FINANCIAL STABILITY REPORT

First Half 2013

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*/ This is a translation of a document originally written in Spanish. In case of discrepancy or difference in interpretation the Spanish original prevails.

CONTENTS*/

*/ The statistical closing date of this *Financial Stability Report* was 3 June 2013.

PREFACE

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

The Central Bank's focus in the area of financial stability is centered mainly on the proper functioning of the system and the Chilean economy's access to the 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

Chile's financial system continues operating normally. Consumption has remained strong, driven by favorable labor market conditions. Household debt grew in line with disposable income, and corporate debt has remained stable as a fraction of GDP.

The banking industry's capital levels are above the regulatory minimum, and the drop depicted in the previous *Report* has been reversed. Profitability, however, has declined, despite the dynamism of the economy. Part of this underperformance is explained by higher consumer debt provisioning, which coincide with a deterioration in payment behavior in this segment. Within the context of good financing conditions, the banks have moved to a more diversified base of external liabilities, keeping at bay their overall dependence on such funding and their exposure to currency risk.

Most recently, external financing conditions for emerging economies have tightened, although they are still favorable by historic standards. Such tightening owes to changes in market expectations regarding how long the exceptional monetary stimulus implemented in recent years in the U.S. will be in place.

These developments could be the first step towards the normalization of external financial conditions that have been exceptionally beneficial for Chile and emerging economies in general. If confirmed, this normalization will relieve concerns associated with the abundant supply of foreign capital, especially regarding to external over-borrowing and asset price misalignments.

However, volatility cannot be ruled out during this process of normalization, or in the case of a return to the conditions observed in the last six months. The asset purchase process in place has no precedent, which makes it difficult to forecast the effects of its withdrawal, so there may be some volatility, with sharp increases in U.S. long-term rates and risk premiums. Such increases would affect the external financing conditions for Chilean companies, the valuation of risky assets, the exchange rate and long-term interest rates in Chile.

A deepening of the Eurozone crisis continues being an important factor of external risk. The probability of this event has not materially changed from our previous *Report*. In this scenario, a tightening of external conditions and a sudden stop of portfolio capital inflows are considered very likely.

The impact of such an event on the Chilean economy will depend on its effects on the global economy and in particular on the main emerging markets. A drop in output in these economies—especially China—would have a direct impact on commodity producing sectors, indirect effects in those areas linked to these sectors and an aggregate effect via reductions in national income.

Stress tests yield a degree of capitalization of the banking industry that allows it to deal with a severe economic slowdown together with deteriorated financial conditions. Despite the recent decline in bank profitability figures, stress tests show that banks are sufficiently capitalized to be able to absorb the losses that would be generated by a macroeconomic risk scenario combining a contraction in output—similar in magnitude to that of the subprime crisis, but more persistent—, costlier short- and long-term funding, and a significant and sharp depreciation of the exchange rate.

In the real estate sector, recent data point to a moderation of certain trends described in the last *Report*, but some remaining factors deserve constant monitoring. No acceleration has been observed in mortgage lending, while the growth rate of residential home sales has slowed down, banks have tightened their lending standards for companies associated to this sector and the leverage of real estate firms have stabilized. Despite these developments, housing sales remain fairly high and aggregate housing price indices have kept their growth trend, in a context where the standards of credit approval have not changed substantially. Meanwhile, the profits of small and medium-sized building enterprises have decreased. Finally, the projected supply of new office space remains high by historical standards.

Aggregate household debt is stable in terms of income, but its composition has varied. In particular, it is worth noting the strength of banking debt compared with other lenders. The information at hand suggests that this increased dynamism may be concentrating in medium and upper income households.

Finally, as anticipated, the Chilean economy has begun slowing down, a situation that will take its toll on the growth rate of household and corporate income. In recent months, domestic output and demand have slowed down more drastically than foreseen, so the economy is now expected to grow between 4% and 5% in 2013. The combination of lower output growth with volatility in financial markets calls for agents to properly adjust their borrowing and lending decisions.

I. EXTERNAL ENVIRONMENT AND FINANCIAL RISKS

In the most recent period, the financial markets have recorded an increase in volatility, related to the possible withdrawal of the monetary stimulus in the United States. The eurozone continues to present risks.

EVOLUTION OF THE INTERNATIONAL FINANCIAL SITUATION

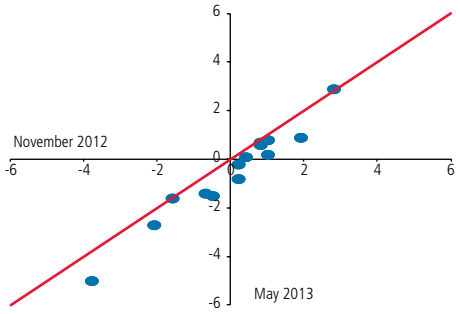
The macro-financial situation in the eurozone remains complex…

As described in a number of past *Reports*, the vulnerability of the eurozone is due to the complex interaction between the high public debt and fiscal deficits of some countries, low economic growth and a weak banking sector. The vicious circles generated among these variable are still in operation, which makes it difficult to escape from the current situation. The eurozone could potentially experience additional macroeconomic deterioration or macro-financial stress events, as shown by the financial rescue of Cyprus.

