8**	**4.8**	**4.0**	**2.5**	**3.1**	**3.4 (6)**	**1.4**	**40.4**
Bank	8.8	13.3	8.9	8.2	7.0	4.4	4.5	2.6	2.9	2.8 (6)	0.7	24.2
Nonbank	4.9	-7.6	-2.6	2.4	3.1	2.2	3.2	1.3	2.6	3.9 (6)	0.4	9.8
Retail companies	6.1	-15.0	-6.2	4.1	6.2	6.9	6.8	2.2	2.9	4.7 (6)	0.2	5.0
FCF (4)	3.8	5.2	3.5	4.1	3.8	0.6	1.8	2.5	3.9	4.5	0.2	3.4
Cooperatives	3.2	-5.3	-3.3	-5.6	-6.5	-7.5	-4.1	-4.3	-1.1	0.3	0.0	1.5
Other (5)	5.8	18.0	18.8	13.7	12.8	10.5	3.2	3.9	4.7	5.0	0.3	6.3
Total	**7.1**	**7.0**	**7.3**	**8.3**	**8.2**	**7.3**	**7.2**	**6.7**	**6.8**	**7.2 (6)**	**7.2**	**100.0**

(1) Preliminary estimates for bank and retail consumer debt.
(2) Percentage points.
(3) Includes securitized mortgage debt.
(4) Family compensation funds.
(5) Includes car financing, student loans, insurance companies and the central government.
(6) In order to have consistent series with the values in March, the values reported by Scotiabank in its June financial statements are used to estimate Cencosud loans (in Retail companies) and the consumer portfolio of Banco Paris (in Bank debt). If the Banco Paris consumer portfolio is excluded, the growth of bank consumer debt is 1.7%.

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

[4]/ In the second quarter of 2015, bank loans were also affected by the sale of the consumer portfolio of *Banco Paris* to an affiliate of Scotiabank, such that growth measured though individual balances would be 1.7%. The 2.8% figure is obtained by keeping this portfolio in bank loans.

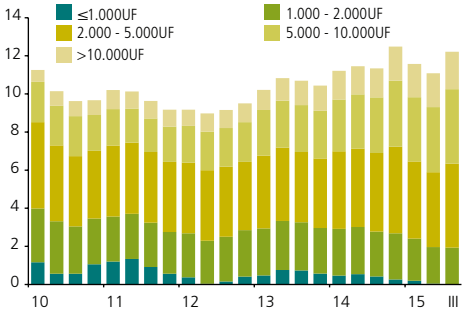
In the third quarter of 2015, payment indicators—the unpaid installment ratio and default of 90 days or more—improved for mortgage loans and were stable for the consumer portfolio (figure III.18).

These trends are in line with administrative data, which show a reduction in the share of people in a situation of default (90 to 180 days past due) and a small increase in the ratio of the portfolio in 90-day delinquency rate. Granular data reveal some degree of heterogeneity among debtors from 2011 to date. The 90-day delinquency rate on consumer loans for the group of debtors that only have this type of debt has increased more than the 90-day delinquency rate for debtors who also have mortgage debt. Finally, the 90-day delinquency rate has deteriorated the most among debtors with commitments to more than three financial institutions.

The 90-day delinquency rate continued to deteriorate for the family compensation funds, reaching 7.4% in June 2015 (statistical appendix), while the retail companies were relatively stable[5]/.

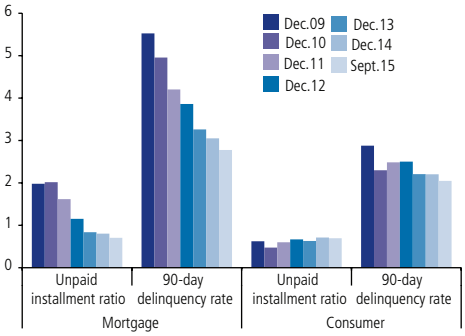
In sum, household indebtedness continued to follow an upward trend, mainly due to a dynamic mortgage portfolio. Payment indicators are mostly positive on aggregate, albeit with variation among different groups of debtors in the consumer portfolio. The behavior of consumer payment indicators is related to the resilience of the labor market, such that a deterioration in the latter could generate an increase in arrears.

FIGURE III.17
Contribution to growth of mortgage loans
(real annual change, percent)



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

FIGURE III.18
Bank payment indicators
(percent)



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

[5]/ On the cutoff date for this FSR, arrears data from the SBIF were not available. Internal estimates indicate that in the second quarter of 2015, the indicator was stable relative to year-end 2014.

BOX III.1
UNPAID INSTALLMENT RATIO FOR COMMERCIAL LOANS

Bank credit is used by firms of all sizes and in all economic sectors, including firms with other sources of funding, such as corporations that report to the SVS or that have external debt. The 90-day delinquency rate, which was first introduced in the FSR for the first half of 2014, provides information on payment behavior, complementing and extending the nonperforming loans (unpaid installment ratio) ratio, i.e. the risk measure reported by banks. This box describes the construction of the 90-day delinquency rate, its sectoral composition and the breakdown by length of time past due[1]/. For the latter variable, the analysis uses the regularization rate of firms.

Construction of the indicator

The database of administrative records is from the Debtor System maintained by the Superintendence of Banks and Financial Institutions (SBIF, for its name in Spanish), which contains aggregate information on the commercial loans taken out by each firm, including foreign trade loans. The database also identifies loan installments by length of time past due.

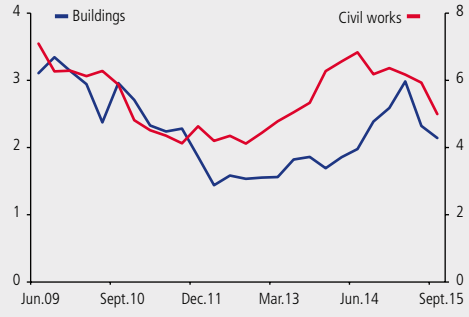
Unpaid installments are defined as the sum of installments that are past due by 90 days to three years. The 90-day delinquency rate is the ratio of this sum to the total debt (current and up to three years past due). It is thus possible to calculate the 90-day delinquency rate for a specific firm, for a group of firms, for an economic sector or for all firms. In the case of all firms, the 90-day delinquency rate becomes comparable to the unpaid installment ratio ratio in terms of both level and trend (figure III.9), although they are constructed differently. For the unpaid installment ratio, the nonperforming loan portfolio is calculated for each bank, excluding write-offs[2]/ and using accounting information that includes leasing, factoring and contingent loans, in addition to commercial loans.

[1]/ See Fernández et al. (2015b).
[2]/ SBIF regulations (Compendium of Accounting Regulations, chapter B-2) indicate that uncollateralized loans with 24 months of arrears and collateralized commercial loans with 36 months of arrears must be written off for accounting purposes, which implies eliminating the full amount of the loan. The administrative data only contain aggregate arrears at the firm level, and not by individual loan. Nor is there granular data on write-offs. Therefore, the approximation used to construct the indicator is to eliminate installments that are more than three years in arrears.

Sectoral characterization

A business directory[3]/ is used to allocate an economic activity to each firm, to then generate the 90-day delinquency rate for each economic sector[4]/. The sectors are classified into two large groups: the services sector and productive sectors. The services sector has a relatively low 90-day delinquency rate, with a stable trend over time (figure III.9). In contrast, the group of productive sectors has a higher index and a trend that moves in line with sectoral dynamics. The greater openness of the latter group highlights the higher relative vulnerability of some specific sectors, such as fishing and construction, as reported in past FSRs. The dynamics of the 90-day delinquency rate can vary substantially within a given sector. For example, the construction sector can be broken down into two subsectors: civil works and buildings (figure III.19). In the former, payment indicators began to deteriorate markedly in 2012–2013, leading the deterioration in the buildings subsector, which started in late 2014.

FIGURE III.19
90-day delinquency rate in the construction sector (1) (2)
(percent of loans)



(1) Loans exclude contingent credit.

(2) Classification of economic activity is from a 2014 business directory. The results are subject to change to the extent that information is updated.

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

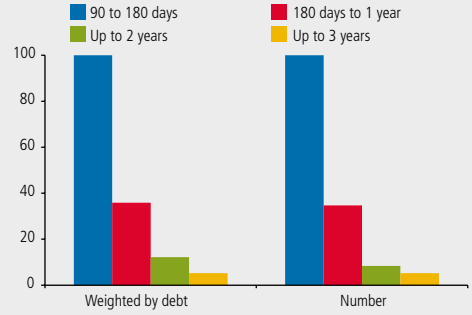
[3]/ The directory is consistent with the International Standard Industrial Classification (ISIC), and it is periodically revised, which could result in firms being reclassified.
[4]/ There are also firms and commercial loans associated with natural persons, which cannot be given a sectoral classification.

Length of time in arrears

As indicated in chapter III, the composition of the 90-day delinquency rate has deteriorated, with an increase in the share of installments that are more than a year past due (figure III.11). Tracking firms by the extent of arrears, measured as the maximum length of time that their installments are past due, provides an indication of the probability that they will regularize their status in the future[5]/. An analysis of regularization in six months indicates that firms that are further past due, with arrears of 180 days to one year, have a lower probability of regularizing their status in that timeframe than firms with a maximum arrears of between 90 and 180 days. Firms that are more than a year in arrears have an even lower probability of regularization. A similar pattern is found when the number of firms is weighted by their debt (figure III.20).

