

FINANCIAL STABILITY REPORT

FIRST HALF 2017



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*/The statistical cutoff date of the *Monetary Policy Report* was 22 May 2017.

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 well-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* 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

In recent months, the Chilean financial system has seen no major disruptions, and available information indicates that it is in a good position to withstand the impact of stress scenarios. Internal and external payment systems have functioned normally, while credit risk indicators have remained low. However, recent developments point to a gradual increase in the latter. If the economic slowdown continues, this deterioration may deepen.

External long-term interest rates remain low in spite of the reversal observed toward the end of last year. Since the previous *Financial Stability Report* (FSR), the U.S. Federal Reserve (Fed) increased its policy rate (FFR) at the December and March meetings, in line with market expectations. Meanwhile, the European Central Bank continued with its expansionary monetary policy. These policy decisions were taken in a context where growth prospects for major developed economies improved and some volatility indicators remained relatively low. That said, global uncertainty remains high, and the risk of global economic growth revisions going forward cannot be ruled out.

Unexpected hikes in external long-term interest rates in developed economies remain a significant external risk for the Chilean financial stability. Although market expectations contemplate two additional FFR increases during this year, their effect on long-term external rates will depend on both monetary policies in developed economies and a future decompression of term premia. Higher than expected policy rate increases, coupled with the potential beginning of central bank balance-sheet reduction in some countries, could add upward pressure on the long-term interest rates. Meanwhile, term premia could rise due to changes in risk perceptions by foreign agents. Increases in long-term interest rates in international markets, in addition to its currency effect, could pass through to local interest rates, resulting in higher financing costs for local agents.

Political uncertainty in developed countries is still present. While financial markets have reacted positively to the improved economic outlook in the U.S., optimism has declined in face of uncertainty about the scope and implementation of the reforms the current administration plans to carry out. Potential changes in tax and banking regulation, along with modifications to the trade framework could also undermine the economic outlook of emerging economies. In addition, there is still some uncertainty surrounding the ultimate effects of the United Kingdom's exit from the European Union.



The macroeconomic and financial situation of emerging market economies has been mixed. On the one hand, financial risks in China remained high, recently resulting in a downgrade of its credit score by one rating agency. Further financial deterioration in the absence of active measures to mitigate this situation could trigger episodes of greater volatility in international asset prices. On the other hand, monetary policy in Latin American countries has been divergent. While several economies continued their expansionary policies, Mexico has maintained the process of raising its policy rate. Lastly, although economic data in Brazil point to an incipient recovery, recent political events could trigger abrupt adjustments in financial asset prices and portfolio re-allocation, which could permeate other financial markets in the region.

Short and long-term local financing costs are at record lows, in line with a lower monetary policy rate and low long-term external rates.

In this context, institutional investors made minor changes to the composition of their portfolios. In particular, MF1 equity continued to grow relative to other funds, life insurance companies further increased their positions on real estate investment, while pension funds became more exposed to local bonds. Likewise, until the cut-off date of this FSR, there had been no significant changes between the funds managed by pension administrators, in contrast to the significant shift of affiliates to the lower-risk E fund documented in the previous Report.

The financial position of local firms is fairly unchanged from earlier FSR, despite lower-than expected local economic activity.

Total debt to GDP declined slightly, largely explained by external financing sources. In turn, among domestic sources, the growth in bonds has been mainly driven by liability refinancing, while commercial debt growth remains low. The group of companies reporting to the SVS increased their profitability as of the end of 2016 with respect to 2015. However, about 70% of this increase has its origin in non-operational sources. Finally, firms in productive sectors that do not report to the SVS and do not have external debt, have recently posted a slight fall in their bank debt, which, coupled with information from the Bank Credit Survey, hints to lower financing needs. This situation is coherent with the performance of the local economy.

Nevertheless, slower economic growth has affected the repayment behavior of firms in the margin, increasing the commercial portfolio credit risk.

Although the share of non-performing loans for this portfolio is relatively low, since the previous FSR, some delinquency indicators increased. In particular, this is true for sectors such as Retail, Manufacturing and Mining, and the sub-standard commercial portfolio remains relatively high compared to the last five years. Going forward, a less favorable macroeconomic scenario would result in a fraction of these loans becoming non-performing.

Recent events in the labor market have begun translating into a decline in household economic and financial indicators. Although the unemployment rate has not increased significantly, there has been a rebalancing from formal towards informal employment. Thus, since the last FSR, there was an increase in non-performing consumer loans, and the mortgage delinquency halted its decreasing trend of several years. Also, aggregate household indebtedness continues to rise, with mortgage debt being the component contributing the most to this increase. The latest survey information shows an increase in debt service to income; this situation, together with an increased share of non-performing consumer loans requires monitoring. Further deterioration in the labor market could deepen households' delinquency. In fact, banking system stress tests carried out under less severe economic scenarios than usual, show that significant increases in household non-payment indicators could materialize in the future.

The residential real estate market continues its adjustment process. New housing sales in the Santiago Metropolitan Region slowly recovered, while the prices of used and new homes decelerated in the second half of 2016. Moreover, new project startups has slowed down, in line with the economic outlook for the sector. All in all, different indicators for the residential real estate sector show a deceleration, in accordance with the economic outlook but also with the tax and regulatory changes discussed in previous FSRs. Additionally, it is possible that the withdrawal rate, which has remained subdued, could increase in the face of a greater deterioration in the labor market, particularly affecting real estate companies that lack sufficient cash flow to withstand the cost of a withdrawn real estate purchase.

Although the economic outlook has deteriorated in recent years, banking sector capitalization is fairly unchanged. The system's capital adequacy ratio (CAR) has been above 13% since mid-2016, close to its historical average, but still below international standards. Stress tests show that the banks' capital buffer has decreased in the last few years. Thus, the fraction of banks with CAR above 10%, after applying a severe stress scenario, has dropped from 85% of total system assets between 2011 and 2014, to 50% in the last two years. This is because those banks that are most exposed to economic growth deterioration have not yet adjusted their levels of capital accordingly. In this context, the new General Banking Law would provide for a gradual convergence to the Basel III framework, which implies higher capital requirements for banks.

I. EXTERNAL ENVIRONMENT AND FINANCIAL RISKS

The current outlook and financial conditions for developed countries have set the stage for the start or continuation of monetary policy normalization. Nevertheless, global uncertainty is still high, which carries the risk of an increase in the cost of external financing for emerging economies. Variation in the macroeconomic and financial situation of these economies could cause a deterioration in foreign investors' perception of risk, decompressing credit spreads.

EVOLUTION OF THE INTERNATIONAL FINANCIAL SITUATION

External long-term interest rates remain low, despite the reversion in late 2016.

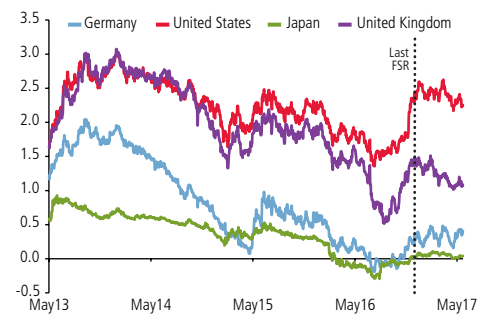
In the second half of 2016, there were transitory, yet significant hikes in external long-term interest rates, relative to the stability exhibited since the previous *Financial Stability Report* (FSR) (figure I.1). In the same period, the U.S. Federal Reserve (Fed) increased its reference rate (the Federal funds rate) at the December and March meetings, to 0.75–1.0%. These hikes coincided with market expectations, which had been corrected upward in the previous months. The European Central Bank maintained an expansionary monetary policy.

Going forward, financial prices and market surveys indicate that external long rates will return to the upward trend of the second half of 2016, which is in line with the improved outlook for developed economies (figure I.2). This coincides with expectations of new increases in the Federal funds rate in 2017, which also depend on the course of fiscal policy and the performance of the labor market in the United States in the coming quarters.

Despite lower levels of stress and volatility in the external financial markets, global uncertainty remains high.

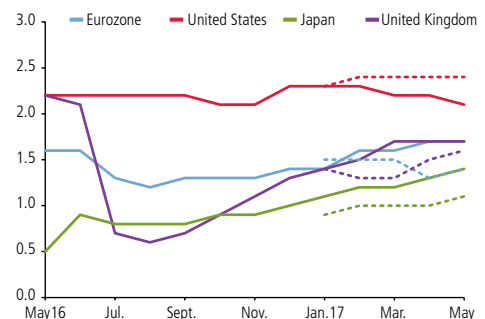
The volatility of different financial prices has generally stayed around or under the average of 2015–2016. The Global Financial Stress Index (GFSI) also reversed somewhat after rising in 2016. Nevertheless, political uncertainty has increased substantially since mid-2016, especially in developed countries. The Global Economic Policy Uncertainty (GEPU) index has reached historical peaks in the most recent period (figure I.3).

FIGURE I.1
Interest rates on 10-year sovereign bonds
(percent)



Source: Bloomberg.

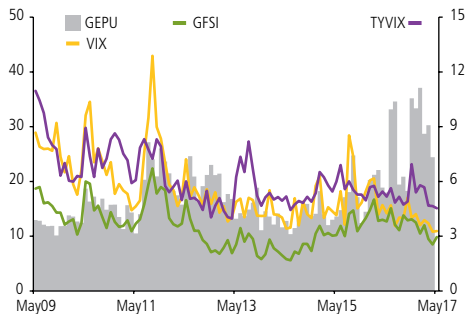
FIGURE I.2
2017 and 2018 growth expectations (*)
(percent)



(*) Solid (dotted) lines indicate the average survey response regarding expectations for annual GDP growth in each country for 2017 (2018).

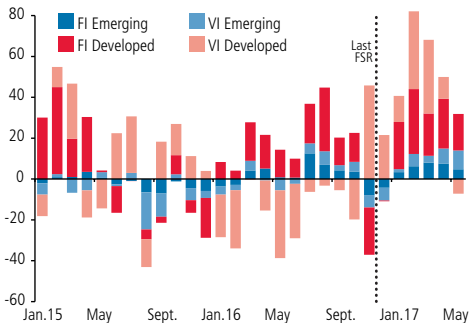
Source: Consensus Economics.

FIGURE I.3
Volatility, uncertainty, and global financial stress (*)
(index)



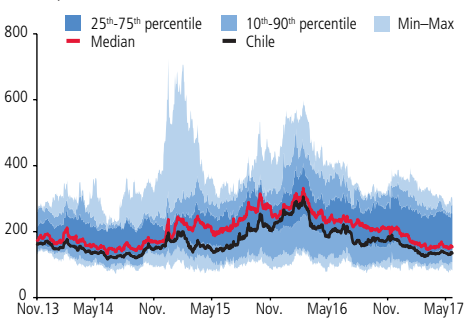
(*) For more details on economic policy uncertainty (EPU), see Baker et al. (2016). A GFSI over/under 10 indicates abnormally high (low) financial market stress.
Source: Bloomberg.

FIGURE I.4
Portfolio flows (*)
(US\$ billion)



(*) Foreign investment in stocks and bonds in developed and emerging countries, based on a survey of international investment funds. Data through 17 May.
Source: Central Bank of Chile, based on data from Emerging Portfolio Fund Research.

FIGURE I.5
EMBI: selected economies (*)
(basis points)



(*) Includes Brazil, Chile, China, Colombia, Philippines, Malaysia, Mexico, Peru, Poland, Russia, South Africa, and Turkey.
Source: Central Bank of Chile, based on data from Bloomberg.

The macroeconomic and financial situation of emerging economies has evolved unevenly.

Despite the improvement in the world growth outlook, according to the International Monetary Fund (IMF) the more precarious performance of some economies—particularly in the region—stems from the slow recovery of commodity prices, as well as idiosyncratic factors (IMF, 2017b). Additionally, financial conditions in these countries have evolved unevenly, in part due to their different exposures to external financing. This has translated into monetary policy divergence. For example, while several Latin American economies have reinforced their expansionary monetary policy, Mexico has continued to increase its reference rate, contributing to reversing the currency depreciation.

Some large emerging economies continue to represent risks. In China, the financial risks have increased since the last FSR. The quality of the commercial portfolio deteriorated in the Chinese banking sector, due to a weakening of the corporate sector. In this context, Moody's recently lowered China's credit rating from Aa3 to A1. In Brazil, some economic indicators suggest that the country could be entering a recovery period, but recent political events add a note of caution.

Thus far in 2017, portfolio capital inflows to emerging economies have been of a similar magnitude to the second and third quarters of 2016 (figure I.4). External financing spreads for emerging economies have decreased, although there is wide dispersion within this group of countries (figure I.5).

MAIN THREATS FOR FINANCIAL STABILITY

Larger-than-expected increases in long rates in developed economies continue to represent an external risk for Chile.

For this year, the market expects the Fed to implement two additional hikes in the Federal funds rate, in line with projections by the FOMC. For 2018 and 2019, there is still some tension between the Fed's messages signaling relatively aggressive hikes and expectations of a more moderate adjustment as reflected in financial asset prices. Thus, there is still a risk of a decompression of term spreads, mentioned in the last FSR, together with the subsequent impact on long-term interest rates. In this context, a faster-than-expected normalization of monetary policy in the United States could result in significant increases in the long-term interest rate. The impact could be exacerbated by the announced reduction of the Fed's balance sheet, the details of which—in terms of the timing, size, and speed of the adjustment—have not yet been communicated. Several studies indicate that a reduction in the balance sheet can be expected to cause an increase in long rates. Kaminska and Zinna (2014) estimate that the Fed's purchases between 2008 and 2012 reduced the interest rate on ten-year sovereign bonds by 140 basis points (bp). Moreover, an increase in the

U.S. long rate could be reinforced depending on the strategy adopted in other developed countries for withdrawing their quantitative stimulus. Notably, these central banks are currently carrying three times the assets on their balance sheets as they had before the global financial crisis (figure I.6).

Internal estimates suggest that the pass-through coefficient of external to local interest rates has decreased since the end of last year. However, the risks of future rate hikes—identified in the last FSR—are still present, given that this coefficient could be close to one in scenarios of greater financial stress (FSR, second half of 2015, figure II.3). This situation could be exacerbated in the event of a potential imbalance between the supply and demand for fixed-income instruments on the part of institutional investors. At any rate, the higher cost of financing deriving from this pass-through would have a relatively small impact for firms, given that the amount of maturities that would potentially need to be financed is low. For the banking system, estimates based on scenarios with higher long-term interest rates reveal limited valuation effects, totaling less than 1% of the system's core capital, albeit with variation among banks (Martínez and Oda, 2017).

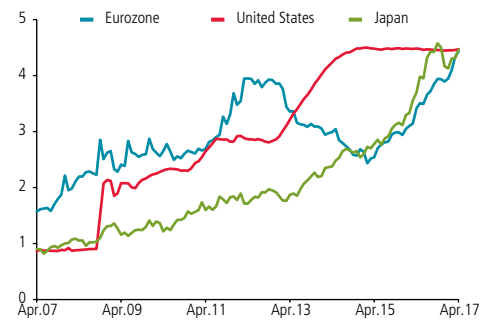
Policy uncertainty could continue affecting international financial markets.