The prolonged recession in the European periphery has been accompanied by lower-than-expected output data for Germany and France and market consensus growth forecasts that have been steadily adjusted downward for the eurozone (figure I.1). The peripheral economies have been particularly affected by tight financial conditions (IMF, 2013), since the reduced supply of credit makes recovery even harder in countries that have already recorded negative growth rates and high unemployment rates for several quarters. The slight improvement in their competitiveness indices, in a context of exchange rate rigidity, is an additional negative factor, especially given the high share of intraregional trade.

Progress on fiscal adjustments has also been slower than originally agreed. The European Union has given a one-year extension on the fiscal targets for Belgium, the Netherlands and Portugal and two years for France, Poland, Slovenia and Spain (European Commission, 2013). The public financing needs of several peripheral economies remain high. The debt maturity schedule in Italy and Spain is especially demanding for this year and the next (figure I.2). Any change in marginal funding conditions could have a strong impact on the solvency position of the public sector in these economies. At the same time, some of these economies have taken advantage of the improved financing conditions in international markets to pre-finance a share of their liabilities.

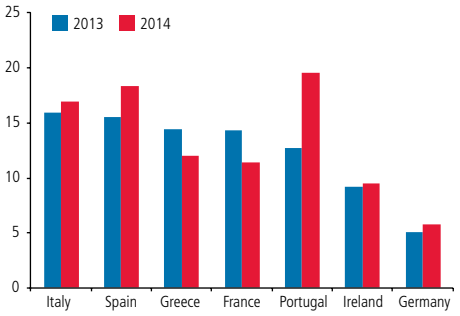
FIGURE I.1
Eurozone: Growth forecast for 2013 (*)
(annual change, percent)



(*) Growth forecasts for 2013 carried out in November 2012 and May 2013 for Austria, Belgium, Estonia, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Slovakia, Slovenia and Spain.

Source: Consensus Forecasts.

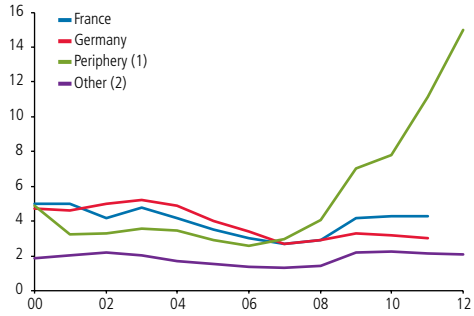
FIGURE I.2
Financing needs in the Eurozone (*)
(percent of GDP)



(*) Includes the fiscal deficit forecast by the IMF (April 2013) for the respective year and maturing debt for each year registered through 3 June 2013.

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

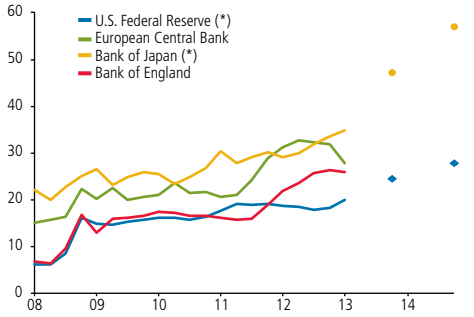
FIGURE I.3
Nonperforming loans in the Eurozone
(percent of total loans)



(1) Simple average of Greece, Italy, Ireland, Portugal and Spain.
(2) Simple average of Austria, Belgium, Finland and the Netherlands.

Source: World Bank.

FIGURE I.4
Financial assets held by central banks in developed economies
(percent of GDP



(*) The dots represent forecasts for the last quarter of 2013 and 2014, based on the assumption that the U.S. Federal Reserve and the Bank of Japan do not change their current asset purchase programs. GDP forecasts are from the IMF.

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

FIGURE I.5
Long-term sovereign rates for the United States (*)
(percent)

(*) The shaded area represents forecasts based on rate forwards, as of 3 June 2013.

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

The deleveraging process of the European banking system continues to proceed in line with expectations by the International Monetary Fund (IMF, 2012). According to that organization (IMF, 2013), in the third quarter of 2012, the system's debt contracted on the order of US$1.50 billion relative to the third quarter of 2011. In contrast, the banking system in the European periphery has recorded a sustained deterioration of its payment indicators and its ability to generate income, due to the low growth rates (figure I.3). This could lead to greater capitalization requirements in some banks, especially when combined with the increase in the renegotiation of bad debt (IMF, 2013).

While important reforms have been announced, aimed at breaking the link between the fiscal situation and the banking sector, progress in this area has been limited by its political complexity. Thus, measures such as a unified banking supervision, a single stress test and common deposit guarantee schemes for the eurozone have moved at a slower pace than originally announced. The speed of progress here is very important, not only because of its direct effect on the banking system, but also for the possible impact on market agents' perception of the bloc's coordination capacity.

The economic recovery has been slow in the other large developed economies, which has led some of these countries to intensify their use of unconventional monetary stimulus mechanisms…

In the rest of the developed world, growth expectations have turned up in the most recent period, but while they are better than in the eurozone, they are still low from a historical perspective. In the United States, GDP grew 2.2% in 2012, and the growth forecast for 2013–14 is for an average of 2.3%, well below the average for the 2000–07 period. The U.S. government is in the process of pushing for a fiscal adjustment plan. Japan recorded GDP growth of 2.1% in 2012, due to the post-earthquake reconstruction and the low basis for comparison. Taking into account the recently adopted fiscal and monetary policies and growth in the first quarter of 2013 (an annualized quarterly rate of 4.1%), forecasts point to a growth rate on the order of 1.5% for 2013–14.