Finally, it must be noted that some of these loans in arrears must be provisioned and may potentially be written off, in accordance with the current banking regulations.

FIGURE III.20
Regularization rate in six months: Productive sectors (1) (2) (3) (4)
(fixed base index 100= firms with 90 to 180 days past due)



(1) Loans exclude contingent credit.
(2) A firm's arrears are measured as the oldest unpaid installment.
(3) Classification of economic activity is taken from a 2014 business directory. The results are subject to change as information is updated.
(4) The average regularization in six months between October 2014 and March 2015.

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

[5]/ A firm is considered to have regularized its situation when it no longer has any installments that are more than 90 days in arrears, within a given horizon.

BOX III.2
FINANCIAL SITUATION OF FAMILIES

The Central Bank of Chile recently published the main results of the 2014 Household Financial Survey (HFS), which was implemented between July 2014 and February 2015[1]/. This survey provides a perspective on the financial situation of households to the extent that it considers all debt (bank and nonbank) and all sources of income[2]/. This box focuses on household indebtedness and debt-at-risk.

Indebtedness

Two indicators that are typically used to evaluate the financial health of individuals and households are the debt-to-income ratio (DTI) and the financial burden-to-income ratio (FIR). These indicators are usually reported in the FSR for the economy as a whole, where the sum of the stocks of all types of debt (or interest payments and amortizations in the case of the FIR) is divided by household disposable income. While these aggregate indicators are readily available at a quarterly frequency, they do not provide information on the distribution of the ratios among different households, so it is not possible to determine whether there are groups with a more worrisome debt level or financial burden. The HFS provides the basis for advancing on this front, through the calculation of the DTI and FIR for each household. The DTI and FIR obtained from the HFS differ from the aggregate indicators reported in the FSR, primarily because they only capture data on the households surveyed. The trends are similar, however: both measures show an increase in indebtedness and a slight decrease in the financial burden (table III.4, upper panel).

TABLE III.4
Debt-to-income ratio (DTI) and financial burden-to-income ratio (FIR)
(percent)

	DTI		FIR	
	Aggregate (average)			
Stratum	2011	2014	2011	2014
HFS	40.1	43.5	10.1	9.6
FSR – Administrative data	56.2	60.8	15.0	14.8
	Median			
Stratum (1)	2011	2014	2011	2014
1	12.2	10.3	19.5	23.0
2	21.0	15.4	19.2	18.7
3	29.1	29.8	14.4	18.7 (2)

(1) Stratum 1 includes lower-income households (1st to 5th deciles); stratum 2, medium-income households (6th to 8th deciles); and stratum 3, upper-income households (9th and 10th deciles).
(2) The change between 2011 and 2014 is statistically significant at 10%.

Source: Central Bank of Chile.

The household-level analysis can be summarized using the median of each ratio in different groups of household, classified by income stratum (table III.4, lower panel). Comparing the three strata, the first stratum (comprising lower-income households) shows an increase in the financial burden. As mentioned in previous FSRs, this can largely be explained by debt maturities. The debt of this group of households tends to be concentrated at shorter maturities and higher interest rates than the other income strata[3]/. Thus, for a given debt level, a shorter maturity requires larger installment payments and thus implies a larger financial burden for the duration of the debt.

In terms of dynamics, the median DTI shows a slight decrease that is not statistically significant, for all households and for the different strata. The FIR has mostly risen, with a statistically significant increase in the third stratum.

[1]/ The presentation and main results of the survey are available online at www.bcentral.cl.
[2]/ Some of the households surveyed form a panel—that is, they were re-surveyed over time—so the HFS can also be used to study household financial behavior.

[3]/ For example, mortgage loans, which have longer terms and lower interest rates, are less prevalent in this income segment.

The analysis of the HFS data suggests that the reason behind the increase in the FIR in a context of a stable DTI is the shorter maturities reported for consumer debt, associated in part with an increase in the use of bank credit cards in the upper income strata.

Some of this short-term debt could be transactional in nature. In that case, the trend would not necessarily reflect a higher debt level, but rather the use of a purchase option that allows consumers to maintain cash balances[4]/. On the other hand, the increase in short-term debt could reflect structural financing needs that households cannot finance at longer maturities, which therefore must be constantly renewed through the means at their disposal.

Although the survey does not provide the data for immediately distinguishing between these two situations, other parts of it help shed led on this. In particular, only 5.5% of stratum 3 households with debt reported that their debt level is "excessive." This evidence, combined with the increase in credit card debt in this income segment, would support the view that some of the increase in the short-term debt burden is transactional in nature. In the first stratum, however, 10.9% of households with debt state that their debt level is "excessive." Given that the default probability of this income segment is more than double that of the third stratum, this evidence suggests that the increase in short-term debt in this stratum translates into a higher risk of nonpayment. While the situation has been stable since 2011, this is a variable that should be monitored in the event of a possible deterioration in the labor market.

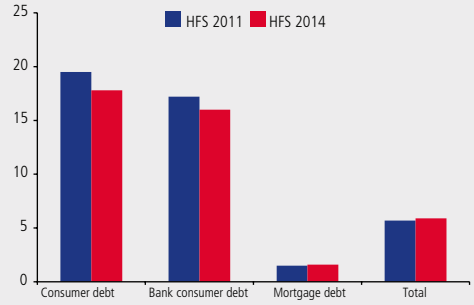
Default risk

The HFS contains information that can be used to quantify the default risk of households. In particular, we use the share of debt-at-risk, defined as the ratio of debt adjusted by payment probability to total debt for each household. This calculation requires estimating the probability of nonpayment for each type of debt for each household member, in order to be used in a probit model, in line with previous studies[5]/.

The application of this procedure for the 2011 and 2014 surveys shows that debt-at-risk in the consumer segment has declined from 19.5 to 17.8%. This trend, which is found for all income segments, can largely be explained by the reduction in the unemployment rate, from 7.0% in late 2011 to 6.2% in the last quarter of 2014. A similar pattern is found for bank consumer debt. In the mortgage segment, debt-at-risk was stable at relatively low levels between the two surveys. On aggregate, debt-at-risk increased slightly, from 5.7 to 5.9% (figure III.21).

FIGURE III.21

Debt-at-risk as a share of total debt, by type of debt
(percent)



Source: Household Financial Survey.

[4]/ An example is a household that makes purchases using interest-free installments and at the same time puts money into savings.
[5]/ See Alfaro and Gallardo (2012), Martínez et al. (2013) and Madeira (2014).

IV. BANKING SYSTEM

Lending activity remains sluggish, with the exception of the mortgage portfolio. Aggregate credit risk indicators are stable, although the commercial portfolio has some points of vulnerability. While the impact of the stress scenario is similar to the last FSR, the final result is worse due to the fall in the system's initial earnings and capitalization.

RECENT EVOLUTION

The growth rate of commercial and consumer loans is low, while mortgages continue to expand at around 10% in real annual terms.

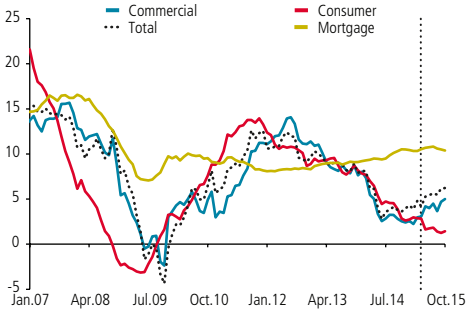
Commercial loans recovered somewhat in recent months (5% in October), about 60% of which is explained by the higher valuation due to the currency depreciation (figure IV.1). The low growth of commercial lending is consistent with the phase of the economic cycle. Interest rates remain low and have even fallen, as in the case of credit line rates, which fell more than 2 percentage points (pp) in the past year. This also coincides with the lower demand identified in the Bank Lending Survey (BLS) over the past few quarters.

By sector, lending continues to be dynamic in services, mainly tied to financial businesses, whereas it has steadily contracted in construction and weakened recently in trade. The real estate sector has also recorded a slowdown in lending, which according to the BLS is due to tighter supply (figure IV.2).

The real annual growth of consumer loans was 1.4% in October[1]/. The low growth rate was especially notable in medium-sized banks (–0.7% in the same period). Installment loans have declined continuously, beyond a slight increase at the margin. Revolving credit, mainly credit cards, also fell in the most recent period.

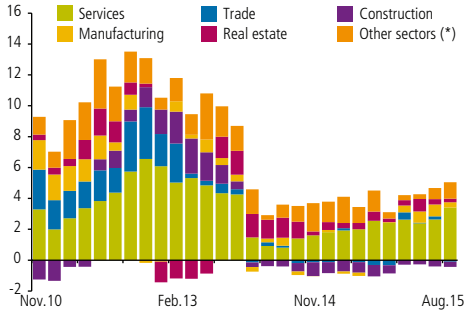
Mortgage loans continue to grow above 10% in real annual terms, despite a slight slowdown in the last three months. This high growth is mainly explained by the large banks, which as a group recorded growth above that level. This has occurred in a context of very dynamic demand and low interest rates (3.6% real

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



(*) The vertical dotted 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)

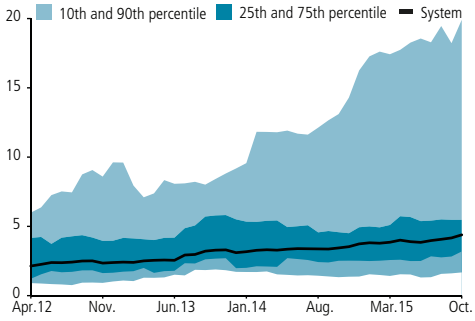


(*) Includes EGW; transport, storage and communications; agriculture, livestock, forestry and fishing; and mining.