Even though monetary policy in the developed world is transparent, orderly, and anticipated, there could be changes in the economic outlook of these countries that would justify expansionary measures. On the one hand, there is still substantial uncertainty about the feasibility of the tax, trade, and bank regulatory reforms being promoted by the current U.S. administration (chapter V), which could cause the current economic optimism to wane. This cooling could be compounded by other geopolitical events in which the country has become involved (figure I.7). On the other hand, the estimated effects of the United Kingdom's exit from the European Union are estimated to be fairly small, although the results of the referendum last June triggered a strong depreciation of the pound sterling. Thus, there are risks associated with the materialization of the exit, which could undercut the growth path of the United Kingdom and motivate a more expansionary monetary policy.

Increases in global risk indicators could generate a decompression of sovereign spreads. This is especially relevant for Chile, given that the EMBI-Chile is more sensitive to increases in the VIX than to factors associated with a deterioration of the outlook for emerging economies (FSR, second half of 2015, box I.1).

FIGURE I.6

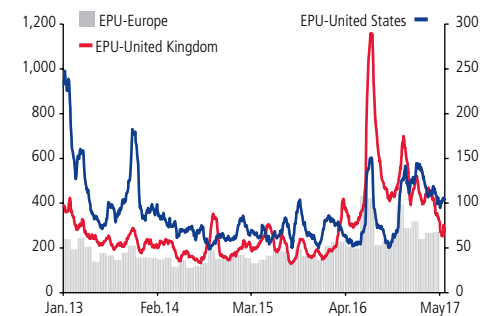
Total assets held by central banks
(US\$ trillion)



Source: Federal Reserve Economic Data.

FIGURE I.7

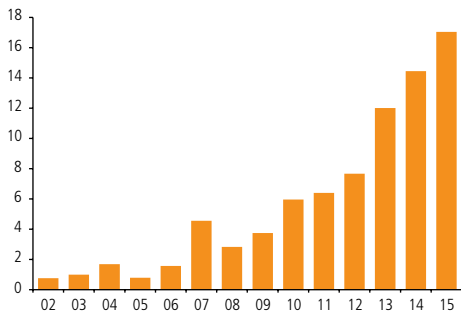
Policy uncertainty in developed economies (*)
(index)



(*) For more details and a definition of economic policy uncertainty (EPU), see Baker et al. (2016). EPU-United States and EPU-United Kingdom are the 30-day moving average.

Source: Bloomberg.

FIGURE I.8
China: Assets held by OFIs
(percent of total assets held by financial entities)

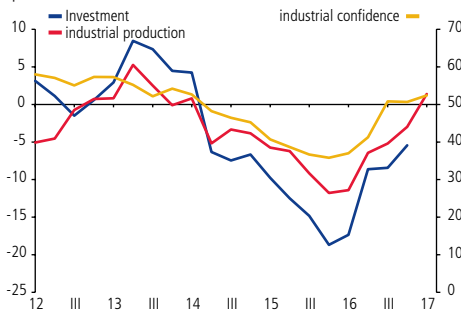


Source: Central Bank of Chile, based on data from the FSB.

The financial fragility of large emerging countries could infect other small open economies.

In China, of the various risks that have emerged over the last few years in the different sectors of the financial system, those related to the corporate sector are the main source of concern, because they have multiple propagation channels. The Chinese corporate sector has delivered a weak performance and currently has little room for adjusting margins. This has translated into a deterioration in the quality of banks' commercial portfolios while contributing to the proliferation of innovative financial products, in a context where the size of other financial intermediaries (OFIs) has tripled in the last five years (figure I.8). Under these circumstances, a greater financial deterioration in China, in the absence of mitigating measures, could cause volatility in global financial asset prices, with an impact on other emerging economies.

FIGURE I.9
Brazil: Investment, industrial production, and confidence (*)
(percent, index)



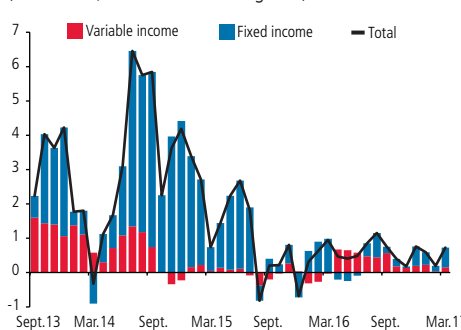
(*) Investment and industrial production: annual change. Industrial confidence: pivot index, where pivot point = 50.

Source: Bloomberg.

In Brazil, there are still policy risks that could undermine the economic recovery process. Some of the main factors that have contributed to the economic recovery are related to advances in the area of economic policy. Thus, a stagnation in the government's efforts, as occurred last year, could threaten the continuity of the measures currently being implemented. The effects would be magnified if the confidence of private economic agents falls (figure I.9).

The economic outlook of emerging economies could worsen if the tax reforms and protectionist policies being proposed by the current U.S. administration are implemented. The magnitude of the impact would depend on the individual country's exposure to trade and capital flows from the United States. In the case of Chile, while the direct exposure to U.S. trade is relatively low in comparison with exposure to Asia (*Balance of Payments Report*, first quarter of 2017), the indirect effects through those countries could be significant. On the other hand, the capital inflows to Chile are limited and are mostly associated with foreign direct investment (FDI). Portfolio flows in the last year are fairly low relative to historical patterns (figure I.10). Thus, the flows that would be most sensitive to tax changes are related to FDI. Internal estimates, based on elasticities obtained from Agostini and Jalile (2009), indicate that scenarios involving significant changes in U.S. tax rates would generate limited changes in the stock of this external liability.

FIGURE I.10
Gross portfolio capital inflows to Chile
(US\$ billion, three-month moving sum)



Source: Central Bank of Chile.

CHILE'S EXTERNAL SITUATION

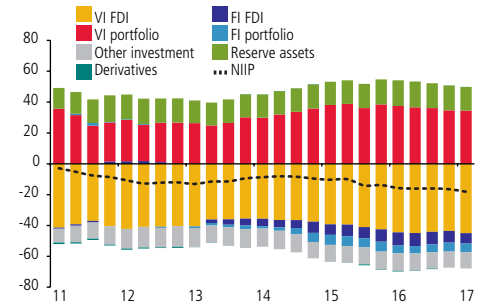
Capital inflows to Chile remained low by historical standards.

Since September 2016, foreign capital inflows in different instruments were stable, but they were low relative to the dynamics observed in the first half of the current decade. As mentioned in past FSRs, the low liability levels in the financial account are due to the reduction of investment in portfolio instruments over time.

The net international investment position became slightly more negative.

The Chilean economy recorded a net deficit position with the rest of the world equivalent to 18% of GDP, which is larger than in December 2016 (figure I.11). In the first quarter of 2017, total external debt represented 64% of GDP, with an increase in the long-term component coming due to 21% of total debt, versus 13% a year ago. Residual short-term external debt increased to 18.3% of GDP, explained by firms and FDI. Thus, given the slight but steady reduction in international reserves since December, the liquidity ratio has continued to follow a downward trend.

FIGURE I.11
Net international investment position (*)
(percent of GDP)



(*) GDP at the nominal exchange rate of the final period.

Source: Central Bank of Chile.

II. LOCAL FINANCIAL MARKETS

Financing costs, at all maturities, remain at historical lows. Thus, a sudden increase in long-term interest rates continues to be one of the main risks to monitor.

ASSET PRICES

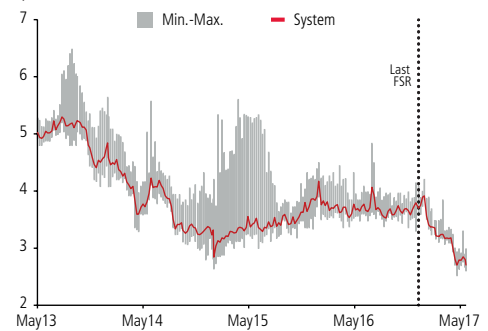
Both short- and long-term interests have decreased significantly over the past few months.

The rates on time deposits traded in secondary markets have fallen around 100 basis points since the last FSR (figure II.1). In the same period, local sovereign rates also dropped, hitting the lowest levels in recent history (figure II.2). These developments are in line with the lower monetary policy rate and an international market context marked by low long- and short-term interest rates (chapter I).

Medium-term private financing costs have also declined.

Private bond rates at around five years have continued along the downward trend reported in the last FSR (figure II.3). In particular, the rates on UF-denominated bonds issued by companies with a high credit rating are under 2%, the lowest rate of the last 15 years. These low financing rates for private issuers haven engendered an increase in bond placements, especially for nonfinancial firms, which are more dynamic since the last FSR (figure II.4). However, over 70% of these firms state that the main reason for the issue is the refinancing of liabilities, as opposed to new investment projects. In this sense, interest rates have attenuated the effect of the slow economy by allowing local firms to reduce their financing costs.

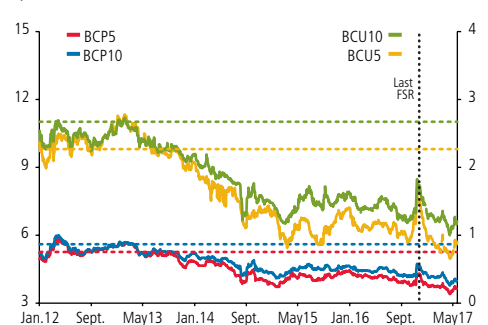
FIGURE II.1
30-day deposit rates (*)
(percent)



(*) Weekly statistics calculated based on daily data on deposit transactions on and off stock exchange, by issuer.

Source: Central Bank of Chile, based on data from the BCS and CSD.

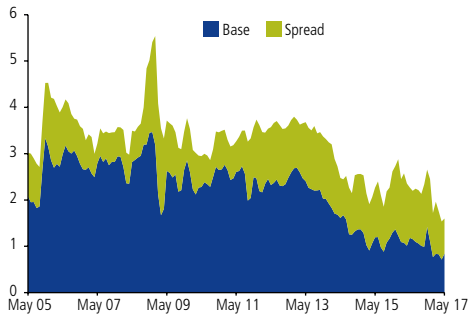
FIGURE II.2
Local sovereign bond interest rates (*)
(percent)



(*) Horizontal lines indicate the average of 2004 and 2011 of the respective series.

Source: Bloomberg.

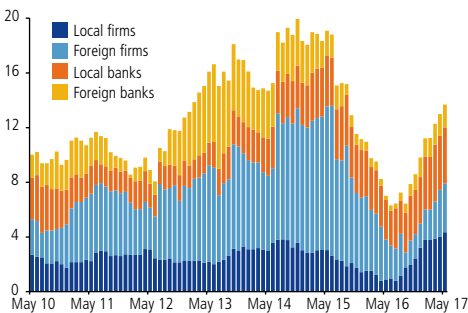
FIGURE II.3
Local financing cost (*)
(percent)



(*) Based on UF-denominated AA corporate bonds with a duration of 4 to 6 years.

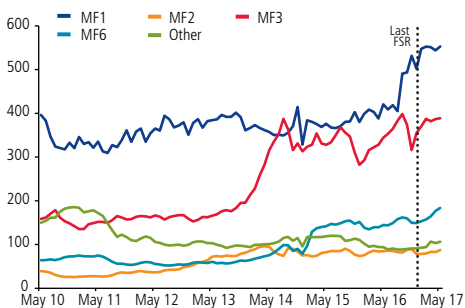
Source: Central Bank of Chile, based on data from the Santiago Stock Exchange.

FIGURE II.4
Bank and corporate bond placements
(US\$ billion, 12-month moving sum)



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

FIGURE II.5
Mutual fund assets (*)
(UF million)



(*) For more detail on the series, see the figure set.

Source: Superintendencia de Seguros y Inseguros (SVS).

The local stock exchange has recorded comparatively high yields from an international perspective, while the peso has been more appreciated.

While the domestic stock exchange recorded somewhat higher yields in the last year than comparable countries, the differential between the price-earnings ratio and the ten-year BCU rate has been relatively stable over the past few years. The Chilean peso has depreciated since the last FSR, but it is still more appreciated than benchmark currencies (see the statistical appendix). Internal estimates suggest that one of the factors contributing to the greater appreciation of the peso in the second half of 2016 was pension fund portfolio flows. In particular, as pension fund affiliates have shifted their savings toward the more conservative type E funds, the fund managers have had to reduce their overseas investments, generating a temporary increase in the supply of foreign exchange in the local market.

INSTITUTIONAL INVESTORS

The equity managed by mutual funds (MFs) increased, especially in short-term funds and, to a lesser extent, long-term funds (figure II.5).

MF assets recorded strong growth, mainly due to money market funds (type 1 funds, or MF1), which, as of the cutoff date, have grown 10% thus far in the year and 50% since January 2016. This implies accumulated investment of over UF550 million in short-term instruments. The trend is consistent with slower economic activity, as companies have less cash flow for starting new investment projects and thus gravitate toward liquid, low-risk investment funds. In this context, the exposure of medium-sized banks to this type of investor has increased since the last FSR, particularly through time deposits (figure II.6).

On the cutoff date of the last FSR, the amount held in medium-term fixed-income mutual funds (MF3) had contracted substantially, in line with the increase in long rates (figure II.2). The rate hike has since completely reversed, and the MF3 funds have recovered to their previous levels, approaching values recorded in September 2016. The sudden change in long-term interest rates last December reveals the sensitivity of these funds to that variable. Thus, a scenario involving a sudden change in long rates could be amplified if these agents react by selling large volumes of relatively illiquid assets. In November 2016, the reduction in portfolio assets was relatively greater in sovereign bonds and time deposits rather than in private bonds, given that it is easier to sell assets in the former group (figure II.7).

The life insurance companies (LICs) have had stable investment flows since the last FSR.

The asset allocation of the LICs recorded few changes in 2016. The most notable shift was an increase in real estate investments, which have grown steadily over the last five years (table II.1). The overseas investments of the LICs were 14.4% of risk-based capital plus technical reserves as of March 2017 (table II.2). Going forward, these investments are expected to increase, in line with the increase in the investment limit stipulated by the Board of the Central Bank (chapter V).

TABLE II.1
LIC portfolio (1)
(percent)

	2012	2013	2014	2015	2016	2017
Sovereign fixed income	5.4	4.4	3.5	2.9	2.6	2.3
Private fixed income	54.1	52.4	51.0	51.4	50.0	49.1
Mortgage bonds	9.0	9.2	9.0	8.5	8.8	8.9
Real estate	12.6	13.4	14.2	14.2	15.2	15.3
Variable income	6.9	6.3	6.4	6.8	7.2	7.7
Foreign	9.5	11.3	12.7	13.1	13.1	13.4
Other (2)	2.5	3.0	3.2	3.1	3.1	3.3

(1) Percent of total investments. Data for 2017 are through March.

(2) Includes cash, loans, syndicated loans, and other financial investments.

Source: Superintendencia de Seguros e Inversión (SVS).

TABLE II.2
LIC overseas investment (*)
(percent)

	2012	2013	2014	2015	2016	2017
System	10.5	12.3	13.7	14.4	14.3	14.4
Maximum	18.3	21.0	20.6	24.2	23.1	21.1
Minimum	0.9	0.8	0.8	0.8	0.7	0.7

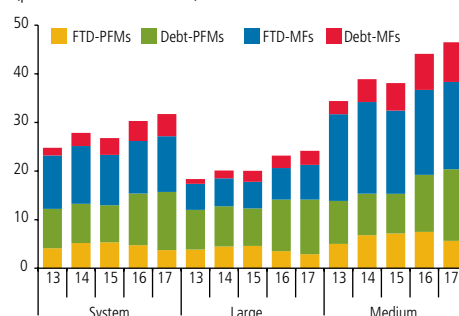
(*) Overseas investment by the LICs as a percent of the sum of risk-based capital and technical reserves. Data for 2017 are through March.