Given the growth statistics, the central banks have maintained historically low monetary policy rates, including the European Central Bank, which cut its policy rate to 0.5% in early May. At the same time, some of these economies have also continued or stepped up their unconventional monetary measures. For example, the Central Bank of Japan is implementing a program aimed at doubling the monetary base in a period of two years, through open market operations. Similarly, the United States Federal Reserve and the Bank of England have maintained their policy interest rates and their asset purchase programs. As a result of these measures, the assets held on the balance sheets of these banks have continued to expand (figure I.4).

Consequently, long-term interest rates remained at historically low levels (figure I.5). While this scenario is positive to the extent that it implies favorable financing conditions, from the perspective of financial stability it carries a double risk. On one hand, it creates a favorable environment for the formation of vulnerabilities, such as increased indebtedness, greater currency mismatches and/or risk-taking in search of higher returns. On the other, it raises the question of what kind of effects will be generated once the normalization process is initiated in the financial markets. This concern came to the fore in the past few weeks, given the markets' reaction to expectations that the U.S. Federal Reserve will move up the withdrawal of the stimulus measures.

Sizing up the market reaction to the withdrawal of the stimulus is an extremely complex exercise. Past episodes of policy rate normalization are few and far between, and they follow different patterns. For example, the normalization of rates in the United States in 1994–95 was characterized by an increase in long-term interest rates on the order of 200 basis points over the values to which they ultimately converged. In contrast, the increase in the U.S. policy rate in 2004–06 coincided with a period of stable long-term interest rates. Finally, there are no comparable prior experiences in the area of unconventional monetary stimulus measures like those that have recently been implemented (quantitative easing), to provide a basis for extrapolation [1]/.

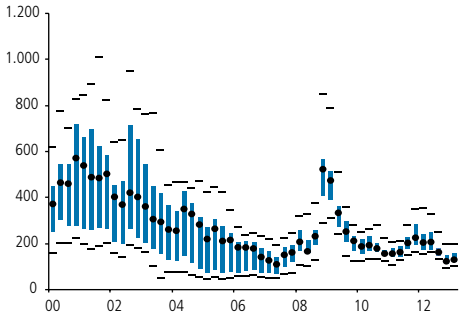
The process of normalizing monetary conditions in the United States will probably include episodes of volatility deriving from the uncertainty associated with the process, as evidenced by the fluctuations in the financial markets since late May. These could reflect other factors, however, especially considering the recent signs of a slowdown in China and the rest of the emerging world. It is hard to determine whether recent events are temporary or permanent.

Long-term rates for emerging economies also remained low from a historical perspective…

The low interest rates in the main developed economies have coincided with a compression of sovereign risk spreads in the emerging economies, even considering the recent hikes. In addition to the low levels, there is lower dispersion of sovereign spreads in the emerging economies (figure I.6).

The spread compression could be associated with the better macroeconomic performance of the emerging economies, which is reflected in improvements in the risk ratings of these countries (figure I.7). However, internal estimates suggest that the spreads may also have been influenced by the effects of portfolio adjustment and the search for higher returns in response to the highly expansive policies of the developed economies. These effects would be

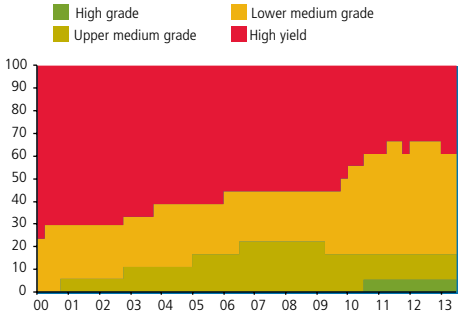
FIGURE I.6
Dispersion of emerging sovereign spreads (*)
(basis points)



(*) For each quarter, the upper (lower) lines mark the maximum (minimum) value, the blue bars represent the values between the 25th and 75th percentiles and the black points indicate the median. The sample includes the following countries: Bulgaria, Chile, Colombia, Indonesia, Malaysia, Mexico, Panama, Peru, Philippines, Poland and Turkey.

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

FIGURE I.7
Credit ratings of emerging economies (1) (2)
(percent of the sample total)

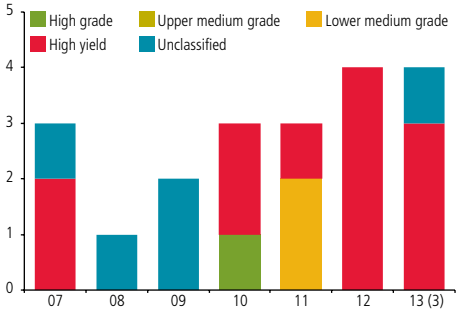


(1) Includes Brazil, Bulgaria, Chile, Colombia, Croatia, Egypt, Hungary, Indonesia, Malaysia, Mexico, Panama, Peru, Philippines, Poland, Russia, Turkey, Ukraine and Venezuela.
(2) High grade includes countries with a credit rating from Aa1 to Aa3; upper-medium grade, from A1 to A3; lower-medium grade, from Baa1 to Baa3; and high yield, from Ba1 to C.

Source: Central Bank of Chile, based on data from Moody's.

[1]/ See the *Monetary Policy Report,* June 2013, box I.1.