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

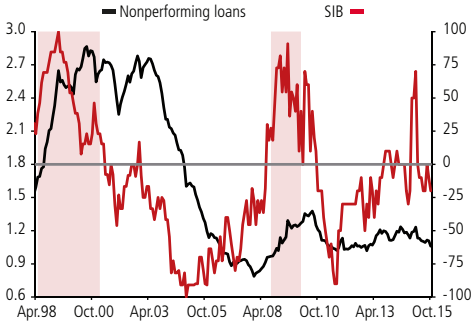
[1]/ Part of the lower growth at the system level is due to the purchase of the *Banco Paris* portfolio by a banking services affiliate of Scotiabank.

FIGURE IV.3
Distribution of substandard loan portfolio (*)
(percent of commercial loans)



(*) Excluding treasury and foreign trade banks.
Source: Central Bank of Chile, based on data from SBIF.

FIGURE IV.4
Commercial unpaid installment ratio and bank synchrony index (SIB) (*)
(percent)



(*) The shaded areas indicate periods of financial crisis.
Source: Own elaboration, based on data from SBIF.

annual, on average). People appear to be purchasing homes in advance of the implementation of the Tax Reform (chapter III), which suggests that mortgage lending will remain vigorous in the coming months. Finally, according to the results of the BLS, lending could be subject to some limitations due to the change in the regulatory environment.

Credit risk indicators are stable on aggregate, but there are some elements of concern in the commercial segment.

The share of substandard loans in the individually evaluated commercial portfolio has increased, in some banks exceeding 20% of the total stock (figure IV.3). The SIB indicator for nonperforming loans—which measures the share of banks with an increase in the unpaid installment ratio and whose rise historically precedes an increase in default at the system level—was zero in recent months. However, the measure could deteriorate over the coming months to the extent that a larger share of banks have seen an increase in nonperforming loans since 2010 (figure IV.4)[2]/.

Within the commercial portfolio, risk is higher in small and medium-sized banks that have a strong presence in segments where vulnerability has increased recently...

The analysis of a sample of the largest current and past-due commercial debtors in the system[3]/, in conjunction with a review of banks' cross-border operations, reveals several fragilities in the commercial segment of some smaller banks.

First, some medium-sized banks are significantly exposed to firms registered in Brazil and to local firms with a presence in that country. In the third quarter of 2015, system-wide exposure to Brazil was just over 3% of commercial loans—or 14% of regulatory capital (RC)—whereas the exposure of some medium-sized banks exceeded 25% of RC.

Second, some small banks are more sensitive to exchange rate fluctuations, due to their exposure to importing firms. In the selected sample, loans in arrears account for over 6% of EE in some banks, and they are concentrated in large firms, mainly in trade and manufacturing.

[2]/ For more details on the SIB indicator, see Martínez and Oda (2015).
[3]/ Administrative data from SBIF, which represent around 80% of commercial debt and 70% of arrears in the system.

…especially those with exposure to the nonbank credit sector.

The financial services sector represents 12% of the commercial loans of the largest debtors in the system. In terms of composition, 25% were granted to firms that offer consumer loans—and that represent 24% of the total of these loans—such as the family compensation funds, retail companies and savings and loan cooperatives.

In the last two years, the family compensation funds have posted a general increase in arrears—due to the recognition of higher credit risk in their portfolios—and a substantial drop in profitability. Most recently, *La Araucana* had difficulties paying its financial and social commitments, a situation that resulted in intervention by the supervisor.

The first channel of vulnerability is through direct commercial loans with the banking sector. In June, these represented 0.5% of assets and 5.5% of drop capital in the creditor banks. Exposure is higher in some smaller banks, where exposure to the family compensation funds can be as high as 12% of regulatory capital (figure IV.5).

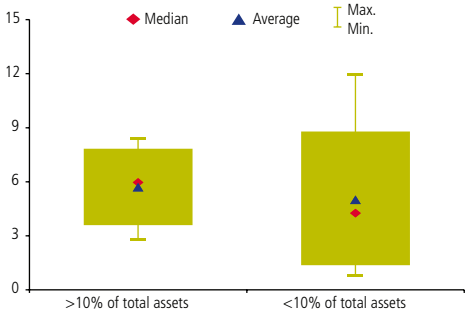
The second, indirect, channel is through the fixed-income mutual funds, which are the main investors holding bonds issued by the family compensation funds (almost 56%) and which, in turn, are important creditors for the banking system. In this case, an increase in the risk associated with family compensation fund securities could generate withdrawals, implying a liquidation of bank deposits. Estimates show that an extreme event of bank deposit liquidation by the mutual funds would have a differentiated effect on banks, ranging from 0.9% of liabilities for large banks to 3.1% for medium-sized banks[4]/.

In this context, the banks' profitability and capitalization have decreased.

In the third quarter, profitability fell to an ROE of 15% and an ROA of 1.13% (figure IV.6). This was largely due to the decline in the interest margin, which reflected both a drop in the interest rates charged and a lower contribution from the highest-yield segments (consumer and commercial)[5]/.

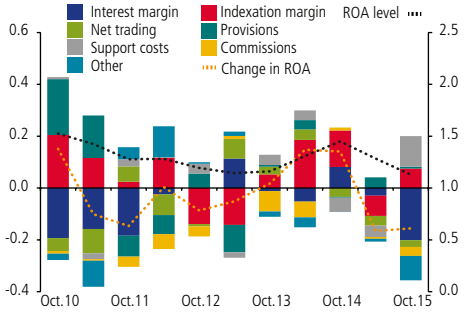
The capital adequacy ratio (CAR) for the system as a whole has progressively decreased over the last four quarters, from 14% to less than 13% in September 2015. This trend derives from lower growth of regulatory capital in small and medium-sized banks[6]/ and an increase in risk-weighted assets in the larger banks, which has recently been accentuated by exchange rate

FIGURE IV.5
Creditor banks to the family compensation funds (*)
(percent of regulatory capital; June 2015)



(*) Bars indicate the 10th and 90th percentiles.
Source: Central Bank of Chile, based on data from SBIF, SVS and issuing banks.

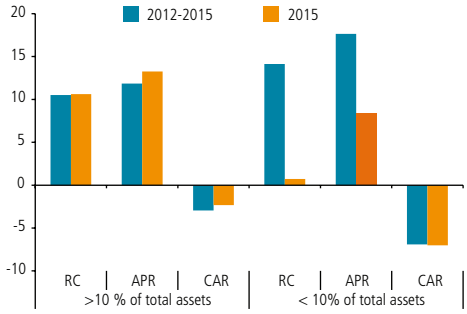
FIGURE IV.6
Changes in the main components of ROA in the system (*)
(moving sum in last twelve months, percent in the half)



(*) Based on consolidated financial statements.
Source: Central Bank of Chile, based on data from SBIF.

[4]/ For details, see the methodology and results in FSR, First Half of 2015, Box IV.1 "Stability of Bank Funding."
[5]/ The share of the mortgage portfolio has increased from 23 to 26.5% in the last two years.
[6]/ There was a sharp drop in June due to an isolated situation.

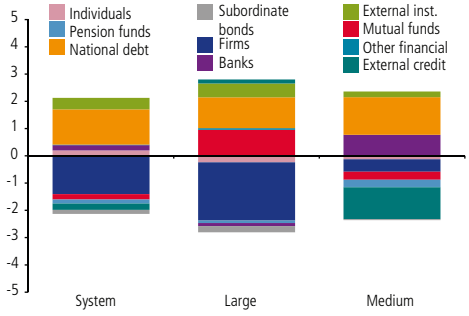
FIGURE IV.7
Change in CAR components (*)
(annualized change, percent)



(*) Annual change for the APR and RC; change in the period for the CAR.

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

FIGURE IV.8
Change in the composition of banking system liabilities
(percentage points) (1) (2)



(1) Difference between September 2015 and December 2014.
(2) Excluding other deposits, other financial liabilities, derivatives, taxes, provisions and other liabilities.

Sources: Central Bank of Chile, SBIF, SVS and CSD.

effects (figure IV.7). This has occurred in an international context in which the global banking system has had to increase its capitalization levels relative to where it was before the international financial crisis, whether to accommodate new regulations or as a voluntary effort to increase resilience. In 2009, with a capitalization level of around 14.3%, Chile was above the median of the OECD economies; today, however, the country is in the lower part of the distribution. In view of these developments—and given that the reform of the General Banking Law announced by the Finance Ministry will include a revision of solvency requirements, so as to gradually converge with the new Basel III capital standards—it is important for the banking system to reinforce its capital levels, for example by adjusting its policies on the reinvestment of earnings.

Financing through the issue of domestic debt instruments and interbank loans has increased, while fundraising in the external market has partially eased.

For smaller banks, the share of overseas instruments has been stable, but there was an increase among larger institutions, mainly through the issue of commercial papers. Thus, the share of external debt instruments in the large banks grew by 0.8% of total liabilities between year-end 2014 and September 2015.

The lower cost of funding relative to the external markets has led to an increase in issues in the local market (chapter II). For medium-sized banks, the use of this resource reached 1.1% of total liabilities in September 2015. The use of bank deposits has also grown in this group of banks, replacing the mutual and pension funds. Thus, the risk level is unchanged since the last FSR (figure IV.8).