Source: Superintendencia de Seguros e Inversión (SVS).

Thus far in 2017, there have not been major transfers between pension funds, which has contributed to stabilizing PF investment flows.

At year-end 2016, the transfer of affiliates to type E pension funds exceeded 530,000 accounts, equivalent to nearly US\$13 billion. In contrast, there have not been massive transfers thus far in the year (table II.3). This has contributed to the stability of the pension fund managers' allocation of investment flows in national and foreign instruments. When the analysis is restricted to the local market, investment in time deposits has been replaced by private bonds and variable-income securities (figure II.8).

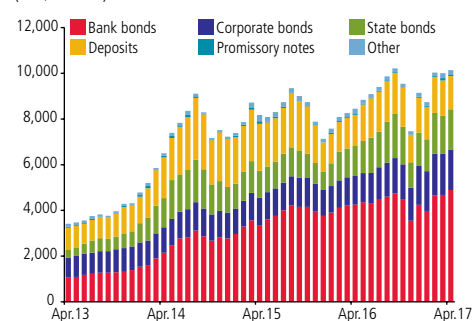
FIGURE II.6
Bank exposure to institutional investors (*)
(percent of bank assets)



(*) Data as of December of each year, except 2017, which uses data through February.

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

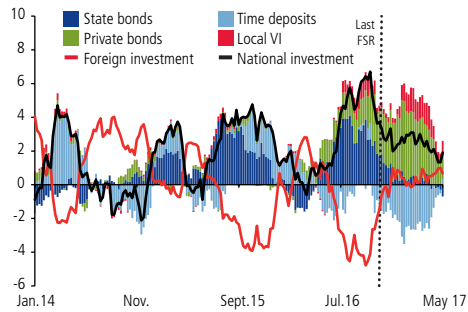
FIGURE II.7
Type 3 mutual fund portfolio
(Ch\$ billion)



Source: Superintendencia de Seguros e Inversión (SVS).



FIGURE II.8
Pension fund investment portfolio
(US\$ billion, three-month moving sum)



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

TABLE II.3
Annual transfer between funds
(US\$ million)

	2012	2013	2014	2015	2016	2017 (*)
Type A fund	-1.691	755	-2.696	537	-6.117	157
Type C fund	-1.250	-584	-321	514	-2.693	607
Type E fund	4.617	742	4.487	-882	12.723	-663

(*) Data through 18 May 2017.

Source: Superintendencia de Pensiones (SP).

Institutional investors are the main holders of sovereign debt, with over 80% of the available stock.

Relative to the other institutional investors, the PFs are the major holder of sovereign debt. In contrast, the share of nonresidents is around 4%, which is relatively low compared with other countries in the region. In recent years, regulatory changes have been introduced to facilitate the entry of nonresident investors, but challenges remain in terms of improving the depth of this market (box II.1).

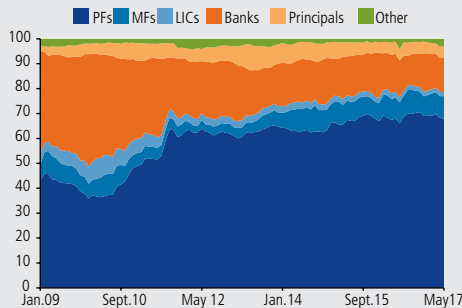
BOX II.1 MICROSTRUCTURE OF THE SOVEREIGN FIXED-INCOME MARKET

The local sovereign fixed income market, which comprises bonds issued by the Central Bank of Chile and the General Treasury of Chile, has undergone important developments since 2010. In particular, the market has recorded changes in investor shares (both on aggregate and by bond maturity), trading mechanisms, and liquidity. This box provides more information on these processes and discusses their implication for financial stability.

Market composition

In 2010, the market agents with the largest share of the sovereign fixed-income market were the pension funds (PFs) and the banks. Since then, the PFs have increased their holdings of sovereign bonds significantly, from around 35% of the total stock to nearly 70% on the cutoff date of this *Report*. Banks reduced their share at a similar rate in the period. In contrast, the shares of other agents in this market were stable, with the exception of a reduction in holdings by the life insurance companies (LICs) (figure II.9).

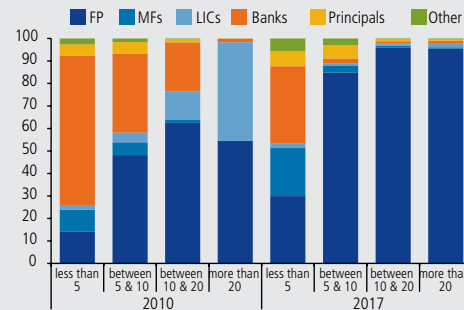
FIGURE II.9
Share of investors in local sovereign bonds
(percent of total)



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

This pattern is seen all across the yield curve. The PFs hold a significant share at all maturities, but they strongly increased their exposure in the medium- and long-term segments between 2010 and 2017, and they currently account for over 90% of sovereign bonds longer than ten years. At the same time, the banks have migrated out of these longer segments, focusing instead on bonds with a maturity of less than five years (figure II.11).

FIGURE II.10
Share of investors in local sovereign bonds, by bond maturity (*)
(percent of total)



(*) Maturity expressed in years on the horizontal axis.

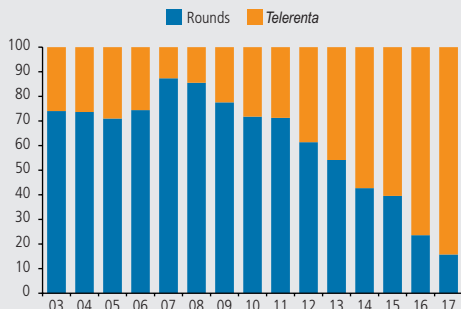
Source: Central Bank of Chile, based on data from the DCV.

Trading mechanisms

Another important change is in the way these instruments are traded. Before 2010, at least 70% of the trading on the Santiago Stock Exchange was usually done through trading rounds^{1/}. Since then, the use of rounds has diminished, in favor of the exchange's *Telerenta* system—a private trading platform for negotiating the conditions of the transaction, where submitted trades are generally pre-agreed. The *Telerenta* platform currently accounts for 80% of trading volume (figure II.11).

^{1/} A system in which trades occur every thirty minutes, during which time the total available supply of a given security is accumulated at a pre-established price, and investors then demand the securities at the minimum pre-established price through a competitive process.

FIGURE II.11
Trading volume on the Santiago Stock Exchange
(percent of total)

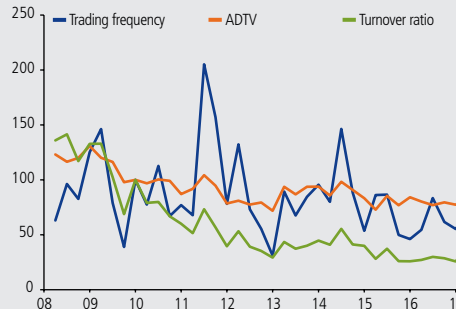


Source: Central Bank of Chile, based on data from the BCS.

Market liquidity

Another important aspect to analyze is the liquidity of the sovereign bond market in this period. Some typical measures include the turnover ratio, trading frequency, and the average daily trading volume (ADTV). The turnover ratio is the ratio between the average daily trading volume and the average outstanding stock of the bond. Trading frequency is the number of days in which a bond was traded as a percent of total trading days. Finally, the ADTV is the average number of trades in a day. A reduction in any of these indices is a sign of lower market liquidity. As of the cutoff date of this *Report*, all three of indices were lower than in 2010 (figure II.12).

FIGURE II.12
Liquidity measures
(fixed-base index, 100 = Jan. 10)



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

Loosening the requirements for nonresident investors to gain access to this market contributes to increasing liquidity. These measures include the concentration of sovereign bond issues in shorter issues, tax changes in Article N°104 of the Income Tax Law, and modifications to the *Compendium of International Exchange Regulations* to facilitate reporting by foreign investors. Thus, the entry of global custodians like Euroclear Bank into the local market, and the increase in the share of Chilean bonds in the JP Morgan GBI index, are evidence that nonresidents are gaining access to this market.

Final comments

Going forward, sovereign bonds could face higher demand, in line with the new regulatory requirements for banks on holding high-quality liquid assets and the maturing of the pension system due to demographic factors. These trends should be taken into account by the authority in the long-term planning of the sovereign bond supply.

III. CREDIT USERS

The financial situation of local firms has not changed significantly in recent years, but some impairment indicators increased in the most recent period. Households continue taking on more debt, with an emerging increase in arrears. The real estate market continues the adjustment process: prices and sales are easing up, and fewer new projects being launched.

FIRMS

Corporate debt has declined since the last FSR, to 116% of GDP in March of this year (figure III.1).

The debt reduction, which started in the first quarter of 2016, is explained by a contraction in external financing and low growth in local financing sources (table III.1). In the case of external debt, the reduction reflects the exchange rate appreciation and the relatively less dynamic performance of external bonds and FDI-related debt vis-à-vis the same quarter of the previous year, whereas these components recorded significant growth in the last five years (box III.1). In the case of local financing, bonds grew strongly in real terms, after falling in the three years prior. According to market data, a high share of the new issues are aimed at refinancing liabilities, which is consistent with the low cost of private funding (chapter II).

TABLE III.1

Sources of financing (1)
(real annual change, percent)

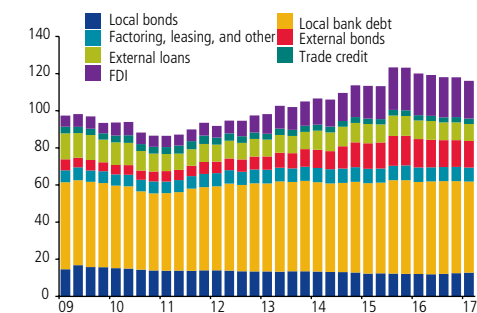
Indicator	2012	2013	2014	2015	2016				2017	Share	Growth contribution
	IV	IV	IV	IV	I	II	III	IV			
Local debt	7.2	6.9	1.8	3.7	1.9	2.0	0.5	1.4	2.4	59.8	1.4
Bank and other loans	9.4	7.3	2.9	5.4	2.6	3.1	0.7	0.5	1.1	48.8	0.5
Commercial loans (2)	9.5	7.4	2.4	5.8	2.8	3.5	0.8	0.8	1.4	42.3	0.6
Factoring, leasing, and other	8.5	6.9	6.1	3.0	1.5	0.7	-0.3	-1.6	-0.6	6.5	0.0
Listed securities	-0.8	5.1	-3.0	-3.7	-1.2	-3.1	-0.1	5.8	8.6	11.0	0.9
External debt	9.2	26.4	27.7	22.5	14.3	13.3	-7.4	-6.0	-5.4	40.2	-2.3
Loans	0.3	2.9	15.2	4.3	-2.5	4.7	-11.7	-8.1	-6.2	7.9	-0.5
Trade credit	-19.1	-0.7	-3.7	-1.2	-2.7	-1.6	-9.8	-4.1	5.3	2.5	0.1
Bonds	12.2	42.1	43.3	22.5	12.2	7.1	-8.5	-7.1	-4.2	12.3	-0.5
FDI-related loans	37.4	49.2	33.4	38.2	28.8	25.2	-4.2	-4.4	-7.2	17.5	-1.3
Exchange rate	-7.7	11.0	15.8	14.9	8.5	8.1	-3.3	-5.3	-3.1		
Total	7.8	12.7	10.5	11.0	6.8	6.4	-2.9	-1.8	-0.9	100	-0.9

(1) For more detail on the series and methodology, see the figure set. Shaded cells: preliminary data.

(2) Includes commercial loans to firms and individuals, foreign trade credit, and contingent loans. Excludes individual student loans.

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

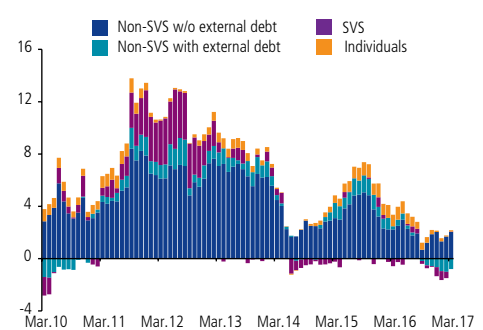
FIGURE III.1
Total debt of nonbank firms (*)
(percent of GDP)



(*) Based on firm-level data except for factoring, leasing, and other; securitized bonds; and commercial paper. For more detail on the methodology, see the figure set.

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

FIGURE III.2
Growth of local bank debt (*)
(real annual change, percent)

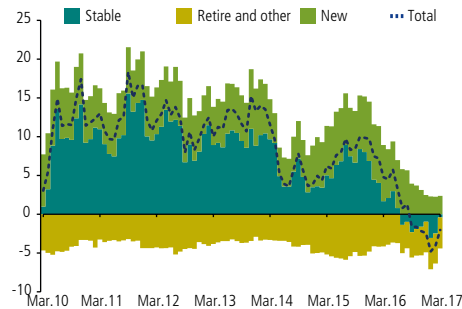


(*) For more detail on the series and methodology, see the figure set.

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



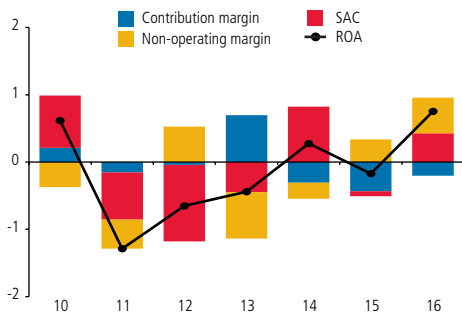
FIGURE III.3
Commercial debt of non-SVS firms (*)
(real annual change, percent)



(*) Includes firms that do not report their financial statements to the SVS, that do not have external debt, and that pertain to production sectors. Stable: firms that had debt on year ago; New: firms that took on debt in the period. Excludes contingent loans.

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

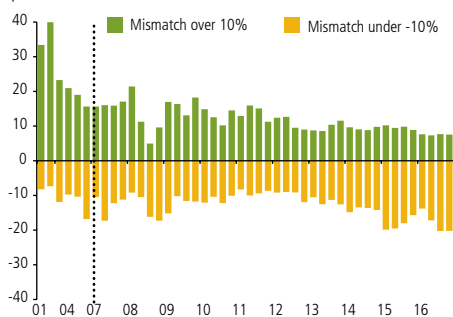
FIGURE III.4
Change in ROA in the SVS corporate sector (*)
(percentage points)



(*) Consolidated data. Earnings accumulated in twelve months before financial expense plus taxes over total assets. Excludes financial, mining, and state-owned companies. SAC: sales and administrative costs.

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

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



(*) Annual data through 2006; quarterly data thereafter. For more detail on the series and methodology, see the figure set.

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

Local bank debt recovered somewhat since the last FSR mainly due to firms that do not report their financial statements to the SVS and that do not have external debt, which historically account for a larger share of this source of financing (figure III.2). However, within this group, firms in production sectors that had debt a year ago have reduced their debt levels (figure III.3). This, combined with information from the Bank Lending Survey (BLS), would seem to indicate lower financing needs by these firms, which is consistent with the evolution of the economy.