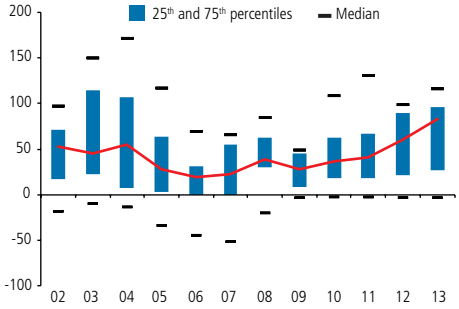
FIGURE I.8
Debuts in the international debt market (1) (2)
(number of economies)



(1) Debut bond ratings are from Moody's.
(2) High grade includes countries with a credit rating from Aa1 to Aa3; upper-medium grade, from A1 to A3; lower-medium grade, from Baa1 to Baa3; and high yield, from Ba1 to C.
(3) Includes issues through 3 June 2013.

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

FIGURE I.9
Carry trade (carry-to-risk ratio) with historical volatility (1) (2) (3) (4)
(index)



(1) The rate differential is constructed using 90-day time deposit rates for each country relative to the United States.
(2) Volatility is calculated as the moving average, in a 90 day window, of the daily change in the nominal exchange rate (local currency to the dollar), annualized.
(3) The lines above and below the distribution represent the 90th percentile and the minimum, respectively.
(4) The figure includes the following economies: Australia, Brazil, Canada, Chile, Colombia, Hungary, India, Mexico, Peru, Poland, New Zealand, South Korea and Turkey.

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

stronger in emerging economies with a lower risk rating, which would explain the compression. The increase in the spreads on emerging market debt in recent weeks is consistent with expectations of an earlier withdrawal of these policies in the United States.

Beyond the volatility recorded in recent weeks, the combination of lower external reference rates and lower risk spreads in the international markets translated into favorable financing conditions for emerging economies in the international markets, which contributed to an increase in debt issues. Countries that do not normally have access to the international markets, such as Bolivia, Honduras and Rwanda, were able to issue bonds, even at long maturities (figure I.8). This trend is another sign of the greater appetite for risk since the last *Report*.

… and while the incentives for carry trade operations reached new heights early in the year, they have reversed in recent months

The large interest rate differentials between developed and emerging economies created increasing incentives for carry trade operations through February, even after adjusting for exchange rate volatility. More recently, they have returned to the levels recorded in mid-2012 (figure I.9). In general, it is hard to estimate the magnitude of these operations with any precision, and they can fluctuate strongly in response to changes in the degree of risk aversion, interest rates, market volatility or a combination of these factors. This type of scenario has an impact on exchange rates and asset price volatility in emerging economies, with possible losses for agents that have exposure to currency risk on their balance sheets.

In the last half, capital inflows to emerging economies have remained high, and Chile has been no exception…

Capital inflows to emerging economies were very dynamic throughout much of the half, although recent weeks saw a sharp reversal in some of these flows (figure I.10).

Capital inflows to Chile have also been high. In gross terms, capital inflows grew to 18% of GDP in the first quarter of 2013. Foreign direct investment (FDI) continued to be the most important component: at 12.5% of GDP in the first quarter of this year, FDI accounted for nearly 68% of total inflows (figure I.11). Capital inflows associated with fixed-income instruments grew marginally to 2.2% of GDP (12% of total inflows). Variable-income portfolio inflows grew from 1.9% of GDP at year-end 2012 to 2.5% of GDP in the first quarter of this year, accounting for 13.8% of gross inflows.

The large share of FDI in capital flows mitigates the gestation of macro-financial vulnerabilities

As highlighted in past *Reports*, capital inflows can be a source of macro-financial risks, as they could induce greater leveraging by economic agents, maturity and currency mismatches and an overvaluation of some key assets. However, the weight of FDI in capital inflows to Chile mitigates the risks associated with leveraging and mismatch problems. Moreover, there is no evidence that greater fixed-income flows have resulted in a significant expansion of either the leveraging or currency mismatch of credit users or financial intermediaries (chapters III and IV).

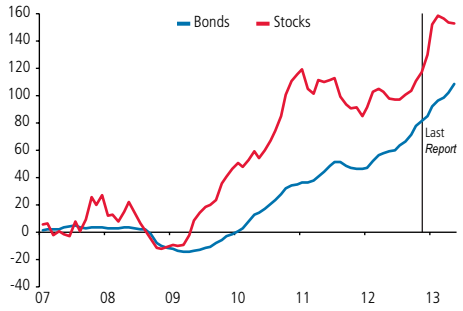
There is a risk, however, of a capital flow reversal, especially considering the most recent developments in the international financial markets. The risk of reversal is highest in the more volatile flow components, which could lead to exchange rate volatility events. The strong share of FDI in Chilean inflows reduces the risk of a reversal in the face of greater financial tension. However, given the importance of mining in FDI flows, a deterioration in the outlook for the copper cycle could trigger important changes in these flows, although they would not be sudden (box I.1).

On aggregate, the economy's external solvency and liquidity position remains stable

In the first quarter of 2013, residual short-term external debt (RSTED) was US$39.1 billion, or 14% of GDP (table 1 in the statistical appendix). This compares favorably with unrestricted international reserves (figure I.12). External liquid asset holdings continue to be higher than short-term liabilities, which is unusual for emerging economies. In terms of solvency, the debit balance of the net international investment position (NIIP) has been stable in the last year (figure I.13).

Finally, the central government continued to hold a net credit position, thereby contributing to the aggregate solvency of the economy. In 2012, the central government recorded a general surplus of 0.6% of GDP, which is larger than initially estimated by central government authorities. (Dipres, 2011). That same year, however, the net credit position fell to 6.9 of GDP, versus 8.7% of GDP at year-end 2011, due to the sharper increase in gross debt relative to assets. The sovereign funds (namely, the ESSF and the PRF, which account for around 40% of the central government's total assets) were around 8% of GDP toward the end of 2012 (approximately US$21.00 billion), and they stayed around that level in the first quarter of 2013.