RISK FACTORS

The banking system could still face periods of volatility in their external and local funding sources.

Internationally, the cost of funding will probably rise due to the rate hike process in the United States. This is especially relevant for larger institutions, due to their growing exposure to commercial papers.

The lower returns recorded by the mutual funds in recent months could trigger sudden liquidations of time deposits. The impact will be greater for smaller banks, where the mutual funds continue to be a significant source of funding.

The quality of the commercial portfolio could deteriorate further, affecting banks with greater exposure to vulnerable sectors.

In a context of low credit activity, the payment indicators of the commercial portfolio are stable for the system on average. However, some segments of the portfolio have deteriorated. There are institutions with a high share of commercial loans to financial services firms (especially the family compensation funds), with currency risk exposure and with exposure to firms with investments in Brazil. The impact of these risks varies by institution, and it is important for banks with exposure to maintain adequate provision levels to face a possible deterioration in their portfolio quality.

Changes in the regulatory framework and in the structure of the banking industry represent challenges for the banking system.

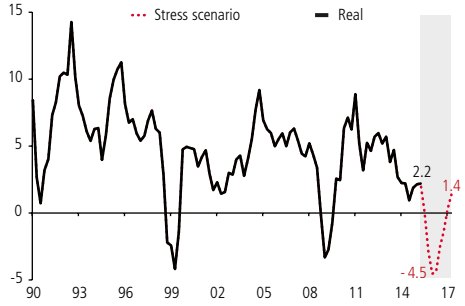
Recent structural changes in the industry include the following: (i) mergers and/or portfolio transfers; (ii) expansion in the provision of banking services by retail companies; (iii) market entry and exit of institutions; and (iv) changes in controlling companies. With regard to the regulatory framework, the regulations on mortgage provisions were modified to standardize the risk assessment criteria and the constitution of provisions associated with this type of product. The Executive Office has also announced a reform to the General Banking Law, including the definition of new capital adequacy standards. In sum, the banking system currently has lower profitability and capital solvency levels. Therefore, the risk factors described herein take on greater relevance and raise challenges in terms of adequate risk management.

TABLA IV.1
Main changes in the banking industry (*)

Change	Date	Notes
New actors		
Entry of BTG Pactual	January 2015	Holds a share of 0.1% of system assets
Entry of China Construction Bank	April 2015	SBIF granted authorization for installation
ILC takes control of Banco Internacional	2015	CChC trade union
Mergers, absorptions, Sales and exits		
CAR	December 2013	Retail firm enters Banco Ripley
CAT	May 2015	Retail firm enters Scotiabank
Itaú Corpbanca	May 2016	Would reach share of 12% of local market and 16% global
Deutsche	2015	Exit announced for 2016
Penta	July–August 2015	Commercial portfolio sold to Banco de Chile (approx. MMUS$800)
BCI	October 2015	Incorporated City National Bank of Florida (CNB), USA
Regulatory framework		
General Banking Law	2015–2016	In discussion stage
Liquidity standards	2015–2016	Reports beginning in December 2015 through March 2016
Mortgage portfolio provisions	2016	Enters in to effect in January 2016

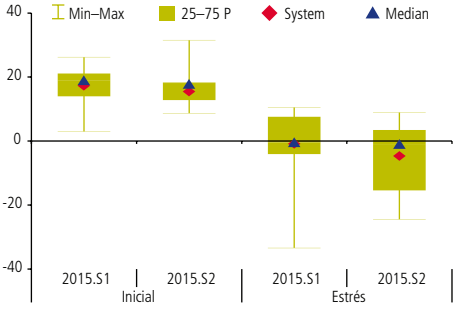
(*) Updated figures for September 2015.
Source: Central Bank of Chile, based on data from SBIF.

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



(*) The shaded area indicates the exercise window.
Source: Central Bank of Chile.

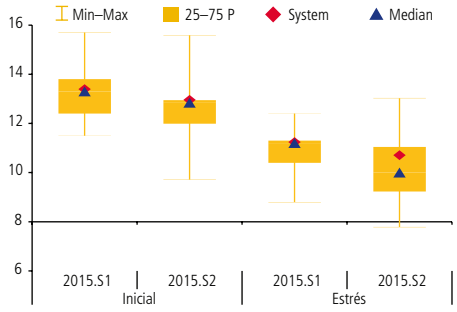
FIGURE IV.10
Impact of different scenarios on ROE (1) (2) (3)
(earnings over Tier 1 capital)



(1) Data weighted by the Tier 1 capital of each institution.
(2) Calculations do not include treasury, foreign trade and consumer banks that have left the system.
(3) Minimums correspond to the 1st percentile.

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

FIGURE IV.11
Impact of different scenarios on the capital adequacy ratio (1) (2)
(efective equity on risk-weighted assets



(1) Data weighted by the Tier 1 capital of each institution.

(2) Calculations do not include treasury, foreign trade and consumer banks that have left the system.

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

TABLE IV.2
Impact of stress tests on profitability
(percent of Tier 1 capital)

Change	2015.I	2015.II
Initial ROE	**17.3**	**15.5**
Market risk	**-1.5**	**-1.8**
Valuation	-1.1	-1.0
Repricing	-0.7	-1.1
Currency	**0.3**	**0.3**
Credit risk	-21.4	-22.0
Consumer	-9.2	-9.6
Commercial	-10.4	-10.3
Mortgage	-1.8	-2.2
Margin	**4.8**	**3.7**
Final ROE	-0.9	-4.7

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

ASSESSMENT OF THE STRESS SCENARIOS[7]/

The stress tests show that the banking system continues to have an adequate financial position to face the materialization of a severe stress scenario. The results are lower than in the last FSR, mainly due to lower initial profitability and capitalization levels, affected by lower operating margins, consistent with the evolution of the economic cycle.

The stress tests use macrofinancial and accounting information for the banking system as of June 2015. Credit risk is calculated by estimating a model that relates loan loss provisions—which reflect the credit risk of the banks' portfolios— primarily with economic activity. Market risk is calculated based on three types of exposure: currency, valuation and repricing. These 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. Specifically, output would reach –4.5% in annual terms in the most critical quarter and then converge to growth of 1.4% in late 2017. This scenario aims to replicate past episodes of financial fragility (figure IV.9)[8]/.

Relative to the initial situation in the last FSR, based on data for December 2014, the banking system exhibits lower profitability and a slightly lower capitalization level. The system's return on equity (ROE) is 1.8 pp lower (15.5 versus 17.3%), and the CAR is 0.5 pp lower (12.8 versus 13.3%)

The tests show that under the stress scenario, ROE becomes negative, at –4.7 pp of Tier 1 capital, which is lower than the –0.9 pp found in the stress tests in the last FSR (table IV.2). At the individual level, banks that together represent 51% of the system's Tier 1 capital (50% in the last FSR) would record negative earnings under the stress test (figure IV.10). Banks with a CAR of over 11% represent 43% of the system's Tier 1 capital (57% in the last FSR), and 0.8% (0.3% in the last FSR) would reach a CAR below 8% (figure IV.11)[9]/. Thus, the situation is less favorable than in the FSR for the first half, especially in terms of capitalization levels.

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 seen 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.

[7]/ The analysis is based on the methodology described in the FSR for the second half of 2013. Both the analysis and the results are reported regularly to the SBIF.
[8]/ The UF interest rate forecast for June 2016 for one- to three-year loans and for mortgages of over 20 years are 5.1 and 5.8%, respectively.
[9]/ Includes reinvested earnings and capitalizations.

V. FINANCIAL REGULATION

This chapter reviews the most important issues in the debate on financial regulation at the local and international levels in the second half.

NATIONAL REGULATION

Opening of additional bank current accounts in the RTGS for clearing and settlement system management companies

On 15 July 2015, the Central Bank introduced modifications to chapters III.H.4 and III.H.4.1 of the Compendium of Financial Regulations (CFR) on the RTGS system, to complement the general conditions applicable to bank current accounts opened at the Central Bank of Chile by companies that manage clearing and settlement systems for financial instruments, governed by Law 20,345. The regulatory change allows this type of company to open additional accessory accounts for the specific purpose of holding in the RTGS system funds received as collateral for cash settlement.

Opening this type of account is optional and must be expressly authorized in the operating rules governing the system(s) managed by the management company. The request to open the accessory accounts can be made simultaneously with or subsequent to the opening of the main account at the Bank.

The SBIF issues liquidity regulations for the banking system

Following a period of public consultation, in July the SBIF published the new regulations on liquidity risk management in the banking industry. The regulations implement the specifications issued by the Central Bank in the new chapter III.B.2.1 of the CFR, in January 2015 (see the last FSR).

The new SBIF regulations refine the current regulations on managing and measuring banks' liquidity position, in line with international best practices. In accordance with the Central Bank's objectives in this area, the new regulations

aim to strengthen liquidity risk management policies in the banking system; to increase the quality and quantity of information available to the market and the supervisor; to incorporate the Basel III quantitative measures without imposing regulatory limits; and to improve the current regulatory requirements with regard to maturity mismatches.

Although the new regulations entered into effect on 1 August 2015, the corresponding report and control of the new measures will be implemented gradually. In particular, the new measure of maturity mismatches will begin on 1 December 2015, while the Basel III measures and liability monitoring will be implemented on 1 March 2016.