As of December 2016, the set of firms that report to the SVS maintained stable financial indicators.

Return on assets increased for the corporate sector as a whole (table III.2). However, the increase was primarily due to non-operating components (figure III.4). Thus, the corporate sector's estimated operating cash flow decreased slightly in 2016, while investment flows continued to contract and financial flows remained low (see the statistical appendix). In line with the increased profitability, interest coverage increased slightly, while debt remained stable. At the same time, the share of firms with a high debt level (over one time) and low interest coverage (less than two times) was relatively stable, whether the firms are weighted by assets or financial debt.

TABLE III.2
Financial indicators for the SVS corporate sector (*)
(percent, times)

	2009	2010	2011	2012	2013	2014	2015	2016
Profitability								
Average	7.6	8.2	6.9	6.3	5.8	6.1	5.9	6.7
Median	6.6	7.5	7.5	6.1	6.2	5.7	5.4	5.7
Debt								
Average	0.64	0.63	0.68	0.73	0.71	0.73	0.73	0.73
Median	0.57	0.52	0.50	0.62	0.66	0.63	0.57	0.59
Coverage								
Average	3.9	4.4	3.5	3.1	2.9	3.1	3.1	3.3
Median	4.0	4.3	3.9	2.8	3.1	2.8	3.1	3.0

(*) Data as of December of each year. Excludes financial, mining, and state-owned companies. Profitability (percent) defined as EBIT over total assets. Debt (times) defined as financial debt over equity. Coverage (times) defined as EBIT over annual financial expense.

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

The currency mismatch of SVS-reporting firms who keep their books in pesos was stable and low (see the statistical appendix). Moreover, the share of firms with a mismatch of over 10% of their assets has decreased since year-end 2015, thereby containing the possible impact of a peso depreciation (figure III.5). Information on external bond issues suggests that their exposure to a depreciation of the peso against the U.S. dollar remains low, independent of their functional currency.

Some impairment indicators have increased, which needs to be monitored.

In the early months of 2017, the arrears rate (AR) was fairly stable with regard to the downward trend recorded since early 2015 (figure III.6). This is mainly explained by loan payments that are more than three years past due, which are excluded from the calculation as they have likely been written off by the banks, reducing the AR. In the last two months, this reduction was partially offset by payments that are less than one year past due, by firms that have fallen into arrears. In the production sectors, the AR has been relatively stable since late 2015. However, since the last FSR, impairment has increased in production sectors such as mining, manufacturing, and trade (figure III.7). In the latter two, there is a larger share of debt in arrears of over one year (figure III.8). Firms that are past due by more than a year are less likely to rectify their situation than firms that are past due by less than six months (FSR, second half of 2015, box III.1). Effectively, the delinquency rate of the commercial portfolio increased in the recent period (chapter IV). These trends point to a deterioration in the payment capacity of firms, which is consistent with the lower local economic activity.

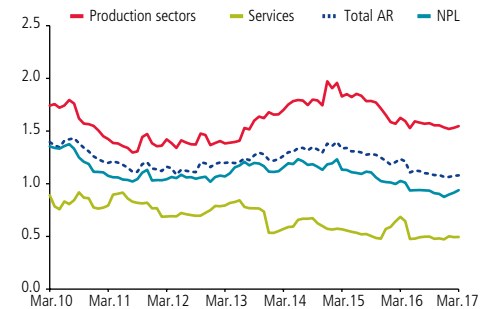
In sum, in the the first quarter of 2017 the aggregate corporate debt level decreased in GDP terms, which is mainly explained by external financing sources. At year-end 2016, the financial indicators of firms that report to the SVS showed higher returns from non-operating activities and stable debt. At the same time, the currency mismatch is relatively low. The AR of firms has fallen on aggregate, but it increased in certain production sectors. This should be closely monitored, together with the increase in the aggregate commercial portfolio delinquency rate. A scenario in which economic activity remains weak could reduce firms' payment capacity, increasing impairment indicators even further.

REAL ESTATE SECTOR

The residential real estate market continues to adjust. Sales are slowly recovering, while home prices continue to ease at the national level, recording annual reductions at year-end 2016.

After the surge in advance purchases recorded in 2015, due to the entry into force of the real estate VAT last year, the volume of home sales has returned to its previous level (figure III.9). In terms of the degree of completeness, around 20% of sales are finished homes; this share has been stable for the last four years (see the statistical appendix). In the current year, sales are expected to be in line with 2016, in response to a slowdown in demand. There are also fewer new projects entering the market or under construction. Given these trends, the sector will be less dynamic.

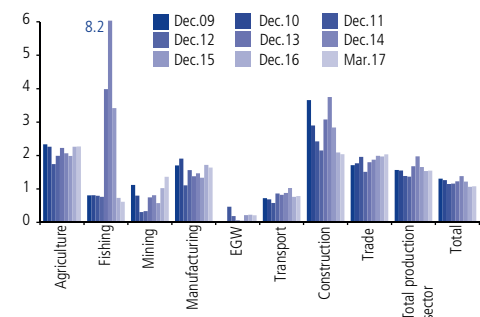
FIGURE III.6
Commercial arrears rate (*)
(percent of loans)



(*) For more detail on the series and methodology, see the figure set.

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

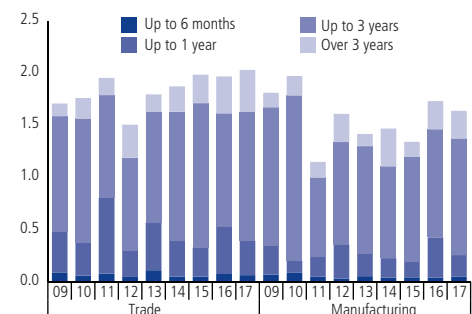
FIGURE III.7
AR by economic sector (*)
(percent of loans)



(*) For more detail on the series and methodology, see the figure set.

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

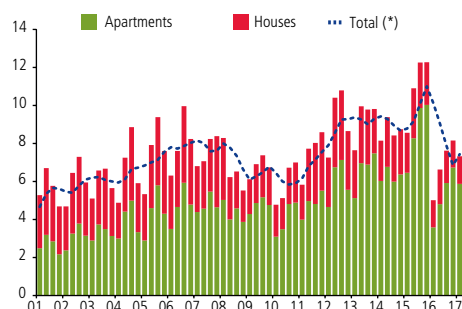
FIGURE III.8
Commercial AR by maximum delinquency (*)
(percent of loans)



(*) Firms are classified according to the payment that is longest past due. Data through March 2017. For more detail on the series and methodology, see the figure set.

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

FIGURE III.9
New house sales in Greater Santiago
(thousands of units)



(*) Three-month moving average.

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

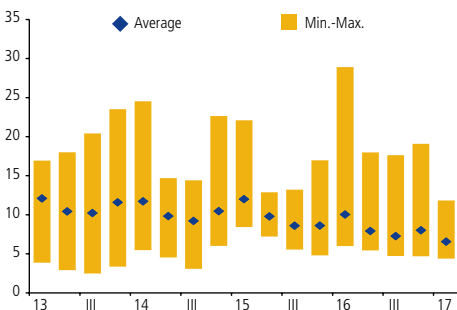
TABLE III.3
New houses price indices (*)
(real annual change, percent)

	2010- 2015		2016				2017
	2014	IV	I	II	III	IV	I
HPI	6.7	6.9	6.5	3.9	-0.2	2.2	
SMR	7.6	8.1	6.4	4.7	-0.9	2.3	
CCC	6.8	4.4	6.8	2.8	1.5	-1.8	-0.3

(*) CCC: New houses price index in Greater Santiago. HPI: index based on total sales. HPI data 2015-2016 are preliminar.

Sources: Central Bank of Chile and CCC.

FIGURE III.10
Withdrawal rates of real estate companies supervised
by the SVS (*)
(percent)



(*) Preliminary data for the first quarter of 2017.

Source: Central Bank of Chile, based on reviewed financial statements of real estate companies listed with the SVS.

Since the last FSR, home prices have continued to slow, with reductions in the Santiago Metropolitan Region (SMR) for the first time in eight years. These movements are in line with less dynamic disposable income and other fundamentals. The annual growth rate of the house price index (HPI) calculated by the Central Bank—which is based on real transaction data for new and used properties—fell from 8.1% at year end 2015 to 2.3% at year-end 2016 for the SMR and from 6.9 to 2.2% for the national market in the same period. The growth of new home prices calculated by the Chilean Chamber of Construction (CCC) for the SMR was -0.3% in the first quarter of 2017, down from 6.8% in the same period of 2016 (table III.3).

The financial indicators of firms in the real estate sector were stable.

The set of construction and real estate companies that report to the SVS recorded returns of around 6% in the fourth quarter of 2016, which is somewhat higher than the average of 2015. Since the last FSR, the debt level of these firms declined slightly, with a change in composition toward a larger share of short-term debt in the total. In the current context of a slow real estate sector, the stability of these indicators is a positive development. The sector needs to be monitored, however, given the risk of a sharper drop in sales in the coming quarters.

The withdrawal rate on purchase commitments has been relatively stable for companies that report to the SVS (figure III.10). According to market data, the same is true for a broader sample of companies, and it could reflect both labor market trends, in particular a fairly stable unemployment rate, and company policies on scheduling down payments in a series of smaller payments in the case of presales. However, given the increased fragility of the labor market, there is a risk that the contract withdrawal rate could increase, especially for companies that do not have sufficient cash flow to face the associated costs of reselling a house after a contract falls through.

The loan-to-value (LTV) ratio decreased, in line with expectations (figure III.11).

Data from administrative records indicate that private banks have adjusted their lending policies to an LTV ratio of 80% or less, to accommodate the new regulatory guidelines on mortgage loans and the less favorable economic scenario. Thus, there has been a reduction in the number of bank mortgages since the fourth quarter of 2015, which has translated into less dynamic growth of mortgage lending from a real annual rate of 10% to around 6.5% in the most recent period. Data from market agents suggest that the tighter supply of mortgage financing could be raising the demand for rental housing.

In the office market, the vacancy rate decreased in the prime segment and increased in less expensive segments. Rental prices were stable since the last FSR.

In the fourth quarter of 2016, the prime office segment saw the entry of a number of new projects, consistent with the falling vacancy rate (figure III.12). For class B office space, the vacancy rate increased since the last FSR and was over 12% at the close of 2016. Office rental prices were fairly flat in both segments.

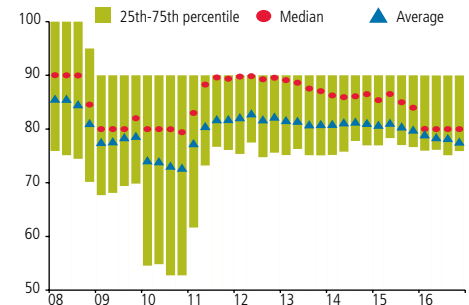
In sum, the dynamics of the residential real estate sector are in line with the macroeconomic situation and the regulatory and tax changes discussed in past FSRs. Thus, the growth rate of both prices and mortgage lending slowed. A key risk factor for the sector is contract withdrawal, which could increase if the labor market deteriorates.

HOUSEHOLDS

At year-end 2016, household indebtedness continued to rise (figure III.13).

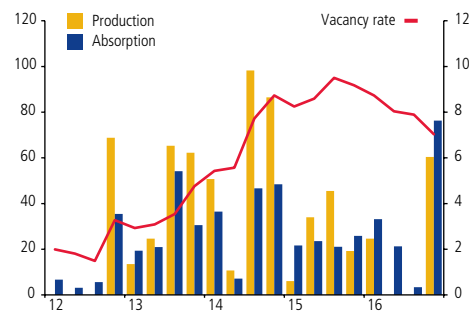
In the fourth quarter of 2016, debt to disposable income rose to 66%, mainly due to an increase in the share of bank mortgages. The household debt service ratio (DSR) has been stable at around 15% for the last five years, which reflects the low interest rates (see the statistical appendix). Alternative measures of the DSR, from the Employment and Unemployment Survey for Greater Santiago, point to an increase in the first quarter of 2017 (figure III.14).

FIGURE III.11
Loan-to-value (LTV) ratio (percent)



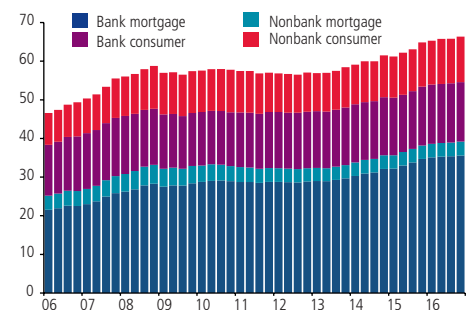
Source: Central Bank of Chile, based on data from the SIL.

FIGURE III.12
A and A+ office market (thousands of square meters, percent)



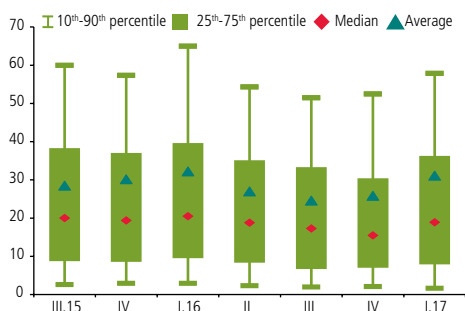
Source: Global Property Solutions.

FIGURE III.13
Household indebtedness (percent of disposable income)



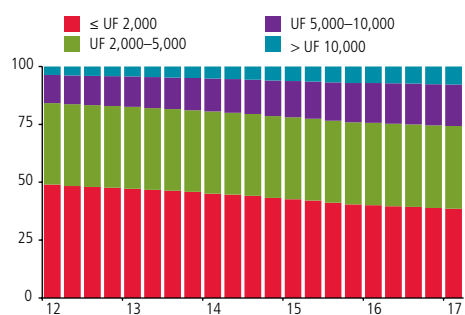
Source: Central Bank of Chile, based on data from the SBIF, SUSESO, and SVS.

FIGURE III.14
Household DSR in Greater Santiago
(percent)



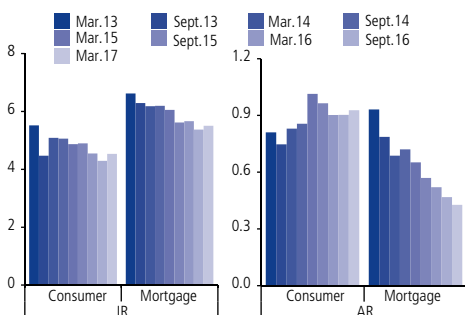
Source: Central Bank of Chile, based on data from the University of Chile Microdata Center.

FIGURE III.15
Mortgage loans by size
(percent)



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

FIGURE III.16
Bank impairment indicators (*)
(percent)



(*) For more detail on the series and methodology, see the figure set. Source: Central Bank of Chile, based on data from the SBIF.

Total household debt continues to increase steadily, reaching 6.6% in real annual terms in December 2016.

In the fourth quarter of 2016, the growth rate of mortgage debt stabilized, after first turning downward in late 2015. This trend has unfolded in a context of slower economic activity, fewer mortgage operations, and lower LTVs. In terms of amounts, the slowdown has been mainly concentrated in smaller mortgages (figure III.15).