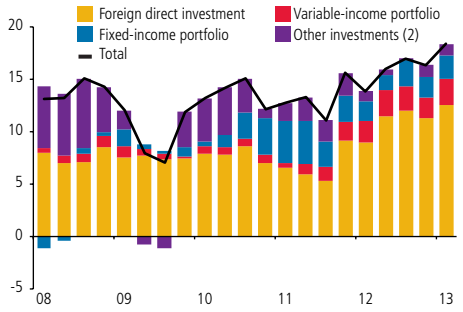
FIGURE I.10
Portfolio flows to emerging economies (1)
(US$ billion)



(1) Sample of portfolio flows to Asia (excluding Japan), emerging Europe and Latin America. Accumulated flows since January 2007.

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

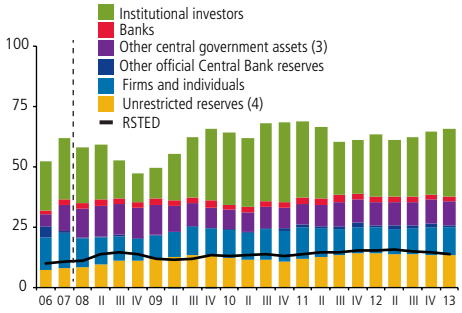
FIGURE I.11
Gross capital inflows to Chile (1)
(percent of GDP)



(1) Annual accumulated flow of external liabilities, moving quarter.
(2) Includes loans, commercial credits, currency and deposits.

Source: Central Bank of Chile.

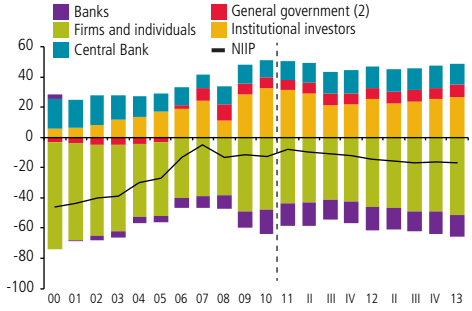
FIGURE I.12
Availability of external financial liquidity for Chile (1)
(percent of GDP) (2)



(1) Includes short-term loans, currency and deposits, and portfolio investment. Does not include derivative positions.
(2) GDP at constant real exchange rate (base index: Mar.12=100).
(3) Consolidated government less official international reserves.
(4) Official reserves less short-term foreign currency liabilities (maturing BCX, BCD and swaps).

Source: Central Bank of Chile.

FIGURE I.13
Net international investment position of Chile
(percent of GDP) (1)



(1) GDP at constant real exchange rate (base index: Mar.12=100).
(2) Central government and municipal government.

Source: Central Bank of Chile.

MAIN EXTERNAL THREATS TO THE FINANCIAL STABILITY OF THE CHILEAN ECONOMY

In the most recent period, external financing conditions have tightened for emerging economies, although they are still favorable from a historical perspective. This tightening reflects a change in expectations on how long the United States will continue to implement its unprecedented stimulus program, which has been in place for the past few years.

These developments could constitute a first step toward the normalization of external financing conditions, which have been exceptionally favorable for the Chilean economy and for emerging economies in general. If this proves to be the case, it would ease concerns associated with an abundant supply of foreign capital, in particular those related to excessive foreign debt and asset price misalignments.

However, the normalization process could give rise to periods of volatility or even a return to the conditions observed in the last half. There are no precedents for the asset purchase program being implemented in the United States. This makes it difficult to anticipate the effects of winding down the program, which could include sharp hikes in long-term interest rates in the United States and in risk spreads. Such increases would have an impact on the external financing conditions of Chilean firms, the valuation of higher-risk assets, the exchange rate and long-term interest rates in Chile.

The worsening of the crisis in the eurozone continues to be an important external risk factor. The probability of worsening has not eased substantially since the last *Report*. In this scenario, it is very likely that external financing conditions would tighten and portfolio capital inflows would come to a halt. The impact of such an event on Chile will depend on its effects on the global economy and, in particular, on the main emerging economies.

Finally, an additional risk scenario could arise if the economic slowdown is sharper than expected in China or other large emerging economies, due to their contribution to the evolution of commodity prices, including copper (see the *Monetary Policy Report* for June 2013). This price reduction would have a direct effect on Chilean exports. It would also generate a negative impact on the investment process in the mining industry, which in turn would affect sectors that are closely tied to that investment—namely, trade, construction, manufacturing and other services. The recent decline in the value of financial assets in emerging economies suggests that the volatility that could be generated during the withdrawal of the monetary stimulus could trigger these slowdowns, especially in countries with a greater dependence on external financing.

BOX I.1
VOLATILITY OF CAPITAL INFLOWS

External liabilities—that is, gross capital inflows—have to be monitored because they can influence the growth of domestic credit, exacerbate currency and maturity mismatches and potentially have an impact on the valuation of domestic assets. Moreover, the reversibility of capital inflows can produce a decline in the availability of external financing. This box assesses the volatility of the Chilean economy's external liabilities, with a breakdown by type of inflows.