Regulations on bank operations with politically exposed persons

The SBIF published a regulatory change requiring banks to have in place specific policies for operations or contracts involving politically exposed persons (PEPs). Thus, chapter 1-16 of the SBIF Updated Compilation of Regulations establishes that these policies must be publicly disclosed on the bank's website, and they must include specifications such as the hierarchical level required to authorize credit exceeding a certain amount and the information that must be provided to justify the credit approval. The regulations also establish the role that must be performed by the bank's board of directors when carrying out operations with PEPs and the information that must be periodically reported on these operations. PEPs are defined as including people who perform or have performed important public functions, up to at least a year after leaving the position in question, as well as spouses and family members within the second degree of consanguinity.

Strengthening of corporate governance for publicly traded companies

In June, the SVS published a new regulation (NCG 385) to improve the information on corporate governance reported by publicly traded companies, together with a second regulation (NCG 386) to incorporate the diffusion of practices related to social responsibility and sustainable development. The adoption of these regulations is not mandatory, although the SVS aims to generate incentives for investors to make decisions benefitting corporations that best safeguard their interests.

NCG 385 aims to promote the diffusion of information to shareholders and the general public on the company's policies, practices and the effectiveness thereof, in the areas of social responsibility and sustainable development; to improve the quality and reliability of information contained in the self-assessment of the board of directors through an assessment by an unrelated third party; and to make explicit the treatment of conflicts of interest and the procedures for updating the board's code of conduct.

NCG 386 covers the incorporation in the company's annual report of information on diversity in the board of directors (gender, nationality, age and tenure), diversity in general management and other divisions that report to the general manager or the board of directors, diversity in the organization and the gender wage gap.

The SVS approves operating rules and authorizes start-up of *ComDer*

ComDer Contraparte Central started operations on Thursday, 30 July, after receiving approval of its operating rules from the SVS on 8 June 2015, through SVS Resolution 191 and following a favorable report by the Central Bank of Chile, and authorization to begin operations on 23 July, through Exempt Resolution 226. This entity clears interbank currency forwards with maturities of up to one year and has the participation of 14 market entities.

The use of central counterparties for standardized products in OTC derivatives markets is one of the main recommendations of the Financial Stability Board (FSB) following the 2008 crisis, due to the significant contribution of these entities in the management of legal, credit, liquidity and operational risks.

INTERNATIONAL REGULATION

Virtual currency

In the United States, the Commodity Futures Trading Commission (CFTC) took the first actions in the area of virtual currency, on accusing a firm involved in bitcoin options trading of having violated the Commodity Exchange Act and CFTC regulations in 2014. The CFTC order the company to cease operations and charged both the company and its chief executive officer with operating a facility for trading commodity options without registering with the CFTC as required by law. With these actions, the CFTC made it clear that it considers virtual currencies to be commodities, and as such they are covered under the corresponding legal framework.

Guidelines for facilitating the resolution of financial institutions

The FSB published two sets of guidelines for facilitating the resolution of financial institutions. The contents of these reports are oriented toward implementing "The Key Attributes of Effective Resolution Regimes for Financial Institutions" (KA), mainly in terms of cross-border execution[2]/.

[2]/ The FSR for the second half of 2014 summarizes the FSB report, "The Key Attributes of Effective Resolution Regimes for Financial Institutions."

The first report, "Principles for Cross-Border Effectiveness of Resolution Actions," addresses mechanisms through which resolution frameworks (laws, regulations and contracts) should recognize resolution actions taken by authorities in foreign jurisdictions that affect local financial institutions, mainly banks. The principles establish a preference for the legal recognition of the external resolution and signal the conditions through which this can be achieved. At the same time, contractual recognition should serve to complement the legal recognition. The report explicitly discusses "stays" and "bail-in" clauses as resolution actions that would benefit from being solidly structured in the contracts.

The second report is entitled "Guidance on Cooperation and Information Sharing with Host Authorities of Jurisdictions Where a G-SIFI Has a Systemic Presence That Are Not Represented on its CMG[3]/." One of the KAs establishes that the authorities of countries in which there is a presence of a given G-SIFI (including the parent or holding company and significant subsidiaries) should have in place a crisis management group (CMG). The CMG provides a forum for the relevant authorities to prepare for and facilitate the possible future resolution of a G-SIFI with a presence in the jurisdiction, through active collaboration. The recently published report acknowledges that there are jurisdictions with the (systemic) presence of a G-SIFI, but that are not represented in the CMG, which could complicate the resolution process. The guidelines therefore identify processes for determining the systemic nature of a G-SIFI subsidiary; cooperation agreements between authorities in the jurisdiction where the subsidiary is located and the authorities in the parent company's jurisdiction; and the type of information necessary and the conditions under which it should be shared.

Total loss-absorbing capacity (TLAC)

Following a year of consultation, the FSB published the principles and term sheet for a new international standard to be applied to G-SIBs[4]/. The consultative document establishes that global systemically important banks must have sufficient loss-absorbing and recapitalization capacity in the event of resolution, so that that resolution generates a minimum impact on financial stability and respects the priority of creditors' claims.

The instruments that are eligible for meeting TLAC requirements must be subordinated to operational liabilities[5]/. Thus, TLAC-eligible instruments are long-term debt or capital instruments that can be used for loss absorption or recapitalization in resolution. Regulatory capital (core and supplementary capital) is part of TLAC, although common equity Tier 1 (CET1) capital that is used to meet Basel III capital buffers (conservation and countercyclical capital and the G-SIB surcharge) cannot also be used for TLAC. Debt instruments used for TLAC that are not part of regulatory capital must have a lower priority than the bank's senior debt.

[3]/ G-SIFIs: Global systemically important financial institutions; CMGs: Crisis management groups.
[4]/ Global systemically important banks.
[5]/ There are different ways to meet TLAC requirements, according to the creditor of the eligible instruments. There will thus be internal and external TLAC, depending on the resolution strategy for a given G-SIB and its subsidiaries.

In principle, the FSB requirements will be applied to G-SIB parent companies, although they may also be applied to G-SIB subsidiaries in the case of multiple point of entry (MPE) resolution strategies[6]/. The minimum TLAC must be at least 16% of the resolution entity's risk-weighted assets (and 6% of total assets[7]/) as of January 2019, and 18% of risk-weighted assets (and 6,75% of total assets) as of January 2022[8]/. Additionally, for a given G-SIB, the corresponding authorities could set a higher minimum TLAC than established by the FSB, depending on the specific characteristics of the institution (recovery and resolution plans, systemic impact, business model, risk profile and organizational structure).

Solvency II

The Solvency II Directive creates a principle-based regulatory and supervisory system for the insurance industry in the European Union. This common regulatory framework establishes risk-based capital adequacy requirements and stipulates the mandatory establishment and documentation of an integrated risk management model. The primary objective is to improve the control and calibration of the industry's main risks. The directive also aims to promote greater transparency and higher information standards and to reinforce the protection mechanisms for insurance policyholders and beneficiaries.

The directive was approved in 2009 and amended in 2014. Over the past few years, the European Commission has made advances toward implementation, carrying out impact assessments and issuing secondary regulations for the application of the directive. Solvency II is scheduled to enter into effect on 1 January 2016, and the first prudential reports are expected in mid-April 2016.

Other important documents

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

[6]/ A resolution model in which the resolution tools are applied to different parts of a group by two or more authorities. In contrast, a single point of entry resolution strategy is applied to the group's parent company by a single national resolution authority.

[7]/ Assets used for the Basel III leverage ratio.

[8]/ The requirement for G-SIBs headquartered in emerging economies begins in 2025, although the conformance date can be accelerated if the aggregate amount of the financial and nonfinancial corporate debt in the emerging country where the G-SIB is headquartered exceeds 55% of the country's GDP.

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

Date	Agency	Regulation	Material and objectives
08-06-2015	SVS	NCG385, WHICH REPEALS NCG 341; AND NCG 386 WHICH MODIFIES NGC30.	Strengthens corporate governance standards for publicly traded corporations. The objective is to generate more and better incentives for this type of corporation—and any other entity that wishes to voluntarily comply with the provisions of the new regulation—raise their standards in the area of corporate governance, social responsibility and sustainable development.
22-06-2015	SBIF	CIRCULAR 3584, WHICH MODIFIES CHAPTER B-1 OF THE COMPENDIUM OF ACCOUNTING REGULATIONS	Provides some specific instructions with regard to the introduction of the new instructions on the calculation of credit risk provisions.
25-06-2015	SVS	CIRCULAR 2180	Issues new instructions to life insurance companies and insurance brokers on the sale of insurance savings plans, in order to ensure transparency and promote an informed buying decision on the part of policyholders.
22-07-2015	BCENTRAL	CIRCULAR 3013-758	Complements the general conditions applicable to bank accounts opened with the Central Bank of Chile by financial instrument clearing and settlement system management companies governed under Law 20,345.
23-07-2015	SVS	EXEMPT RESOLUTION 226	Authorizes the initiation of operations by *ComDer, Contraparte Central S.A.*
31-07-2015	SBIF	BANKS CIRCULAR 3585 AND CIRCULAR LETTER 7/2015 INFORMATION SYSTEM MANUAL	New liquidity regulations for the banking system, whose objective is to adjust 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 Compendium of Financial Regulations of the Central Bank of Chile.
19-08-2015	SBIF	COMPENDIUM OF ACCOUNTING REGULATIONS FOR SAVINGS AND LOAN COOPERATIVES	Establishes mandatory accounting criteria for these entities, which will allow them to bring their financial statements in line with International Financial Reporting Standards (IFRS).
25-08-2015	SVS	NCG 390 WHICH REPEALS NCG 312	Allows contributions or withdrawals of instruments, goods and contracts, whose generic type is contemplated with an investment objective in the internal rules of the respective fund, provided that it meets at least one of the requirements specified in the regulation.
07-09-2015	SBIF	NEW CHAPTER 1-16 RAN: OPERATIONS WITH POLITICALLY EXSPOSED PERSONS	Establishes special procedures for banks when they carry out operations or contracts with politically exposed persons (PEPs) and regulates the role of the Board of Directors in this area.
20-10-2015	SBIF	BANK CIRCULAR 3591, WHICH MODIFIES CHAPTER 6-1: DOCUMENTS PAYABLE BY CLEARING HOUSE	Standardizes the format of checks and other documents (bank drafts, time deposits and so forth) that are presented for collection in the financial system, defining common security standards for all banks and facilitating their reading and processing by electronic means.