Since the last FSR, consumer debt has continued to grow at under 7%. The growth is driven by bank financing, while nonbank sources were relatively stable (table III.4)^{1/}. Finally, in the first quarter of 2017, the evolution of bank debt in both portfolios has not changed substantially since the close of 2016.

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

	2010	2011	2012	2013	2014	2015	2016				2017	Growth contribution	Share	
	IV	IV	IV	IV	IV	IV	I	II	III	IV	I			
Mortgage														
Bank	6.8	7.3	7.6	8.9	9.9	9.6	9.2	8.1	7.2	6.7		3.9	58.5	
Nonbank	9.1	8.2	8.3	9.1	10.5	10.6	9.9	8.6	7.5	6.6	6.6	3.5	53.1	
Consumer														
Bank excl. SIs	-7.2	0.9	2.5	6.9	4.7	1.1	2.8	3.2	5.0	7.8		0.4	5.4	
Nonbank (*)	8.4	10.4	6.6	8.4	3.6	5.8	5.2	6.1	6.7	6.6		2.7	41.5	
Total debt	9.4	14.2	9.7	9.1	3.3	3.3	3.1	5.3	5.9	5.8	5.9	1.3	22.3	
Debt over income	7.3	6.3	2.9	7.5	4.1	8.9	7.9	7.0	7.7	7.5		1.4	19.2	
	7.5	8.7	7.2	8.7	7.2	8.0	7.5	7.2	7.0	6.6		6.6	100.0	
	58.0	57.0	57.1	58.4	61.5	64.9	65.3	65.8	65.8	66.4				

(*) Includes retailers, family compensation funds (CCAF), S&Ls, universities, Banco Paris, leasing companies, life insurance companies, and the central government. Starting in the second quarter of 2015, estimates were made using the financial statements of Scotiabank to separate CAT / Banco Paris into nonbank consumer debt.

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

The deterioration of the labor market has translated into an increase in household impairment indicators.

Relative to the last FSR, there was an increase in arrears on bank consumer loans in the first quarter of 2017, in terms of both the incidence rate (IR) and as a share of debt (AR). Bank mortgage debt stabilized in the first quarter of 2017, after a long downward adjustment (figure III.16). Both trends—the deterioration of consumer loans and the stabilization of mortgages—occurred across all loan sizes (see the statistical appendix). Thus, although bank credit risk indicators remain low, the recent developments in both portfolios represent a risk that should be monitored. Stress tests on the banking sector, using less severe economic scenarios than usual, suggest that household impairment indicators could increase significantly going forward (box IV.2).

^{1/} For the purposes of this section, student loans are excluded from consumer debt. In the second quarter of 2015, bank loans were affected by the sale of the consumer portfolio of Banco Paris to a subsidiary of Scotiabank.

Nonbank creditors maintain relatively stable household impairment indicators. Loan delinquency was stable for the family compensation funds (*Cajas de Compensación de Asignación Familiar*; CCAF) since the last FSR, settling at 9.6% in December 2016 after increasing significantly since late 2014. For retailers, the arrears rate was the same as in the last FSR (3.2% at year-end 2016), after falling since mid-2015 (see the statistical appendix).

In sum, household debt continues to rise steadily, mainly in the mortgage component. Household credit risk indicators were stable at low levels, although there are signs of an increase that should be monitored. In this context, a greater deterioration in the labor market could worsen household impairment, as indicated by stress tests on the banking sector (chapter IV).



BOX III.1 RECENT DYNAMICS OF CORPORATE DEBT

The increase in corporate debt over GDP since 2012, at the aggregate level, is largely due to a greater use of external funding sources (figure III.1). An analysis of disaggregated data based on individual financial statements can help provide a more complete understanding of the implications of the increased indebtedness for Chile's financial stability. This box therefore complements the aggregate analysis with a description of the evolution of debt by type of firm.

Classification of firms

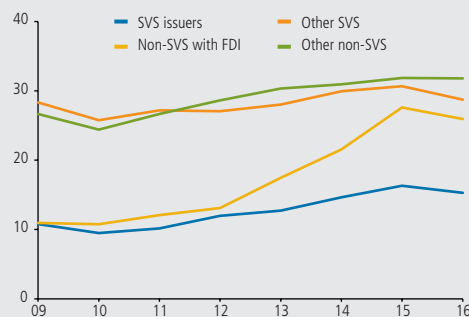
For the purposes of this box, firms are classified based on whether or not they report to the SVS. Because more information is available for reporting firms, it is possible to obtain more precise measures of the companies' debt level, such as their financial debt over equity. The group of SVS-reporting firms can be further divided into two sub-groups: (i) private issuers of overseas bonds since 2012 and their subsidiaries; and (ii) other SVS firms and their subsidiaries.

The firms that do not report to the SVS (non-SVS) can be subdivided as follows: (i) firms that have FDI-related debt; and (ii) other non-SVS firms. The analysis presented in this box focuses on the evolution of the two groups with external debt.

Evolution of debt

While all the groups have recorded an increase in debt over GDP in recent years, the growth rates are heterogeneous. Firms that use external funding sources more intensively (SVS firms and non-SVS firms with FDI) have significantly increased their debt to GDP (figure III.17): together, they accounted for 28% of debt in 2009 versus 41% in 2016.

FIGURE III.17
Debt of nonbank firms (*)
(percent of GDP)

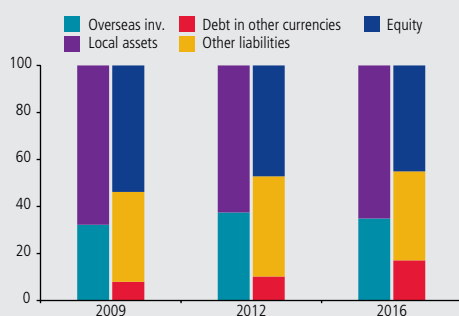


(*) includes only debt available at the microdata level. For more details, see the figure set.
Source: Central Bank of Chile, based on data from the SBIIF, and SVS.

Non-SVS firms with FDI-related debt are firms whose parent company is located overseas, and they receive capital contributions that are not accounted for in the item under analysis (FDI-related debt). For this group, FDI-related debt is their main source of financing, accounting for almost 68% of total debt at year-end 2016. As described in past FSRs, this debt represents a parent-subsidiary commitment, so the associated risks are lower than for bank debt or for a bond between unrelated parties.

With regard to the group of private firms that have issued bonds overseas, almost all have overseas investments, which limits the usefulness of the debt-to-GDP ratio as a debt measure. Since 2009, debt in other currencies has increased, partially substituting other financing sources and increasing overseas assets (figure III.18 and table III.5).

FIGURE III.18
Asset and liability composition of SVS firms that have issued overseas bonds (*)
(percent)



(*) Based on a sample of 14 overseas bond issuers from 2012 to the present.
Source: Central Bank of Chile, based on data from the SVS.

TABLE III.5
SVS private issuers (*)
(billions, times)

	2009	2012	2016
Total assets, UF	2.6	3.3	3.7
Total assets, US\$	108.6	158.7	146.5
Debt (times)	0.5	0.7	0.7

(*) Based on a sample of 14 overseas bond issuers from 2012 to the present.
Source: Central Bank of Chile, based on data from the SVS.

Financial debt over equity has increased somewhat more than for the rest of the SVS firms, especially between 2009 and 2012⁷.

The expansion of assets through overseas investment has generated a mismatch in U.S. dollars and in other currencies. This mismatch differs from the usual mismatch (debt in U.S. dollars of firms that keep their books in pesos), so the firms manage the associated risks differently since the risk is incorporated in the firm's valuation (FSR, second half of 2016, box III.1).

⁷SVS firms financial reports exclude state-owned, mining, and financial firms. However when considering debt, at national level, they are included.

IV. BANKING SYSTEM

Bank lending, on aggregate, continues to be in line with economic activity. With regard to risk, delinquency has increased in both the commercial and consumer portfolios. Bank profitability has stabilized, while the system's capitalization has not changed significantly since the last FSR. Stress tests indicate that the banking system is in an adequate financial position to face a stress scenario, but there are challenges going forward.

RECENT EVOLUTION

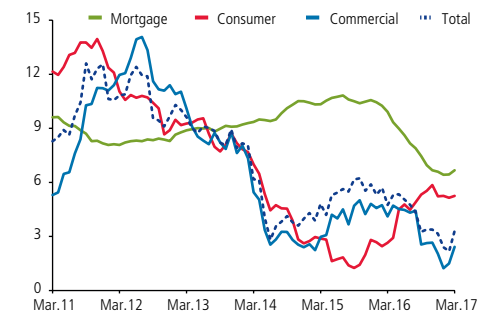
Commercial loans continue to reflect the state of the economy, while the growth rate of mortgage and consumer loans stabilized (figure IV.1).

These dynamics have unfolded in a context in which interest rates remain low (chapter II). In addition, the growth contribution of large firms continues to fall, and it even contracted in the most recent period. Firms' demand for loans remains weak, according to the results of the Bank Lending Survey (BLS) for the first quarter of this year, and granular data on debt point to less dynamic credit, mainly in production sectors (chapter III).

The consumer loan portfolio has stabilized at a growth rate around 5%, after recovering since late 2015. Consumer installment loans, in particular, are more dynamic. Consumer divisions continued to contract, which has been the trend since 2012. Thus, their share in the stock of consumer loans fell from 13% in 2013 to less than 10% in 2016.

Bank mortgage loans slowed substantially in 2016, but have now stabilized. Thus, at the system level, growth rates were near 6.5% at the end of the first quarter of this year. This trend is mainly explained by large banks (figure IV.2). The number of mortgage operations continues to contract, as has been the trend since late 2015.

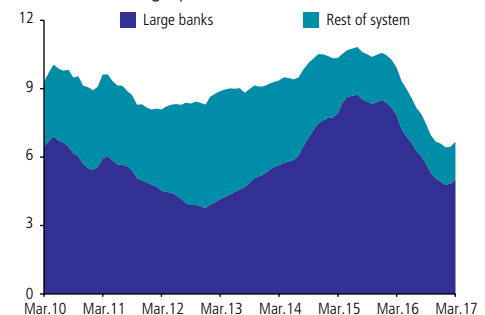
FIGURE IV.1
Growth of loans (*)
(real annual change, percent)



(*) Based on individual financial statements.

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

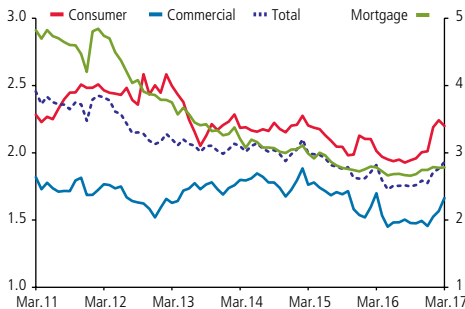
FIGURE IV.2
Growth of mortgage loans
(real annual change, percent)



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

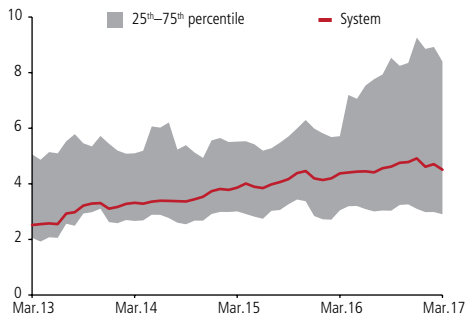


FIGURE IV.3
Arrears of 90 days or more
(percent of respective loans)



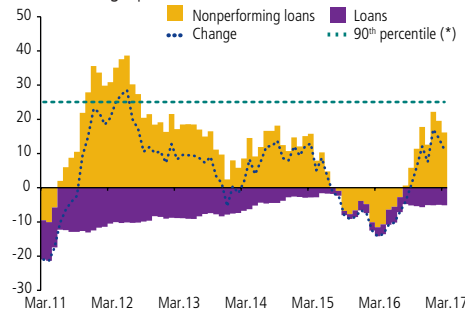
Source: Central Bank of Chile, based on data from the SBIF.

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



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

FIGURE IV.5
Nonperforming consumer loans
(annual change, percent)



(*) 90th percentile of the change indicator, for the period 1998–2017.

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

The results of the BLS for the first quarter of 2017 reveal that demand has weakened due to a worsening of customers’ income and employment conditions. Moreover, the banks report tighter mortgage lending conditions, mainly due to higher risk among debtors.

Credit risk indicators have deteriorated since the last FSR.

At the system level, arrears on the commercial portfolio have increased, although the level is still fairly low (figure IV.3). Substandard loans continue to account for a high share of commercial loans, although there was a slight reduction at the margin due to reclassifications by medium banks. Given that firms could become less able to meet their financial commitments, the evolution of these credit risk indicators should be closely monitored (figure IV.4).

With regard to the consumer portfolio, delinquency increased significantly for the system since the last FSR, with a sharp deviation from historical patterns (figures IV.3 and IV.5). The worsening of credit indicators in this segment will largely depend on the evolution of the labor market, which shows signs of weakening as of the cutoff date of this Report.

Finally, for the mortgage segment, both delinquency and the ratio of the impaired portfolio over loans ended their downward trend (see the statistical appendix). It is possible that the recent deterioration of these indicators will intensify if the labor market continues to weaken further. Stress tests based on adverse scenarios, in which economic growth remains low, show that the risk of this portfolio could increase significantly (box IV.1).

In terms of bank funding, banks continue to issue fixed-income instruments and to substitute external bonds for local debt.

The share of institutional funding continues to increase in medium-sized banks, through time deposits and long-term debt: the former, from the mutual funds; the latter, from the pension funds. The pension fund managers (PFMs), in particular, have made major movements of funds, which could cause a substantial increase in risk in the face of flow reversals. The measure of funding risk from this source remains relatively high for this type of bank (figure IV.6), because the increase in the share of institutional investors more than offsets the lower volatility of other instruments.

Despite an increase in local long-term issues, the duration of other liabilities has shortened, and the duration of assets has increased slightly. Consequently, beyond some recent volatility, the term mismatch between assets and liabilities has increased steadily, which implies greater sensitivity to interest rates.

Bank capitalization has not changed significantly, remaining below international benchmarks, while profitability has stabilized in the recent period.

The capital adequacy ratio (CAR) for the system has been just over 13.5% since mid-2016, where the average for medium-sized banks is slightly higher (table IV.1). For this group of banks, the higher capitalization level recorded since the first quarter of 2016 is mainly due to lower leverage. However, there are challenges for bank capitalization going forward, as more stringent international standards will soon enter into effect and banks could face potential losses from adverse economic scenarios (box IV.1).

The annualized profitability of the system stabilized starting in February 2017, with an ROE of 12% and an ROA of 1% in March of this year. The interest margin—the main component of operating income—increased in the first months of this year, after falling almost 0.3% of assets since mid-2014, while the indexation margin decreased over 20 basis points of assets since the first quarter of 2016 (table IV.1).