Structure of capital inflows

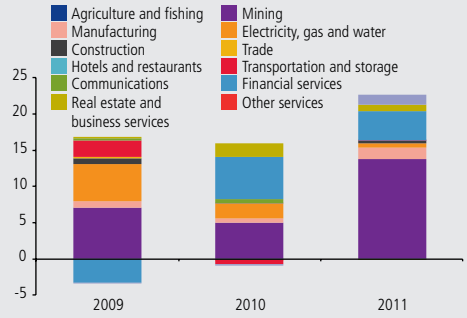
Gross capital inflows to Chile have increased as a percentage of GDP: from 10% in the twelve month window ending in the third quarter of 2011 to over 18% in the first quarter 2013, the highest level since 1999. These flows are essentially explained by foreign direct investment (FDI) (figure I.11). The primary destination of FDI in Chile is the mining sector, followed by the financial sector (figure I.14).

FDI levels are high not only from a historical perspective, but also relative to other Latin American economies and developed small open economies (SOEs) (figure I.15)[1]/. With regard to portfolio flows, variable-income inflows are also high vis-à-vis the Latin American economies and SOEs, while fixed-income inflows are in line with other SOEs, but high relative to other Latin American economies.

Historical volatility and the determinants of capital flows

In Chile, FDI has historically been less volatile than the portfolio and other investment components, as has also been the case in other Latin American economies and SOEs (figure I.16). This stylized fact has also been reported in the literature on capital

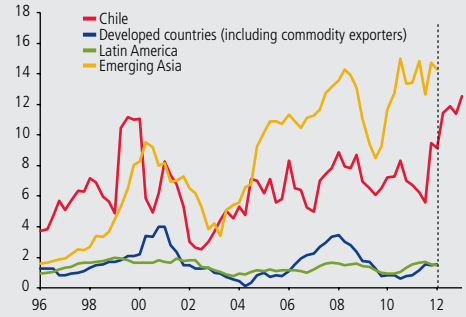
FIGURE I.14
FDI in Chile, by destination economic sector (*)
(US$ billion)



(*) FDI in Chile is calculated according to OECD recommendations; the sectoral disaggregation is based on an annual survey of the main investors.

Source: Central Bank of Chile.

FIGURE I.15
International comparison of FDI flows (*)
(percent of GDP)



(*) Based on trend GDP of each country. Aggregates reflect the weighted average for each region.

Sources: International Monetary Fund and Central Bank of Chile.

[1]/ Throughout this box, the comparisons with other economies use three groups: small open economies (SOEs), Latin America and Emerging Asia. SOEs include Australia, Canada, Denmark, Israel, Norway, New Zealand and Sweden. Latin America includes Brazil, Colombia, Mexico and Peru. Emerging Asia includes China, South Korea, Indonesia and Thailand. Data are through 2012, I for SOEs, Latin America and Emerging Asia and 2013, I for Chile.

flow volatility (Broner and Rigobon, 2005; Levchenko and Mauro, 2007; Broner and others, 2012).

In addition to volatility, the literature analyzes the sensitivity of the different types of capital flows to a range of global variables, in particular the financial variables. First, recent studies show an increase in the relative importance of global factors in the last decade; this result is robust for the three types of inflows[2]/. Second, the literature finds that in relative terms, the portfolio and other investment components are more sensitive to financial variables, whereas FDI flows are more associated with the macroeconomic health of the receiving countryr[3]/.

Volatility in times of crisis

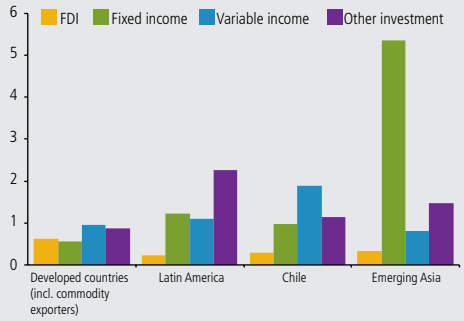
The greater volatility of inflows to emerging countries is largely due to the fact that they suffer more frequent negative shocks than the developed economies (Broner and Rigobon, 2005). These periods tend to coincide with global financial turbulence. The magnitude of the contractions in a sudden capital outflow varies by type of flow, and the effects do not usually occur simultaneously. The Other Investment component usually reacts first and contracts the most, whereas FDI tends to react with a lag and is more resilient (Broner and others, 2012)[4]/.The drop in capital inflows during the subprime crisis supports this finding (table I.1).

Final notes

From the perspective of financial stability, the current composition of capital inflows is favorable, given the high share of FDI, at almost 70% of the total. FDI has generally been shown to be more stable, less susceptible to sharp reversals and less dependent on global financial variables.5

A possible drop in the price of copper could reduce FDI, given the relative importance of the mining sector. However, this effect would be neither immediate nor sharp, due to inertia in the projects currently in progress.

FIGURE I.16
International comparison of historical volatility, by type of flow (*)
(coefficient of variation)



(*) Calculated for the flow series over trend GDP of each country. Aggregates reflect the weighted average for each region.

Sources: International Monetary Fund and Central Bank of Chile.

TABLE I.1
Greatest change in flows during the subprime crisis (*)
(percentage points of GDP)

	FDI	Fixed-income portfolio	Variable-income portfolio	Other investment
SOEs (*)	-1.7	-2.2	-0.6	-1.7
Latin America	-0.2	-0.9	-0.7	-0.7
Chile	-2.0	-2.8	-0.6	-5.7
Emerging Asia	-3.2	-5.9	-3.3	-71.5

(*) See glossary for definition.

Sources: International Monetary Fund and Central Bank of Chile.