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

Date	Agency	Regulation	Material and objectives
20-08-201	SVS	PUBLIC CONSULTATION CLOSED REGULATION MODIFYING THE REQUIREMENTS FOR GRANTING ENDORSABLE MORTGAGE LOANS	Modifies the current limits on the amount of loans that can be granted by insurers to legal persons via endorsable mortgage loans, with the objective of increasing companies' investment alternatives and promoting competition in the financial market competition.
27-08-2015	SVS	PUBLIC CONSULTATION CLOSED REGULATION ON ACCREDITATION OF KNOWLEDGE FOR BROKERS, THIRD-PARTY RESOURCE MANAGERS AND FUND SALES AGENTS	Establishes the knowledge and conditions that will provide better guarantees that people who work for securities brokers, henceforth brokers, general fund managers, fund sales agents and people or entities registered in the Registry of Portfolio Managers have suitable skills and the minimum necessary knowledge to adequately perform their functions.
28-08-2015	PENSIONS	PUBLIC CONSULTATION CLOSED NEW REGULATIONS ON INVESTMENT VALUATION FOR PENSION AND UNEMPLOYMENT FUNDS	Replaces the current price adjustment system for fixed-income instruments and national financial intermediation used by these organizations. The changes aim to introduce improvements to the current system, particularly with regard to more liquid instruments, by incorporating daily spread adjustments.
10-09-2015	SBIF	PUBLIC CONSULTATION CLOSED APPENDICES TO CHAPTER B-1 OF THE COMPENDIUM OF ACCOUNTING REGULATIONS FOR BANKS	Defines mandatory requirements for banks that wish to use internal models, as well as the characteristics of the methodologies and the way in which the SBIF will evaluate their definition and later use.
14-09-2015	SBIF	REGULAATIONS ON SOLVENCY OF MAJORITY SHARE-HOLDERS OF A BANKING INSTITUTION	Verifies compliance with the solvency requirement on the part of majority shareholders of banks, that is, to always have a consolidated net equity equal to their corresponding share of the bank's Tier 1 capital.
16-09-2015	SVS	PUBLIC CONSULTATION CLOSED MODIFICATIONS TO NCG 152 ON ASSETS REPRESENTING TECHNICAL RESERVES AND RISK EQUITY	Modifies the current requirements for life insurance companies to invest in syndicated loans, promoting this investment alternative for the insurers.
13-10-2015	SVS	PUBLIC CONSULTATION CLOSED MODIFICATION AND COMPLEMENTATION OF NCG 309, WHICH ESTABLISHES CORPORATE GOVERNANCE PRINCIPLES FOR INSURERS AND REINSURERS	Incorporates the concepts Risk Appetite and Own Risk and Solvency Assessment (ORSA) and requires the periodic self-assessment of best practices in corporate governance.

TABLE V.3
List of key documents

Document	Title	Organization	Solvency / Liquidity	Infrastructure / Transparency	SIFIs	Resolution	Risk mgmt. / Governance	Supervision	Other
1	Corporate governance principles for banks	BIS					*		
2	TLAC Holdings - consultative document	BIS	*		*	*			
3	Guidelines for identifying and dealing with weak banks	BIS				*		*	
4	Interest rate risk in the banking book - consultative document	BIS	*						
5	Review of the Credit Valuation Adjustment (CVA) risk framework - consultative document	BIS	*						
6	Net Stable Funding Ratio disclosure standards	BIS	*	*					
7	Digital currencies	BIS							*
8	Developments in credit risk management across sectors: current practices and recommendations	BIS	*				*	*	
9	Implementation monitoring of PFMI: Assessment and review of application of responsibilities for authorities	BIS-IOSCO		*				*	
10	Guidelines on stress tests of deposit guarantee schemes	EBA							*
11	EBA report on macroprudential policy measures	EBA							*
12	PRA/FCA Review into the failure of HBOS	PRA-FCA				*	*	*	
13	The Bank of England's approach to stress testing the UK banking system	BoE							*
14	Corporate Funding Structures and Incentives	FSB					*		*
15	Total Loss-Absorbing Capacity (TLAC) Principles and Term Sheet	FSB	*		*	*			
16	Principles for Cross-border Effectiveness of Resolution Actions	FSB			*	*			
17	Removing Remaining Obstacles to Resolvability	FSB			*	*			
18	Implementation and effects of the G20 financial regulatory reforms	FSB							*
19	Regulatory framework for haircuts on non-centrally cleared securities financing transactions	FSB							*
20	Transforming Shadow Banking into Resilient Market-based Finance	FSB							*
21	Consultative document on Developing Effective Resolution Strategies and Plans for Systemically Important Insurers	FSB				*			*

Source: Website of each institution.

BOX V.1
REGULATION AND SUPERVISION OF NONBANK CONSUMER CREDIT PROVIDERS

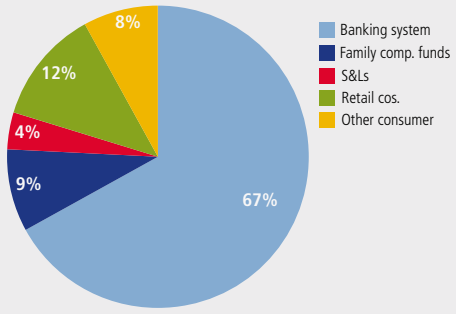
Nonbank consumer credit providers supply financing to people who do not have access to the banking sector. It is crucial that this service be provided by solvent institutions with appropriate corporate governance.

Recently, one of the family compensation funds was intervened by the Superintendent of Social Security (SuSeSo) and is currently undergoing a judicial process of corporate reorganization. Other nonbank consumer credit providers have also had problems related to credit risk management, which is the motivation behind this box.

Characterization of nonbank credit providers

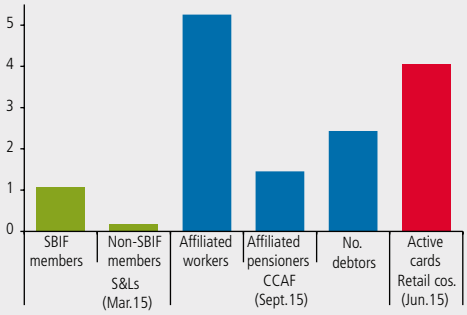
Nonbank consumer credit providers include retail and supermarket credit card issuers (CCs), family compensation funds and savings and loan cooperatives (S&Ls). Together, they represent 33% of the consumer credit market (figure V.1), providing credit or financial services to a large group of people (figure V.2).

FIGURE V.1
Consumer loans, by type of lender
(percent of consumer portfolio, December 2014)



Source: Central Bank of Chile, based on data from SuSeSo, SBIF and National Accounts

FIGURE V.2
Number of people associated with nonbank lenders
(millions)



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

Nonbank credit card issuers are generally structured as a financial affiliate of a retail sales company (such as department stores or supermarkets). They originally only provided consumer credit, but they have since incorporated new products and services, such as travel financing and insurance, as well as cash advances. Most recently, they have forged partnerships with international credit card brands in order to expand the network where their cards are accepted. Because these entities issue credit cards that can be used outside the business of origin, they are regulated by the Central Bank and supervised by the SBIF.

The family compensation funds are private nonprofit corporations. They emerged in 1953 as fund managers in the social security system (unemployment, disability and family benefits), but today they primarily operate as nonbank financial institutions. Their main activity and source of income is their social lending portfolio. They have also incorporated a range of financial services such as mortgage loans, insurance, home savings accounts, and collection and payment services. These entities are supervised by the SuSeSo and the Office of the Comptroller General, (*Contraloría General de la República*).

S&Ls are associations based on the principle of mutual aid. All members have equal rights and obligations, and they each have one vote, independent of their capital share. Joining and leaving the association is voluntary. S&Ls provide financial services, and they can receive deposits from their members and from the general public, but can only grant loans to members. The Law on Cooperatives establishes that if the equity of an S&L exceeds UF400,000, its economic operations will be supervised by the SBIF; otherwise, the organization will be under the purview of the Cooperatives Department (DECOOP) of the Ministry of the Economy[1]/. Other aspects of their operations, including corporate governance, are subject to the regulations established by the DECOOP, independent of equity. Consequently, S&Ls with equity of over UF400,000 have a dual supervisory scheme. In accordance with current legislation, the Central Bank establishes the prudential regulatory framework applicable to all these entities.