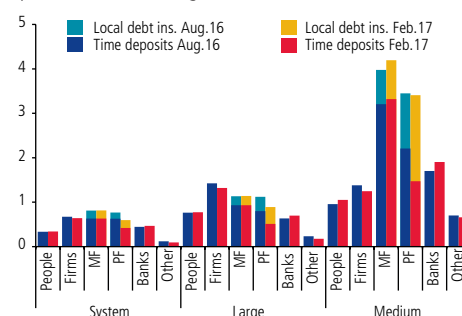
TABLE IV.1
Profitability and solvency indicators by size of bank (*)
(percent)

		CAR			ROE		
		Large	Medium	System	Large	Medium	System
2014	II	13.2	12.7	13.5	21.6	12.6	17.5
	IV	13.2	12.4	13.4	20.2	13.5	17.3
2015	II	13.0	11.4	13.0	18.5	13.2	16.0
	IV	12.5	11.2	12.6	16.2	13.1	14.4
2016	II	12.9	12.9	13.5	15.7	8.3	12.5
	IV	13.1	13.3	13.8	15.4	5.1	11.1
2017	March	13.0	13.2	13.6	15.9	6.1	12.0

(*) CAR: capital adequacy ratio. ROE: annualized return on equity.

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

FIGURE IV.6
Funding risk (*)
(percent of total funding)



(*) Funding risk: the product of monthly exposure and the monthly change calculated in a five-year window with the 90th percentile. It represents a drop relative to total liabilities. Excludes bank current accounts (0.03%), credit with local banks (0.3%), and Central Bank liabilities (0.03%).

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

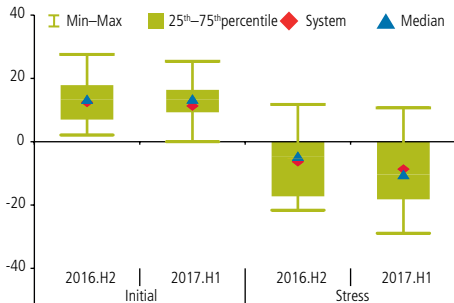
FIGURE IV.7
Annual GDP growth (*)
(quarterly, percent)



(*) Seasonally adjusted data. The shaded area marks the exercise window.

Source: Central Bank of Chile.

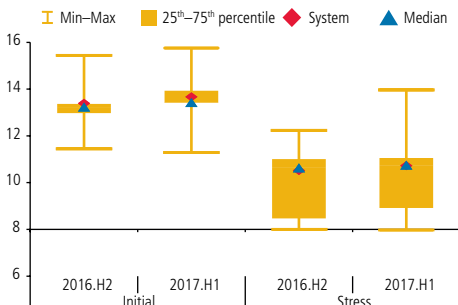
FIGURE IV.8
Impact of stress test on ROE (*)
(income over core capital, percent)



(*) Data weighted by the core capital of each institution. Calculations do not include treasury, foreign trade, and consumer banks that have left the system. Minimums are the 1st percentile.

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

FIGURE IV.9
Impact of stress scenario on the CAR (*)
(regulatory capital over risk-weighted assets, percent)



(*) Data weighted by the core capital of each institution. Calculations do not include treasury, foreign trade, and consumer banks that have left the system.

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

RISK FACTORS

The prolongation of slow economic activity could deteriorate the banks' portfolio quality.

As mentioned, an adverse economic scenario or the prolongation of low growth could have an impact on the banks' commercial loan portfolio, as firms generate less income. This would exacerbate the deterioration of the commercial loan portfolio, with an increasing share of firms migrating from substandard—which is currently high—to default. The labor market has also begun to show signs of deterioration. If this situation worsens or continues for a long time, it could increase credit risk in the personal banking segment by lowering debt repayment capacity. Adverse scenarios that incorporate the prolongation of lower economic activity show a significant impact on credit risk, especially on the consumer side (box IV.1).

The capital adequacy ratio remains below the average of other economies.

Although the banks maintain a sufficient capital base in line with the current regulations, there are challenges going forward that require strengthening the core capital. The recent increases in capital have largely stemmed from mergers and acquisitions; individual estimates of the CAR point to a smaller cushion. Moreover, there have not been any substantial changes in dividend policies, despite the fact that the economic scenario has been less dynamic for in recent years (box IV.2).

STRESS SCENARIOS^{1/}

Stress tests show that although the banking system remains in an adequate financial position to face the materialization of a severe stress scenario, risk has increase recently, while profitability has weakened steadily in recent years.

Stress tests evaluate the impact of credit and market risk under a severe but plausible stress scenario. The stress tests use macroeconomic and financial data, as well as accounting data for the banking system, as of December 2016. Stress tests are an analytical tool that contribute to identifying systemic financial strengths and weaknesses in a given moment of time. Given their partial nature, they do not necessarily uncover all the effects of specific risk scenarios. Consequently, they should not be interpreted as projection exercises.

^{1/} The analysis is based on the methodology described in the FSR, Second Half 2013 and in Martínez et al. (2017). Both the analysis and the results are regularly reported to the SBIF.

In this framework, credit is estimated with a model that relates loan loss provisions, which reflect the cost of default in the banks' loan portfolios, with macroeconomic and financial factors, mainly economic activity. Market risk considers two types of exposure: currency and interest rates (separated into valuation and repricing). The severe stress scenario considers a GDP contraction in the short term and a lower growth rate in the medium term. Output would reach -5.8% annual in the most critical quarter and then converge in the medium term to 1.4% in 2018. This is intended to replicate previous episodes of significant financial fragility (figure IV.7).

Relative to the stress test in the last FSR, which used data through June 2016, the system starts with lower profitability, lower margins, and higher capital. Thus, the quantification of market risk shows a reduction, mainly in repricing risk. Credit risk, in turn, decreases slightly in the commercial portfolio relative to previous results, while the household segment is estimated to increase. Thus, under the stress scenario, the potential loss from aggregate credit risk is 21% of system capital (table IV.2). The stress scenario also leads to lower loan growth, which further reduces the operating margin, with an impact on profitability.

Thus, the ROE would become negative under the stress scenario, dropping to the lowest level of the last two years. At the individual level, banks that together represent 74% of the system's Tier 1 capital (similar to the last FSR) would record negative earnings under the stress scenario (figure IV.8).

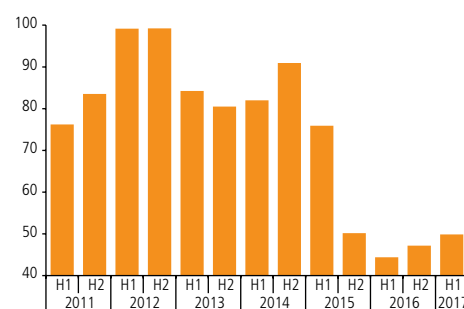
Despite the slight improvement in solvency under the stress scenario, the banks that are most exposed to the risks of the stress scenario have not increased their core capital. This is reflected in the greater dispersion of the CAR relative to their initial situation (figure IV.9). Thus, the group of banks that maintain a CAR of over 10% in the stress scenario represents half of the system's Tier 1 capital. This figure is slightly higher than the finding reported in the last FSR, although it is still low from a historical perspective (figure IV.10).

TABLE IV.2
Impact of stress tests on ROE
(percent del core capital)

	2015		2016		2017
	H1	H2	H1	H2	H1
Initial ROE	17.3	15.5	14.5	12.5	11.3
Market risk	-1.5	-1.8	1.3	-1.2	-0.8
Valuation	-1.1	-1.0	-0.8	-0.5	-0.6
Repricing	-0.7	-1.1	-0.8	-1.0	-0.6
Currency	0.3	0.3	0.3	0.3	0.3
Credit risk	-21.4	-22.0	-21.4	-20.5	-21.2
Consumer	-9.2	-9.6	-9.4	-7.8	-9.8
Commercial	-10.4	-10.3	-9.7	-10.3	-8.4
Mortgage	-1.8	-2.2	-3.0	-2.4	-3.0
Margin	4.8	3.7	3.6	2.9	2.1
Final ROE	-0.9	-4.7	-4.6	-6.3	-8.7

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

FIGURE IV.10
Banks CAR at or over 10% under stress scenario (*)
(percent of total system assets)



(*) Results of stress tests presented in respective FSRs.

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

BOX IV.1 CREDIT RISK UNDER ALTERNATIVE MACROECONOMIC SCENARIOS

This box analyzes the relationship between credit risk in the banking sector and different macroeconomic scenarios, using the tools that are normally employed to carry out stress tests. The analysis shows that recent forecasts of the economy’s medium-term dynamic could impose a bigger challenge for banks’ risk management.

Risk scenario used in the stress tests

Stress tests are generally based on extreme but plausible situations. The results reported in the FSRs for the last four years use a stress scenario that replicates an average drop in output in periods of financial fragility. This scenario—termed the severe scenario for the purposes of this box—considers a slowdown in GDP growth of 6.6 percentage points (pp) in three quarters, starting in the reference period. GDP growth is assumed to then converge in two years to a level that is similar to the difference in average growth before and after the Asian crisis. Thus, in the current exercise, the severe scenario considers that GDP growth will converge to 1.4% in annual terms (dashed line in figure IV.11).

FIGURE IV.11
Annual GDP growth (*)
(quarterly, percent)



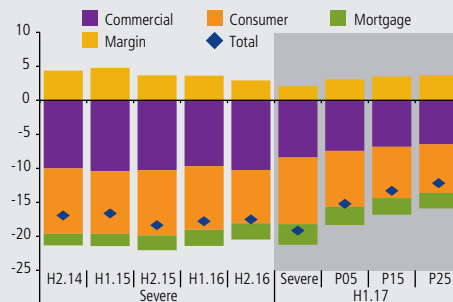
Source: Central Bank of Chile.

Assessment of alternative scenarios

In recent years, the banking system has recorded low risk indicators and credit growth in line with the less dynamic economy. However, the economic downturn of the past few years may have caused a deterioration in the loan portfolio. Adverse scenarios in which economic growth remains weak are thus significant, given the lower profitability of the system and the medium-term outlook for the economy. The construction of these scenarios is based on the 5th, 15th, and 25th percentiles of the distribution of the GDP forecast presented in the March 2017 *Monetary Policy Report* (colored areas in figure IV.11).

Although the dynamics of these scenarios are different from the earlier tests, in that the drop is less steep but more persistent, the test results reveal significant impacts. Under these alternative scenarios, the estimated impact of credit risk (net of margin) is between 12 and 15% of core capital. Under the severe scenario, the impact is 19% (figure IV.12).

FIGURE IV.12
Results of different credit risk scenarios
(percent of core capital)



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

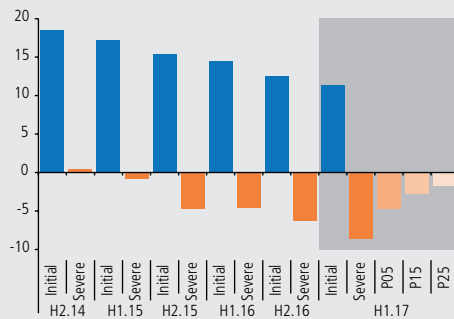
In terms of composition, credit risk is concentrated in household portfolios, revealing the greater sensitivity of this sector to the alternative scenarios. The less dynamic lending reduces margins, which, under the alternative scenarios, approach the levels projected under the severe scenario.

In addition to the potential materialization of credit risk, the slow economy could reduce profitability further. The tests thus indicate that the system could record losses under the alternative scenarios analyzed here (figure IV.13).

Final comments

These stress tests should not be interpreted as a forecast, since the objective is to establish whether a given market agent is capable of resisting a stress scenario without having to adjust their commercial or risk management policies. Nevertheless, the results indicate that scenarios featuring weak growth for a longer time, which are within the probability distribution discussed in the March *Monetary Policy Report*, represent a relevant risk for the loan portfolio. This information should be adequately incorporated into the risk assessments and mitigation measures carried out by the banking sector.

FIGURE IV.13
Impact of different scenarios on ROE
(percent of core capital)



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

BOX IV.2 BANK SOLVENCY: PENDING CHALLENGES

As described in past FSRs, the local banking system’s capital adequacy ratio (CAR) is in the lower end of the distribution for various groups of countries. This box reviews information that highlights the need for a timely convergence to international capital standards (Basel III).

Investment in subsidiaries

At the system level, the CAR has improved slightly in the past year, largely due to one-off events such as mergers and acquisitions. In the absence of capital increases, these improvements will be temporary, dissipating in the medium term as the asset allocation is adjusted to the new business. Solvency estimates for banks excluding bank subsidiaries (individual basis) reveal adjusted CARs that are lower than the ratios reported on a consolidated basis (table IV.3). This is generally because the investment in bank subsidiaries is in an initial growth phase, in which the ratio of capital to risk-weighted assets is relatively high.

TABLE IV.3
CAR comparison (1)
(percent)

	Consolidated	Individual (2)
2013	13.3	12.2
2014	13.4	12.2
2015	12.6	11.3
2016	13.8	12.7
2017	13.7	12.6

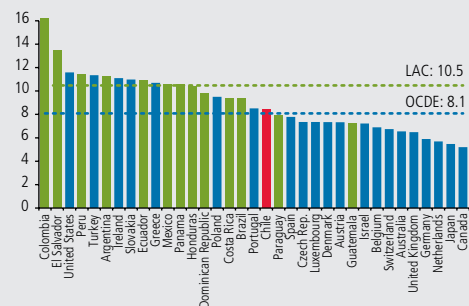
(1) Data at year-end, except 2017, which is through February.
(2) The calculation deduces investment in subsidiaries and subtracts risk-weighted assets, assuming a similar density for the subsidiaries.

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

International comparison

The leverage comparisons available at the international level are based on the CAR, which puts the local banking system toward the bottom of a sample of comparable countries, both in the region and in the OECD (FSR, first half of 2016, box IV.1). However, the calculation of this indicator can vary widely between countries, due to two key factors: (i) asset weights; and (ii) the risks considered. In the case of Chile, the definition of risk-weighted assets is higher than in other jurisdictions, since some loans are weighted at 100%, but capital charges associated with market and operational risks are not included, as they are in other countries. One indicator that can remove some of these difficulties in comparison is capital over assets. Using this ratio, Chile is around the average of OECD countries and below the average of the sample of Latin American countries (figure IV.14).

FIGURE IV.14
Capital over assets, 2016 (*)
(percent)



(*) Slashed lines indicate the average of the respective samples of countries. LAC (green): sample of Latin American and Caribbean countries. OECD (blue): sample of OECD member countries. Chile (red) pertains to both groups.

Source: Central Bank of Chile, based on data from the IMF (FSIs).

As is frequently pointed out, Chile has capital levels consistent with low credit risk. However, on measuring delinquency relative to capital, the local economy is in the middle of Latin American countries and somewhat lower than OECD countries, some of which have high delinquency rates due to the recent financial crisis (see the statistical appendix).

Final notes

The recent stress tests show that part of the banking system has less cushion for facing the stress scenarios (figure IV.10). Combined with a tighter CAR (individual basis), this points to a need to shore up the capital base. As indicated in past FSRs, the latter could be achieved through either external capitalization or an increase in retained earnings. However, there is little evidence of organic capital growth, given that dividend distribution policies have not been modified, but rather have been stable at 50% of earnings in the last five years (see the statistical appendix). This shows a degree of sluggishness in making adjustments aimed at converging to international standards (Basel III).

V. FINANCIAL REGULATION

This chapter reviews the most important issues in the debate on financial regulation at the local and international levels in the first half of 2017.

NATIONAL REGULATION

The Central Bank opened a public consultation on a modification to its regulations on the Issuance and Operation of Payment Cards, and adjusted some of its regulations so as to implement the measures contained in Law 20,956 to boost productivity, passed in October of last year (henceforth, the Productivity Law)^{1/}. In addition, the law modernizing the labor relations system entered into effect, which could have implications for the financial sector.