[2]/ Fernandez-Arias (1996) and Agénor (1998) introduce the concepts of pull and push to differentiate between internal and external factors as determinants of net capital flows. Recent studies on the explanatory power of these concepts for changes in flow volatility include Broner and Rigobon (2005) and Broto and others (2011).
[3]/ These results for volatility are reported by BIS (2009) and Broto and others (2011). Albuquerque and others (2005) and Levchenko and Mauro (2007) report a greater role for global factors in the evolution of inflow levels, based on principal components analysis.
[4]/ The reaction of the different types of flows could be related to the type of crisis.
[5]/ For example, Pistelli, Selaive and Valdés (2008) show that a liability structure with a larger share of FDI contributes to reducing the probability of a sudden stop of capital flows.

II. LOCAL FINANCIAL MARKETS

External financial conditions were mainly transmitted to the national market through lower sovereign rates and more corporate debt issues overseas.

MONEY MARKET

The pension funds' behavior affected the money market in pesos

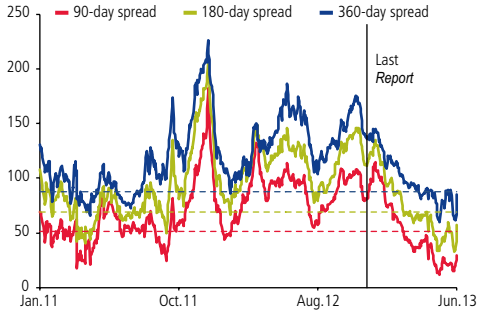
The spread between the prime deposit rate in pesos offered by banks and the average interbank interest rate swap fell 50 basis points at a maturity of 90 days and 60 basis points at 360 days (figure II.1). These reductions are mainly associated with increased time deposit holdings by the pension funds and, to a lesser extent, improvements in external financial conditions, as of the statistical closing date of this *Report* (figure II.2).

The pension funds accumulated time deposits of approximately US$2.6 billion over the course of the year, with very strong acquisitions during a couple of weeks in April (figure II.3). This heightened activity was the result of a massive shift of affiliates out of relatively higher risk pension funds and into more conservative funds, following an announcement in that direction by financial advisors.

The possibility of further reallocations of this sort cannot be discarded. Given the weight of the pension funds in this market, these movements could have a strong impact on short-term bank deposit rates. This situation contrasts with previous episodes of external stress, when the portfolio reallocations of the pension funds contributed to alleviating the pressure in the local money market.

In the most recent period, the Superintendence of Pensions implemented and published for public comment measures for providing more information to affiliates and establishing a mechanism for affiliates to move between funds[1,2]/. The public consultation also considers modifications to the pension funds' investment scheme to broaden the criteria for foreign investments in Type E funds[3]/. If pension fund administrators employ this wider range of foreign assets to substitute operations in the local market due to a massive shift of affiliates, it could reduce the effects of such shifts on local asset prices.

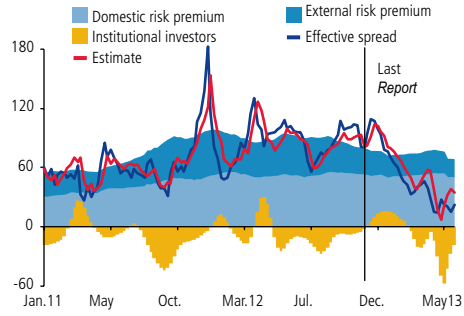
FIGURE II.1
Money market in pesos (*)
(basis points)



(*) The spread between the prime rate and the average interbank interest rate swap. The horizontal lines indicate the series average for 2005–2013.

Source: Central Bank of Chile.

FIGURE II.2
Decomposition of the 90-day prime-swap spread (*)
(basis points)

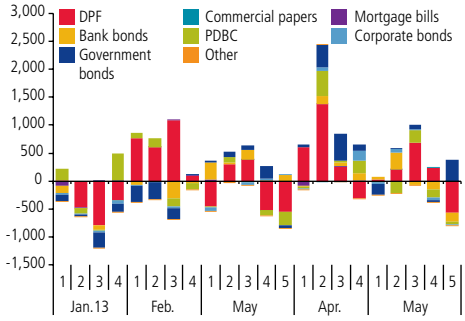


(*) For more details, see the *Financial Stability Report* for the second half of 2010.

Sources: Central Bank of Chile and Bloomberg.

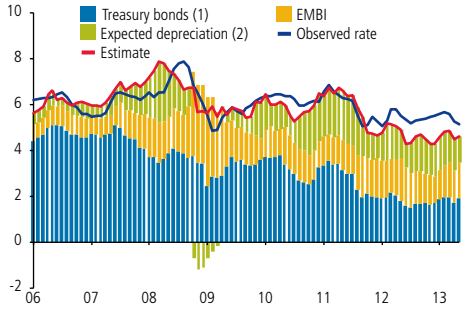
[1]/ The regulations establish that for affiliates who want an electronic transfer and who have moved at least once in the last 12 months, a pop-up window opens on the computer showing a comparison of the yields of each fund versus the yields associated with the changes made by the affiliate.
[2]/ This mechanism considers a proportional prorated transfer and is open for public consultation through 3 July.
[3]/ The modification of the Fund E was open for consultation through 25 June.

FIGURE II.3
Short-term trading and fixed-income portfolio management of the pension funds
(weekly change in stock, US$ million)



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

FIGURE II.4
Interest rate model: Uncovered interest rate parity on peso-denominated Central Bank bonds (BCP10)
(percent)



(1) The interest rate on ten-year U.S. Treasury bonds.
(2) The difference between the historical average nominal exchange rate (ten-year moving window) and the exchange rate in the period.