These three types of entity receive bank financing. Some also issue securitized or corporate bonds in the securities market, which are subject to supervision by the SVS. In the case of credit card issuers, some of their financing comes directly from the parent company.

Credit and risk management

Credit from these institutions grew strongly prior to the crisis of 2009 (FSR, first half of 2010), in contrast to the dynamics of bank credit. Subsequently, the growth of credit from this type of institution slowed (FSR, second half of 2012). This corresponded with the first signs of difficulties in credit risk management. For example, in the S&Ls, nonperforming loans as a share of total loans increased from 1% to 2% between 2011 and 2013[2]/. The family compensation funds recorded an increase in arrears from 5.0% to 7.5% between the last quarter of 2012 and the second quarter of 2015. Finally, the rate of arrears has been relatively stable for the CCs, at around 4%.

Regulatory and supervisory frameworks

Despite having elements of risk in common—related to credit management, such as maturity transformation, liquidity and leveraging—these institutions are subject to different sectoral supervisory processes (SBIF, DECOOP, SuSeSo), with their respective legal frameworks. Thus, the supervision of the CCs is focused on safeguarding payment to the businesses that accept the cards as a means of payment; for the family compensation funds, the aim is to ensure an appropriate management of state subsidies; and with the S&Ls, a key factor is deposit protection, similar to banks.

Risks to financial stability and the regulatory response

Given their relatively small size and limited connection to the rest of the financial system, the financial fragility of any given nonbank consumer credit provider does not imply a significant risk for other financial system participants. However, problems in the these entities could affect public confidence in the financial system and in the institutions and regulations that govern it, generating some degree of contagion.

Some recent advances in the regulation and supervision of these entities mitigate this risk: (i) the Central Bank of Chile harmonized the regulatory scheme for nonbank credit card issuers whose cards can be used in unrelated businesses, such that they are now directly supervised by the SBIF; (ii) the SuSeSo has incorporated a number of important prudential standards and regulations; and (iii) new S&Ls have been brought inside the regulatory perimeter of the SBIF. Thus, over the past few years, regulations have been issued covering aspects of solvency, corporate governance, liquidity risk, operational risk, information standards, market conduct and consumer protection.

Nevertheless, there is still room for improvement, in particular for family compensation funds and S&Ls, which have experienced significant portfolio deterioration in recent years. In this sense, the authorities need to work toward greater convergence of the supervisory models applied to these entities, in order to strengthen corporate governance, credit risk management and other areas, thereby reducing the probability of new episodes of instability.

[1]/ Recently, the Ministry of the Economy's Solidarity and Social Economy Division merged the former Cooperatives Department with the Trade Union and Consumer Unit.

[2]/ The increase was from 4.3 to 8.6% in the same period when the largest S&L in the system is excluded.

VI. PAYMENT SYSTEMS

This chapter presents the main statistics on the payment systems and describes developments in financial infrastructure at the local and international levels[1]/.

LARGE-VALUE PAYMENT SYSTEMS

In Chile, the large-value payment system (LVPS) is made up of the real-time gross settlements (RTGS) system and the large-value payment clearing house (*Combanc*). The RTGS system, which is managed by the Central Bank, settles gross transactions immediately in the accounts of each bank, whereas *Combanc* settles the transactions for each bank at the end of the day and then clears them through the RTGS system.

On average, LVPS clearing continued to follow an upward trend.

In the third quarter of 2015, the average daily amount settled in the LVPS was Ch$16 trillion (+9% annual). Of the total, 72% was cleared in the RTGS system (table VI.1), which is mainly tied to interbank payments (figure VI.1).

Clearing transactions from the OTC securities market continued to increase, on average, in the RTGS.

In the third quarter of 2015, the RTGS system cleared a daily average of Ch$5.4 trillion in interbank payments (+9% annual). The increase is mainly explained by the growth of payments in the OTC securities market, through delivery-versus-payment (DvP) transactions coordinated by the switch service offered by Combanc[2]/, and the increase in interbank payments (12% and 9% annual, respectively) (table VI.1).

This is in line with the trend toward a larger share of OTC securities transactions being settled in the RTGS system. This follows international recommendations for clearing and settlement systems, since the RTGS system settles transactions immediately upon receiving a transfer order (figure VI.2).

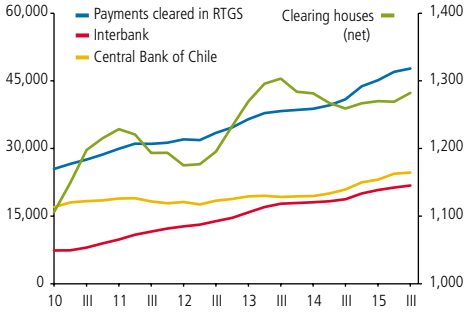
TABLE VI.1
Amounts cleared and processed in the large-value payment systems (*)
(Ch$ billion)

	Third quarter	
	2014	2015
Payments settled in the RTGS	**10,821**	**11,542**
Interbank	4,963	5,400
Own	1,687	1,840
Client account	1,890	2,010
Issuer / Nonbank receiver	1,428	1,501
CCLV	462	503
ComDer	-	6
DvP OTC securities market	1,386	1,549
Clearing houses (net)	309	322
Checks	59	59
ATMs	17	17
Combanc	233	246
Central Bank of Chile	5,549	5,821
Payments processed in *Combanc*	**3,895**	**4,503**
Own	961	1,280
Client account	1,909	2,028
DvP OTC securities market	1,025	1,195
Total cleared LVPS	**14,716**	**16,045**

(*) Daily averages for each quarter.

Sources: Central Bank of Chile, *Combanc*, CCLV and *ComDer*.

FIGUR VI.1
Amounts cleared and processed in the large-value payment systems (*)
(Ch$ billion)

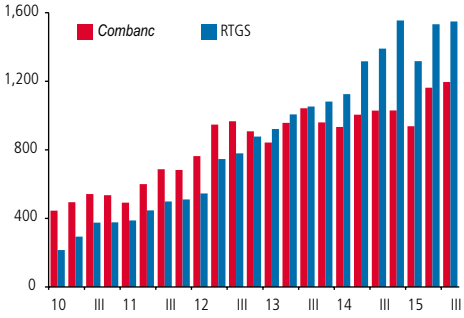


(*) Daily averages for each quarter.

Source: Central Bank of Chile.

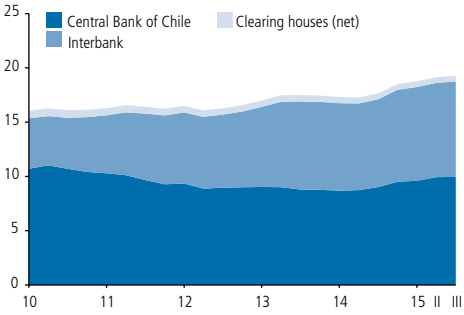
[1]/ More information is available in the statistical appendix and on the Central Bank's website, in the Payment Systems section.
[2]/ Under a DVP mechanism, the transfer of securities in the CSD occurs simultaneously with the cash payment, which can be cleared in either the RTGS system or *Combanc*.

FIGURE VI.2
Systems for clearing transactions originating in the OTC securities market (*)
(Ch$ billion)



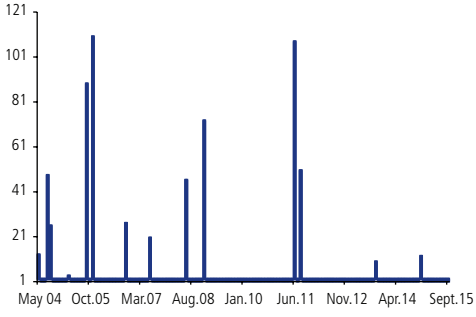
(*) Quarterly averages.
Source: Central Bank of Chile.

FIGURE VI.3
Amounts cleared and processed in the large-value payment systems
(times GDP, annualized amounts)



Sources: Central Bank of Chile, *Combanc* and SVS.

FIGURE VI.4
Interruption of RTGS system availability (*)
(minutes per month)



(*) Monthly.
Source: Central Bank of Chile.

The volume of payments settled in the RTGS system is currently equivalent to just over 19 times GDP. In other words, it takes approximately 13 business days for the RTGS system to clear an amount equal to the country's annual GDP. This volume has been increasing over the last several years (it was 16 times in 2010), and there has been a change in composition due to the growing share of interbank settlements (figure VI.3). At the international level, this ratio varies widely among countries. For example, the ratio is 6 times in India, 48 times in Brazil, 50 times in the United States and 62 times in Japan (BIS, 2015), (figure VI.3).

The RTGS system achieved 100% availability in 2015.

Since the RTGS system started operating, it has achieved maximum system availability, with very few episodes of service interruption. The few cases of interrupted service were sporadic and did not affect the performance or security of the interbank payment system. Since late 2011, there have only been two months with interruptions in availability, with a downtime of around 10 minutes in each episode, testifying to the security and reliability of system operations (figure VI.4)[3]/.

RETAIL PAYMENT SYSTEMS

Retail payments continue to be marked by a reduction in the use of checks and an increase in electronic payments, especially internet transfers and bank credit cards (table VI.2 and figure VI.5).

The 2014 Household Financial Survey (HFS) provides more information on the use and possession of these payment means. For example, some of the conclusions from the survey are that the most widely held payment means, excluding cash, are debit cards or electronic checking accounts (72%), followed by nonbank credit cards (61%), checking accounts (32%) and bank credit cards (28%). Possession of these instruments increases with income and, in general, with education level[4]/.