New regulations on the Issuance and Operation of Payment Cards

The Central Bank undertook a comprehensive, systematic review of its payment card regulations, primarily to incorporate market developments while maintaining the security and efficiency of the payment systems. Some specific modifications were necessary for the implementation of Law 20,950, which authorizes the issuance of prepaid debit cards by nonbank entities. On 10 March, the new regulations were opened for public consultation.

Several modifications were incorporated^{2/}. The main changes relative to the current regulatory framework are threefold: (i) development of a new regulatory framework for nonbank companies that issue prepaid debit cards, in accordance with the provisions of Law 20,950; (ii) allowance of the development of what is known as a four-party model, in which the issuer and the acquirer are not necessarily directly linked, so as to facilitate an expansion in the supply of services to businesses that participate in payment networks; and (iii) reorganization and systematization of the *Compendium of Financial Regulations* (CNF), separating operation and issuance and, within the latter, distinguishing between regulations that are applicable to all types of payment cards and those that are specific to credit, debit, or prepaid cards.

The regulations dictated by the Central Bank in this area are related to its legal mandate to safeguard the normal operation of internal and external payments. This regulatory system is without prejudice to the existence of a legal

^{1/} See FSR, second half of 2016.

^{2/} An explanatory note was included with the public consultation, which is available on the Bank's website.



and supervisory framework governing the different actors involved in the retail payments industry, which includes the general and special legislation on issues such as free competition, consumer protection, and the prevention of money laundering. Therefore, while the Bank aims to contribute to the sustainable development of this market through the exercise of its authority, there are important aspects that need to be addressed by other institutions specifically charged with overseeing these areas.

On the cutoff date of the FSR, the Central Bank is in the final phase of reviewing the comments received during the public consultation. Once the definitive regulations have been drafted, the bank supervisor (SBIF) will issue the necessary instructions for implementing them, in its role as supervisor of payment card issuers and operators.

Changes in overseas investment limits for the life insurance companies

The Productivity Law adjusted the overseas investment limits for life insurance companies, setting a floor of 20% of technical reserves and risk-based capital, and authorized the Central Bank to determine the upper limit, following a report by the SVS.

The government's objective in promoting this legal change was to allow insurance companies "to access greater diversification and liquidity in their investment portfolios, which is expected to translate into better pensions from the life insurance companies and an increase in the financing available for infrastructure works." Taking into account its institutional mandate and the general orientation of the government's economic policy, the Central Bank modified Chapter III.F.6 of the CNF to raise the limit on overseas investment for these companies.

To ensure that the adjustment of the insurance companies' investment portfolios does not affect the normal operation of internal and external payments, and to minimize the risk of possible adverse effects from sharp portfolio shifts, the limit was gradually raised from 20 to 30%, in two successive 5-pp increases on 1 March and 1 September. This change was introduced after a public consultation process, and its implementation required a normative change by the SVS, which was effected on 27 March via the publication of General Implementation Norms (NCG) 415.

Prior to these changes, the system's overseas investments represented approximately 12% of technical reserves and risk-based capital, on average, with some companies recording a ratio closer to the prior ceiling of 20%. Given the short period in which the new regulations have been in force, it is not possible to evaluate the impact at this time.

Modifications to foreign exchange regulations applicable to investments from abroad channeled through international custodians

Another measure incorporated under the Productivity Law is the modification of certain aspects of the Income Tax Law, to promote the installation of international custodians in Chile. The objective is to facilitate the participation of foreign investors in the local fixed-income market, which should contribute to increasing market depth and liquidity and reducing the cost of funding.

Taking into account the government's economic policy objectives in underwriting these legal changes, and following a public consultation, the Central Bank modified its foreign exchange regulations in January, aiming to simplify the reporting requirements on exchange operations related to investment from abroad that is channeled through an international custodian, acting in its own name on the account of clients who are neither permanent nor temporary residents in Chile. The new regulations allow the information to be reported to the Central Bank using the simplified tax identification number (RUT) assigned to the international custodian, in accordance with current tax legislation. It was further established that international custodians must periodically submit to the Central Bank a disaggregated report on the stock of investment in local financial instruments held in custody in the name and on the account of nonresidents. This information will be used for statistical purposes and for monitoring financial stability^{3/}. Following these modifications, there are currently no other requirements or measures imposed by the Bank that impede or restrict the realization of this type of operation.

The modifications aim to provide an alternative for foreign investors that do not have a simplified tax identification number in the country, allowing them to hold investment instruments in Chile through an international custodian that does have an identification number. Under this alternative, the foreign investor can execute the exchange operation through any entity in the formal exchange market that has a record for verifying that the acquired financial instruments will be held in custody at an international custodian located in Chile, through a securities depository company that has been legally incorporated in accordance with Law 18,876.

The set of legal and regulatory changes described above have facilitated international custody operations in Chile. As a result, approximately 20% of the debt issued by the General Treasury in January was acquired in the first instance by nonresidents, and the weight of Chilean sovereign bonds in global indices increased. However, although instruments have been deposited in international

^{3/} In general terms, the Central Bank regulations applicable to investment from abroad require that the exchange operations related to the investment be channeled through an entity in the formal exchange market (FEM) and be reported to the Bank by the intervening FEM entity, identifying the foreign investors by their simplified identification number. Any changes in the operation (such as investor substitution or the total or partial transfer of investment rights) must also be reported to the Bank.



custodial accounts, thus far there has not been a net increase in nonresident investment in local fixed-income instruments.

Sale in Chile of payment cards issued overseas

In the last few months, several media outlets have publicized the sale of prepaid cards issued overseas and distributed in Chile by entities that are not regulated locally.

The local regulations issued by the Central Bank are not applicable to payment cards issued overseas. The one exception is with regard to their use in the country, where a local operator must assume the payment responsibility so as to ensure that the payment is made to affiliated businesses that accept the respective card. However, in a prepaid payment scheme, the businesses that accept the card are not the only parties at risk: the person who purchased the card has also committed resources.

Until the new regulatory framework for nonbank issuers enters into force, the issuance of prepaid cards will continue to be restricted to banks and regulated by Chapter III.J.3 of the CNF. When the new regulations allowing the issuance of prepaid debit cards by nonbank entities are written and put into effect, it must be clearly understood that the prudential requirements on capital, liquidity, and risk management imposed under the regulatory provisions will not be applicable to entities incorporated and residing outside of Chile, which issue cards from overseas. It is therefore critical for people to verify that any payment cards they purchase or contract are regulated and supervised in Chile, given that any damage or loss potentially caused by a company that is not incorporated or supervised in the country cannot be prosecuted or punished in Chile. This constitutes a clear risk that must be internalized by those who choose to entrust their resources to unregulated entities.

In addition, the activities carried out by this type of entity could weaken other regulations in the current legal framework, such as those addressing consumer protection, the prevention of money laundering, and prohibitions on encroaching on business activities reserved exclusively for banks and other entities that are expressly authorized by law.

Minimum services in the event of a strike in the financial sector

Law 20,940 will enter into force on 1 April, modernizing the labor relations system. One of the key changes is the modification of collective bargaining procedures to incorporate minimum services that must be provided by emergency teams in the event of a strike. The effects of this change on the financial sector are discussed in box V.1.

INTERNATIONAL REGULATION

International regulatory agenda

In the last ten years, the international regulatory agenda has centered on incorporating the lessons of the international financial crisis. Much of this work has been led by the world's largest economies and coordinated by international organizations and agencies such as the BIS, the FSB, and the G20, while other efforts have been developed individually by different countries, in some cases with extraterritorial effects^{4/}.

In this period, the importance of stability for the functioning of financial markets has become widely recognized, and a number of accords have been established in an effort to contribute to achieving that stability: (i) harmonization and strengthening of banks' capital requirements and liquidity positions; (ii) strengthening the derivatives market; (iii) recognition of the importance of macroprudential policies; (iv) development of standards for financial market infrastructures; (v) definition of key attributes for the resolution of financial institutions; (vi) implementation of measures to better supervise nonbank financial intermediaries (shadow banking); and (vii) better coordination between supervisors, especially in terms of global systemically important banks.

However, advancing the regulatory agenda has not been entirely free from debate. In particular, there are questions on the potentially high costs for financial institutions to comply with the new standards and the possibility that the reforms could have undesired effects on growth. In response to these criticisms, the BCBS carried out a regular follow-up on the collateral effects of the reforms, under the framework of the G20; while the FSB recently opened a public consultation on its new guidelines for evaluating the effects of the financial reforms.

The new U.S. administration has floated the possibility of rolling back some of the financial reforms implemented in the last five years^{5/}. Thus far, some key elements of the Dodd-Frank Act are under review: proposals include modifying the regulation that restricts proprietary trading by commercial banks that receive deposits from the public (also known as the Volcker Rule); and reducing the power and scope of the macroprudential authority.

Although not yet endorsed by the U.S. Executive Office, there are signs that the changes could include the Basel agreements. This represents an important risk for the development of the global regulatory agenda, given that consensus

^{4/} See FSR, second half of 2012, chapter VI.

^{5/} In recent months, three Executive Orders have been issued, which, while not modifying any laws, do show policy guidelines. The first describes the regulatory objectives of the administration; the second seeks to review the framework under which the Orderly Liquidation Authority operates; and the third seeks to review whether the process through which the Financial Stability Oversight Council (FSOC) designates nonbank financial institutions or financial activities that could have a systemic impact is adequate and transparent. In addition, at the end of the last administration, the Congress presented the Financial CHOICE Act, which, if enacted, would allow banks to choose between the current regulatory and supervisory scheme or a lighter one.



is a fundamental pillar of legitimacy. This risk is manifested on at least two dimensions: (i) there are elements of the standards that have not yet been finalized and are still being negotiated^{6/}; and (ii) there are standards for which there is consensus, but which have not yet been implemented.

This is especially important for some emerging economies that are behind on implementing the standards, whether because they were not directly affected by the global financial crisis, so the reforms are less urgent, or because their reform processes are slower. Thus, the debate from the developed economies on the implementation of the global regulatory agenda is not trivial. Clearly, reviewing the effects of the reforms is important, but if jurisdictions choose not to adhere to the global standards, there will be undesirable effects such as regulatory arbitrage and the fragmentation of the global system^{7/}.

Chile is an emerging economy with a relatively deep financial sector that is highly integrated with the global financial system. It is therefore important to maintain the international regulatory standards and adhere to them. In this sense, the reform to the General Banking Law announced by the government will contribute to reducing the existing gaps with the developed economies.

TABLE V.1
Main regulations issued in the first half of 2017

Date	Organization	Regulation	Material and objectives
09-Jan-2017	MINDHA, CBC, SBIF, SVS	JOINT COMMITMENT OF CHILEAN AUTHORITIES ON COMPLIANCE WITH THE PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURE	Shows the commitment of Chilean authorities to applying these principles in their policies, regulations, and supervisory procedures and to moving forward in gradually eliminating the gaps that have been detected in their observation.
11-Jan-2017	Central Bank	MODIFICATION OF CNCI , CHAPTER XIV MODIFICATION OF CNCI MANUAL OF PROCEDURES AND FORMS, CHAPTERS I AND XIV	Facilitates the operation of international custodians in the country, taking into account the general orientation of the government's economic policy in this area and safeguarding compliance with the provisions of the <i>Compendium of Foreign Exchange Regulations</i> (CNCI).
31-Jan-2017	SBIF	CIRCULAR 3617, BANKS	Aligns the interest accrual conditions of mortgage bonds with the time limits on approving the underlying mortgage loans.
09-Feb-2017	SBIF	CIRCULAR 3618, BANKS CIRCULAR 31, CORPORATIONS	Extends the restriction that bank employees cannot serve on the board of companies that manage large-value payment clearing houses and banking service providers that provide services related to the payment systems and that are not bank subsidiaries.
01-Mar-2017	Central Bank	MODIFICATION OF CNF, CHAPTER III.F.6	Gradually raises the limit on overseas investment for insurance and reinsurance companies, thereby increasing the diversification and liquidity of their investment portfolios.

^{6/} For example, standard credit risk models, limits on the reduction of de risk-weighted assets in models relative to standard models, and the regulatory treatment of provisions.

^{7/} IMF (2017a).

TABLE V.2
Main regulations published for public consultation in the first half of 2017

Date	Organization	Regulation	Material and objectives
13-Jan-2017	SVS	PUBLIC CONSULTATION CLOSED REGULATIONS ON SELF-ASSESSMENT OF CORE PRINCIPLES AND BEST PRACTICES FOR MARKET CONDUCT IN THE INSURANCE INDUSTRY	Contributes to the development of the insurance market, increases protection of insured parties, and improves the allocation of resources, in accordance with the impact on clients, insured parties, beneficiaries, or the general public. Encourages supervised entities to establish an effective corporate governance that encompasses the adequate protection and fair treatment of insured parties as part of the organizational culture.
23-Jan-2017	SVS	PUBLIC CONSULTATION CLOSED REPORT ON REGULATIONS ON REINSURANCE MANAGEMENT POLICIES AND PROGRAMS	Requires insurance companies to provide the Superintendence with information on their reinsurance management policies, approved by the company's board of directors, for the purpose of evaluation. Also introduces a requirement for insurers to report annually on their reinsurance programs.
10-Mar-2017	Central Bank	PUBLIC CONSULTATION CLOSED REGULATIONS ON THE ISSUANCE AND OPERATION OF PAYMENT CARDS	Launches a comprehensive review of the regulations on retail payment mechanisms, so as to update and systematize the current regulatory framework to take into account market developments and to ensure the safety and efficiency of these payment systems.
31-Mar-2017	SBIF	PUBLIC CONSULTATION CLOSED REGULATIONS ON CAPITAL REQUIREMENTS FOR DERIVATIVE INSTRUMENTS CLEARED THROUGH A CENTRAL COUNTERPARTY	Specifies the calculation of risk-weighted assets, which is used to determine the minimum capital requirement demanded of banks, in the case of derivative instruments that are cleared through a central counterparty (CCP).
03-May-2017	SVS	PUBLIC CONSULTATION METHODOLOGICAL DOCUMENT THAT DETERMINES THE RISK-BASED CAPITAL (RBC) OF INSURANCE COMPANIES	Presents the fifth version of the methodology for calculating risk-based capital (RBC) that the Superintendence of Securities and Insurance (SVS) is developing as the basis for its proposal in the framework the bill establishing a risk-based supervisory system for the insurance industry, currently under discussion in the National Congress.

TABLE V.3
List of documents reviewed

Document	Title	Organization	Prudential regulation	Financial infrastructure	Resolution	Transparency	SIFIs	Fintech	Other
1	Global Systemically Important Banks: Revised Assessment Framework— Consultative Document	BIS / BCBS					*		
2	Pillar 3 Disclosure Requirements: Consolidated and Enhanced Framework	BIS / BCBS	*			*			
3	Market Intelligence Gathering at Central Banks	BIS / MC							*
4	Repo Market Functioning	BIS / CGFS							*
5	Designing Frameworks for Central Bank Liquidity Assistance: Addressing New Challenges	BIS / CGFS							*
6	Harmonisation of the Unique Transaction Identifier: Technical Guidance	BIS / CPMI / IOSCO				*			
7	Distributed Ledger in Payment, Clearing, and Settlement: An Analytical Framework	BIS / CPMI		*				*	
8	Thematic Review on Corporate Governance	FSB							*
9	Guidance on Continuity of Access to Financial Market Infrastructures ("FMIs") for a Firm in Resolution	FSB		*	*				
10	Guidance on Central Counterparty Resolution and Resolution Planning	FSB		*	*				
11	Re-Hypothecation and Collateral Re-Use: Potential Financial Stability Issues, Market Evolution, and Regulatory Approaches	FSB							
12	Blueprint for a New Real-Time Gross Settlement (RTGS) Service	BOE		*					
13	IOSCO Research Report on Financial Technologies (Fintech)	IOSCO						*	

Source: Website of each institution.