[3]/ The availability indicator in the figure is the total number of minutes in the month during which system operations were interrupted. For example, in December 2014 the RTGS system was available for a total of approximately 11,149 minutes, out of a total of 11,160 minutes by regulation, such that settlement in the RTGS system was interrupted for just 11 minutes in that month. The time required by regulation is the sum of the minutes during which the regulation stipulates that the RTGS system must be operative (every business day from 9:00 to 17:30, with the exception of the day before some holidays, when closing is at 16:30).

[4]/ Possession of an electronic checking account or nonbank credit card increases with the person's level of education until peaking in the post-secondary technical training segment, after which the possession of electronic checking accounts decreases. Possession of a checking account and possession of a bank credit card both increase with education.

FINANCIAL INFRASTRUCTURE

New derivative market infrastructures.

CCLV Derivados began operations on 3 August, offering settlement services through its central counterparty for exchange-traded futures on the IPSA, observed dollar, *unidad de fomento* (UF), average interbank index, and UF-denominated bonds issued by the Central Bank of Chile (BCU) and the Treasury, with an issue rate of 5% annual and a time to maturity of 4 years 6 months and 9 years. Although the central counterparty's operating rules were approved by the SVS in December 2013, following a favorable report by the Central Bank, the rules and regulations of the exchange platform were not approved until this year, which pushed back the start-up of the central counterparty to the aforementioned date. This entity has thus far recorded a low level of operations, which was to be expected given that it provides processing services for exchange derivatives, a nonexistent market in Chile that will need time to be developed.

In addition, *ComDer Contraparte Central S.A.* began operations on 30 July, offering clearing and settlement services for non-deliverable forwards on peso-dollar and peso-UF exchange rates[5]/ (table VI.1). This entity was the first to open an additional accessory account at the Central Bank of Chile for the purpose of holding funds received as collateral for cash settlement, thereby increasing the level of security in the settlement of transactions in the OTC derivative markets (chapter V). This counterparty currently processes around 50% of the OTC bank derivatives market in the products for which it offers services.

The start-up of these infrastructures is an important step toward achieving greater convergence with international standards, which recommend the migration of bilaterally traded derivatives to centralized clearing and settlement systems.

Cross-border renminbi payment system

The Cross-Border Interbank Payment System (CIPS) began operating in October, which will allow payments from or to China using the renminbi (RMB) as currency. The CIPS processes gross, real-time payments, using an international standard for messaging; has extended business hours; and complies with the Principles for Financial Market Infrastructures (PFMI). All these elements should contribute to facilitating the use of the RMB in international transactions.

The CIPS is an important part of the plan to internationalize the RMB and will complement other measures such as the designation of RMB clearing banks in various countries, including Chile[6]/.

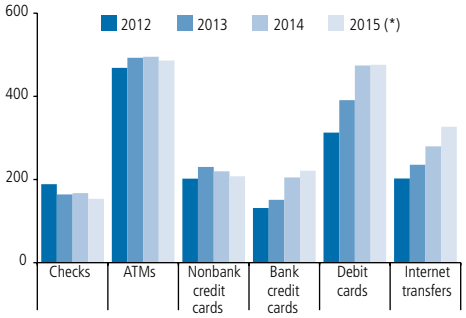
TABLE VI.2
Main retail payment means
(Ch$ billion)

	2012	2013	2014	2015 (*)
Checks	323,980	279,699	291,322	280,881
ATMs	22,174	24,523	25,674	25,952
Nonbank credit cards	5,083	5,890	5,778	5,589
Bank credit cards	7,338	8,758	11,381	12,334
Debit cards	6,056	7,550	9,131	9,063
Internet transfers	526	667	717	769

(*) Latest available data, annualized.

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

FIGURE VI.5
Retail payment means
(Millions of transactions)



(*) Latest available data, annualized.

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

[5]/ For table VI.1, the amounts cleared by ComDer in the RTGS system are calculated based on the variation margin received daily by ComDer. The variation margin for each participant is generated as the result of price and interest rate variations on the settlement orders. ComDer daily receives margin payments in cash from direct participants whose positions have decreased in value and distributes earnings to direct participants whose positions have increased in value.

[6]/ The Chinese Central Bank designated the China Construction Bank as the RMB clearing bank in Chile. It is expected to begin offering this service once it has received its banking license in the country.

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GLOSSARY

90-day delinquency rate: Also called portfolio in arrears. 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. Average clearing house index: An instrument that represents the cost of funds resulting from financing a position at the overnight rate, using the average interbank interest rate reported by the Central Bank of Chile.

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.

Bail-in: A bank resolution tool that allows uninsured debt to be partially or fully written off or converted into capital, so as to improve the institution's solvency.

Bank synchrony index: Measures the share of banks that increase the objective indicator less the share that reduce it, with a given level of tolerance h (e.g., h = 55th percentile).

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.

Broker-dealer: A legal entity authorized to act as an intermediary in the purchase and sale of financial securities on behalf of clients.

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 regulatory capital 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).

***Combanc* switch:** A service provided by *Combanc* to interconnect banks, the Central Securities Depository (CSD) and the payment systems, facilitating

the sequential synchronization of the delivery of securities by the CSD and the corresponding payment made in the clearing house or the Central Bank's RTGS system.

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.

DVP: Delivery versus payment. A clearing mechanism that links a securities transfer system with a funds transfer system, guaranteeing that the delivery of the securities occurs simultaneously with the payment thereof. Used in both the primary and secondary markets, including the over-the-counter (OTC) market.

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).

Financial infrastructure: The financial market infrastructure is made up of the payment systems, central counterparties, security clearing and settlement systems, central securities depositories and trade repositories.

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.

Forward: A contract between two parties, establishing a commitment to exchange a certain quantity of an asset on a future date, at a predetermined price.

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.

Institutional investors: Organizations that transact large volumes of assets, including banks, financial corporations, insurance companies, pension fund administrators, national reinsurance companies and legally authorized fund administrators.

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: Measure of the banks' debt level over equity; used as a complementary tool to capital adequacy requirements.

Liquidity duration: the ratio between the value of fixed-income assets in a portfolio and the average daily trading volume of these same assets in secondary markets. Higher values indicate lower liquidity.

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.

NIIP: Net international investment position. The difference between the economy's external assets and liabilities.

Non-deliverable forward (NDF): Over-the-counter (off-exchange) currency futures that are settled (net) outside the local market.

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.

Unpaid installment 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.

Over-the-counter: A term used to describe the trading of financial instruments directly between two parties, without going through the organized securities exchanges.

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.

Real exchange rate (RER): A measure of the real value of the peso against the real value of another currency.

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

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.

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 regulatory capital.

Substandard loans: Individually evaluated loans to firms with a significant worsening of their payment 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.

Term premium: The excess yield charged by investors in exchange for investing in a long-term instrument rather than in a shorter-term series.

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.

Total external debt: Includes bank debt, bonds and other external loans, as well as foreign direct investment loans.

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).

AR: 90-day delinquency rate.

PFA: Pension fund administrator.

ECB: European Central Bank.

BCS: *Bolsa de Comercio de Santiago* (Santiago Stock Exchange).

BCU: Central Bank bonds denominated in UFs.

BIS: Bank for International Settlements.

BOE: Bank of England.

CDS: Credit default swap.

CGFS: Committee on the Global Financial System.

CFR: Compendium of Financial Regulations.

RSTED: Residual short-term external debt.

CSD: Central securities depository.

FTD: Fixed-term deposit.

BLS: Bank Lending Survey.

EMBI: Emerging Markets Bond Index.

ETF: Exchange-traded fund.

Fed: U.S. Federal Reserve.

ESSF: Economic and Social Stabilization Fund.

FFR: Federal funds rate.

FOMC: Federal Open Market Committee.

PF: Pension funds.

PRF: Pension Reserve Fund.

FSB: Financial Stability Board.

FSI: Financial Soundness Indicators.

FDI: Foreign direct investment.

FSR: Financial Stability Report.

IPSA: *Índice de Precios Selectivo de Acciones* (Selective Stock Price Index).

GDN: Global Depositary Notes.

GBL: General Banking Law.

LTRO: Long-term refinancing operation.

MSCI: Morgan Stanley Capital International.

MRO: Main refinancing operations.

NCG: General Regulation issued by the Superintendence of Securities and Insurance (SVS).

OFR: Office of Financial Research.

OTC: Over the counter.

NIIP: Net international investment position.

FI: Fixed income.

IR: International reserves.

VI: Variable income.

SBIF: *Superintendencia de Bancos e Instituciones Financieras* (Superintendence of Banks and Financial Institutions).

SII: *Servicio de Impuestos Internos* (Chilean 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).

SMP: Survey of Market Participants.

SPD: Survey of Primary Dealers.

TLAC: Total loss-absorbing capacity.

CMR: Conventional maximum rate.

VAR: Vector autoregression.

VIX: Chicago Board Options Exchange Market Volatility Index.

WTI: West Texas Intermediate crude oil.

Alejandro Zurbuchen S.
LEGAL REPRESENTATIVE

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ISSN: 0716-2219
Santiago, Chile
Agustinas 1180, Santiago, Chile
P.O.Box 967, Santiago, Chile
Tel.: 56-22670 2000
www.bcentral.cl
bcch@bcentral.cl

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