BOX V.1

MINIMUM SERVICES AND EMERGENCY TEAMS IN BANKS AND OTHER COMPANIES IN THE FINANCIAL SECTOR

Given the particularities of entities in the financial sector, such as banks or financial infrastructures, any potential operational interruptions can be more complex than in other sectors of the economy. These institutions play a key role in the payment system and the provision of essential services for companies and individuals, such as financing, risk coverage, and upholding public confidence on taking in or receiving funds. The interruption of these functions in an entity could easily propagate through the financial system, through the multiple interconnections among participants. The public interest in safeguarding the functions of financial system participants is evident, for example, in the specialized regulatory and supervisory systems and the state deposit guarantee schemes.

From this perspective, strikes in the financial system can become a source of systemic risk, depending on their duration and the degree to which the provision of necessary services is impaired. Consequently, the authorities should be closely interested in ensuring the appropriate management of this type of situation.

Under the new framework established in Law 20,940, in the event of a strike in a financial company, the minimum services must be correctly defined, so as to limit the risk of interrupting or affecting the normal operation of these services, which could compromise the stability of the financial system as a whole. This applies not only when the trade union and the firm come to an agreement directly, but also when, in the absence of this agreement, the minimum services must be defined by the National Labor Office.

More specifically, financial entities perform operations whose interruption could affect the chain of payments and the provision of other financial services that are essential for the development of the economy and the fulfillment of basic needs of the population or of specific groups or sectors. For example, people trust that they will be able to access the funds deposited in these institutions, such as their wages, benefits, or savings, as

needed, and that their means of payment will be accepted when they use them. People and businesses need access to financial institutions to obtain the necessary financing for carrying out their activities, as well as to cover their financial risks through derivative instruments. These are some of the basic necessities that these financial institutions cover. Finally, while there are a number of financial institutions that could provide these services under relatively similar conditions, the substitution of one supplier for another is not always either perfect or feasible in the short term.

This concern for preserving the services and functions of financial entities is commonly seen in international financial regulation definitions, especially with regard to the definition and identification of critical activities for adequately managing potential operational and financial problems in a bank (bank resolution processes). For example, the Bank of England defines the following activities as critical: making and receiving payments, giving loans, taking deposits, the clearing and settlement of financial transactions, and interbank loans, among others. For the U.S. Federal Reserve, essential activities include operations, services, functions, and support activities whose interruption could implicate material losses in relation to the bank's activities, thereby compromising stability^{1/}.

In Chile, the importance of the uninterrupted operation of banks is recognized in different laws and regulations. For example, the General Banking Law establishes that banks are institutions whose operation is mandatory, and no entity can initiate, suspend, or terminate their operations without prior authorization by the Superintendent. The SBIF banking regulations contain chapters dedicated to significant or strategic (critical) activities and the business continuity management of supervised entities. Failure to comply with the legal obligations or regulations is a serious infraction that carries significant consequences, as established in the General Banking Law.

^{1/} See BoE (2014) and Fed (2017).

From the perspective of the Central Bank, whose mandate is to safeguard the normal operation of the payment systems, there are internal operations within the different financial entities that cannot be interrupted and for which minimum services must be defined to ensure business continuity in the case of a strike. These include functions that directly affect the normal functioning of both the large-value and retail payment systems^{2/}, as well as the supply and availability of currency in circulation. While the former allow the execution of interbank payments, the latter are massive and extremely important for broad segments of the population.

In this context, it is critical that the liquidity management carried out by the bank's treasury, and the areas that operate or intervene directly in the payment systems, remain functional. Given that banks operate with a structural mismatch, inherent in maturity transformation, even relatively minor disruptions can affect public and investor confidence, quickly mushrooming until the bank's stability is affected.

An area of particular concern for the Central Bank is the systemic risk that could underlie an inadequate provision of the minimum services described above. The nature of the banking system, which is characterized by multiple connections among participants, implies that any problems in a given institution could be propagated through the network to others, with effects on financial stability. These effects can be generated through various channels, such as an alteration of the interbank funding flow or an interruption (however brief) in a bank's participation in the large-value clearing houses (RTGS and Combank) and other financial infrastructures (CSD and central counterparties such as CCLV and ComDer).

Minimum services must also be specified in IT areas of the financial institutions that support the operational continuity of critical systems such as cash systems, the internet platform, back office, accounting, operational improvements, asset and financial instrument valuation, information security, computer security, fraud control, prevention of asset laundering, and the call center. An interruption in the provision of these services can generate significant disruptions for the financial entity, its customers, and the public interest.

Given the population's need for banking services, minimum services should also be defined for commercial areas dedicated specifically to risk coverage, lending, and deposit receipts.

These functions and some of the associated elements are summarized in figure 1.

FIGURE 1
Operations for which minimum services should be defined

Treasury functions	Operation of payment systems	Information and security services	Deposits and lending
Liquidity management	Payment clearing	Back office	Receipt of funds, cash, or securities
	Cash services		
Monitoring sources of income	Check cashing	Computer security	Lending
	Clearing house		
Liability payment	Securities custody	Web platform support	

Safeguarding the public confidence of a vast network of people who entrust banking institutions with their resources via deposits is the essential justification for specialized supervision. Consequently, the opinion of the SBIF must be considered in the determination of minimum services, insofar as this agency has the best capacity and expertise to support the technical evaluation of specific services in each bank, which should be subject to classification as minimum services and the mandatory establishment of emergency teams.

Finally, this discussion is also relevant for other financial entities that also have a stake in investor and public confidence, including saving and loan cooperatives supervised by the SBIF, payment card issuers and operators, companies that provide banking support services, pension fund managers, life insurance companies, securities depositories and custodians, clearing houses, and central counterparties.

^{2/} The large-value payment systems comprise the RTGS system managed by the Central Bank and Combank, which is managed by the private sector. Retail systems include payment cards and automatic teller machines.

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GLOSSARY

Absorption: Number of the square meters of office space effectively rented or purchased.

Arrears rate (AR): 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; for consumer loans, up to 180 days.

Banks, large: Banks with a large market share and wide diversification of operations (loans and derivative and nonderivative financial instruments).

Banks, medium-sized: Banks with a smaller market share but equally diversified operations as the large banks.

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.

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

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

Central securities depository: A financial organization that provides securities accounts and central custody services and plays an important role in guaranteeing securities trade.

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

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

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.

Debt service ratio (DSR): Measures the payments that households must make to fulfill their consumer and mortgage loan commitments, as a percentage of their disposable income.



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

Default rate (DR): The ratio between the number of debtors with arrears of over 90 days and the total number of debtors in the corresponding portfolio.

Delinquency 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 with arrears of over 90 days from the maturity date. The full amount of the loan is considered delinquent for accounting data, versus the total debt for administrative data.

Emerging Market Bond Index (EMBI): An indicator calculated by JPMorgan that measures the return on government bonds issued by emerging market countries (sovereign bonds), with a specific structure and liquidity.

Federal funds rate (FFR): Monetary policy rate of the U.S. Federal Reserve.

Federal Reserve System (Fed): U.S. Federal Reserve, the central bank of the United States.

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

Financial infrastructures: Institutions that enable the effective operation of financial markets, including payments systems, central counterparties, securities clearing systems, central securities depositories, and trade repositories.

Formal Exchange Market (FEM): A group of banks and currency exchange houses authorized by the Central Bank of Chile, to which they report all transactions.

G20: An international forum for cooperation and consultation among developed countries and emerging economies, on issues related to global economic stability. Members include the seven most industrialized countries in the world (G7), Russia, the European Union, and a group of other economies, including Brazil, India, China, and South Africa.

House price index (HPI): Estimated using a stratification or mixed adjustment method, based on anonymized administrative records from the Chilean IRS on actual transactions on new and used residences at the national level.

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

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

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

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

International custodian: Custodian or securities depository with primary residence overseas.

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

Liquidity ratio: Official reserves in foreign currency over short-term liability financing needs in foreign currency.

Loan-to-Value (LTV) ratio: The ratio of a given loan to the value of the underlying asset purchased, usually a home.

Loans in default: Debtors and their loans for which there is little chance of recovery, due to a weak or null capacity to pay. This portfolio includes debtors who must undergo a forced debt restructuring, as well as any debtor with arrears of 90 days or more in the payment of interest or principal on a loan.

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.

MF1: Type 1 mutual funds, which invest in short-term debt instruments with a duration of 90 days or less. This mutual fund invests in short-term debt securities and medium- and long-term debt securities. The duration of a Type 1 fund's investment portfolio must be 90 days or less. Shares are invested in short-, medium-, and long-term debt instruments.

MF2: Type 2 mutual funds, which invest in short-term debt instruments with a duration of 365 days or less. This mutual fund invests in short-term debt securities and medium- and long-term debt securities. The duration of a Type 2 fund's investment portfolio must be 365 days or less. Shares are invested in short-, medium-, and long-term debt instruments.

MF3: Type 3 mutual funds, which invest in medium- and long-term debt instruments, with a minimum duration of over 365 days. This mutual fund invests in short-term debt securities and medium- and long-term debt securities. A minimum and maximum duration are defined for the investment portfolio. This information must be contained in the definition adopted by the fund, and it must be longer than 365 days. Shares are invested in short-, medium-, and long-term debt instruments.

MF6: Type 6 mutual funds, which can be freely invested. These funds are not classified under the definitions of types 1 through 5. The investment policy is unrestricted, but while they are not subject to regulated guidelines, they must establish internal regulations.

Net international investment positions (NIIP): The difference between the economy's external assets and liabilities, at the end of a given period.

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

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.

Normal loans: Loans to debtors with the payment capacity to meet their obligations and commitments, for whom there is no sign that this condition will change, based on an evaluation of their economic-financial situation.

Office class (A+, A, B, C): Classification used to categorize offices according to their characteristics, from high to low. The characteristics considered are location, access, floor plan size, absence of pillars, ceiling height, access control, closed-circuit TV, security equipment, fire detectors and extinguishers, air conditioning, elevator speed, structured cabling and whether the building has Leadership in Energy and Environmental Design (LEED) certification.

Operational risk: Exposure to losses deriving from deficient internal processes, personnel and systems or external events, including legal risks but excluding strategic and headline (or reputational) risk.



Prepaid debit cards: A physical, electronic, or computer device that has a unique identification system, tied to a fund provision account opened by the card issuer for the purpose of crediting sums of money deposited therein by the purchaser; and whose utilization as a payment instrument amounts to a financial liability for the issuer vis-à-vis the public or affiliated commercial establishments or services.

Real estate VAT: In accordance with Law 20,780, of 29 September 2014, which modified D.L. 825 of 1974, on sales and services taxes, the Chilean tax regulations were modified to extend the value added tax to include the sale of real estate properties by real estate agents or companies (as opposed to private individuals).

Regulatory capital: Tier 1 (core) capital plus Tier 2 (supplementary) capital. The latter mainly includes subordinate bonds and additional provisions.

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 (RSTED): 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).

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

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

Risk-based capital: The higher capital level derived from a comparison of the capital necessary for maintaining debt ratios, the solvency margin, and the minimum capital required by law.

Risk-weighted assets (RWA): 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.

Shadow banking: Financial intermediation conducted outside the banking system.

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.

Technical reserves: Provisions that life insurance companies must hold to meet the liabilities contracted with their insured parties.

Vacancy rate: Square meters available for rent or sale, calculated over the current stock.

VIX: Chicago Board Options Exchange (CBOE) stock volatility index, based on S&P 500 index options contracts (at one month).



ABBREVIATIONS

Achef: *Asociación Chilena de Empresas de Factoring* (Association of Chilean Factoring Firms).

AR: Arrears rate.

BCBS: Basel Committee on Banking Supervision.

BCP: Central Bank bonds denominated in Chilean pesos.

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

BCU: Central Bank bonds denominated in UFs.

BIS: Bank for International Settlements

BLS: Bank Lending Survey.

BOE: Bank of England.

CAR: Capital adequacy ratio.

CAT: *Cencosud Administradora de Tarjetas S.A.*

CBC: Central Bank of Chile.

CCAF: *Cajas de Compensación y Asignación Familiar* (Family Compensation Funds).

CCC: *Cámara Chilena de la Construcción* (Chilean Chamber of Construction).

CCP: Central counterparty.

CGFS: Committee on the Global Financial System.

CNCI: *Compendio de Normas de Cambios Internacionales* (Compendium of Foreign Exchange Regulations).

CNF: *Compendio de Normas Financieras* (Compendium of Financial Regulations).

COMEX: Foreign trade.

CPMI: Committee on Payments and Market Infrastructures.

CSD: Central securities depository.

Dipres: Budget office.

DR: Default rate.

DSR: household debt service ratio.

DTI: Debt-to-income ratio.

EBIT: Earnings before interest and taxes.

ECB: European Central Bank.

EMBI: Emerging Market Bond Index.

FDR: Foreign direct investment.

Fed: U.S. Federal Reserve System.

FEM: Formal exchange market.

FFR: Federal fund rate.

FI: Fixed income.

FOMC: Federal Open Market Committee.

FSB: Financial Stability Board.

FSOC: Financial Stability Oversight Council.

FSR: *Financial Stability Report*.

FTD: Fixed-term deposit.

GBI: J.P. Morgan Government Bond Index.

GBL: General Banking Law.

GDP: Gross domestic product.

GEPU: Global Economic Policy Uncertainty Index.

GFSI: Global Financial Stress Index.

GFSR: *Global Financial Stability Report*.

HPI: House price index.

IMF: International Monetary Fund.

INE: *Instituto Nacional de Estadísticas* (National Statistics Institute).

IOSCO: International Organization of Securities Commissions.

IPoM: *Monetary Policy Report*.

LIC: Life insurance companies.

LTV: Loan To Value.

LVPS: Large-value payment system.

MC: Markets Committee.

MF: Mutual funds.

MINDHA: Ministry of Finance.

NIIP: Net international investment positions.

OECD: Organization for Economic Cooperation and Development.

OFI: Other Financial Intermediaries.

pb: Basis points.

PF: Pension funds.

PFM: Pension fund manager.

pp: percentage points.

RBC: Risk-based capital.

ROA: Return On Assets.

ROE: Return On Equity.

RTGS: Real-time gross settlement system.

RUT: Chilean tax identification number.

SAC: Sales and administrative costs.

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

SII: *Servicio de Impuestos Internos* (Chilean Internal Revenue Service).

SMR: Santiago Metropolitan Region.

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).

TYVIX: U.S. Treasury Volatility Index 10-Year Note.

UF: *Unidad de Fomento* (an inflation-indexed unit of account).

USA.: United States of America.

VAT: Value added tax.

VI: Variable income.

VIX: Chicago Board Options Exchange Volatility Index.

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