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

FIGURE II.5
Interest rate on corporate and bank bonds (*)
(percent)

(*) UF-denominated bonds with a duration of over 9 years.

Source: *LVA Índices*.

FIXED-INCOME MARKET

In the medium term, sovereign interest rates have paralleled external rates …

In the medium term, the interest rate on long-term sovereign bonds tends to move in unison with the external rate adjusted for the country risk spread and a proxy of depreciation expectations (figure II.4)[4]/. The domestic rate fell nearly 70 basis points from mid-2010 to the statistical close of this *Report*, whereas the external benchmark rate dropped around 110 basis points in the same period. The trend for the external rate is largely due to the interest rates on U.S. Treasury bonds (–120 basis points).

Despite this strong covariance in the medium term, there are times when the domestic interest rate decouples from these external factors, and this phenomenon is not exclusive to Chile. Studies based on covered interest rate parity for a set of developed currencies (the Canadian dollar, the German mark, the pound sterling, the Swiss franc and the yen) find evidence of rate decoupling which fluctuates between 1 and 33 weeks depending on the duration of the operations[5]/.

… although domestic long-term rates fell sharply in April due to local factors

The interest rate reductions in April coincided with two factors. First, the aforementioned shift of affiliates produced strong investment in Central Bank and Treasury bonds, totaling US$1.6 billion in the last three weeks of April. Second, also in April, nonresidents began trading in Chilean government bonds via global depositary notes (GDN).

GDNs replicate the terms and conditions of underlying local fixed-income assets, just as an ADR mirrors its underlying variable-income assets[6]/. These instruments facilitate investment in local assets by nonresidents, and thus they may have increased the speed at which movements in external rates pass through to local rates. Therefore, the existence of GDNs could have accelerated the closing of the gaps between the effective domestic rate and its external benchmark (figure II.4). In addition, the purchase of papers to hold in custody for the GDN in itself could have an effect—albeit temporary—on local interest rates.

[4]/ The direct correlation between long-term U.S. rates and the respective sovereign rates for a wide set of economies tends to be significantly high, whereas the correlation between short-term rates is lower as these reflect the monetary policy cycle in each economy.
[5]/ For more details, see Takezawa (1995), Fletcher and Taylor (1994) and McBrady and Schill (2007).
[6]/ These instruments are issued, held and traded overseas, while the underlying assets are held in custody in the local market.

In the corporate market, the favorable international funding conditions stimulated the issue of bonds overseas

The cost of corporate funding in local markets has been stable in recent periods (figure II.5). As discussed in chapter I, however, external funding conditions were relatively favorable. The synthetic financing cost in UF overseas—using currency hedge instruments—was lower than funding costs in the local market for a large number of local issues from 2012 through the statistical close of this *Report* (figures II.6 and II.7).

Consequently, foreign corporate bond issues have grown strongly since the last *Report*, for a total of approximately US$6.9 billion, and the trend has included a limited number of non-investment-grade issuers (box II.1). Thus far, the foreign issues have had a fairly moderate effect on the financial indicators of the companies involved (chapters III and IV).

Corporate issues in the domestic market have been relatively stable

The total volume of issues in the local market as of May 2013 has not changed much since May of last year (around Ch$1.0 trillion). As in previous periods, the majority of these issues have a high credit rating (from A to AA), which is consistent with a conservative behavior on the part of the institutional investors (figure II.8).

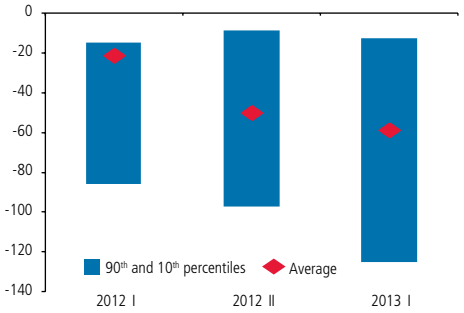
The concentration of foreign bond issues by non-investment-grade companies could be reflecting not only a greater appetite for risk in the international markets, but also a low demand for these instruments on the part of local institutional investors following the case of *La Polar* in 2011.

STOCK AND FOREIGN EXCHANGE MARKETS

Since the last *Report*, the stock market performed in line with the other emerging markets

Emerging market stock exchanges have generally fallen in 2013. This contrasts with the higher yields recorded in the developed economies, in particular the United States and Japan, after the announcement of the monetary stimulus program (chapter I). Thus far in the year, the developed stock exchanges have generated yields of 10% in dollars (13% in local currency), as measured through the MSCI, whereas emerging market yields were –5% (–2% in local currency). In Chile, the IPSA dropped 9% (5% in local currency).

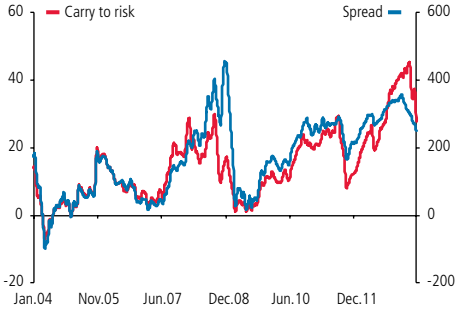
FIGURE II.6
Interest rate arbitrage (*)
(basis points)



(*) The interest rate savings is estimated as the difference between the synthetic UF rate and a UF-equivalent rate for a bond issued in dollars. Does not include issue costs (see Alvarez and Opazo, 2009).

Source: Central Bank of Chile based on Bloomberg.

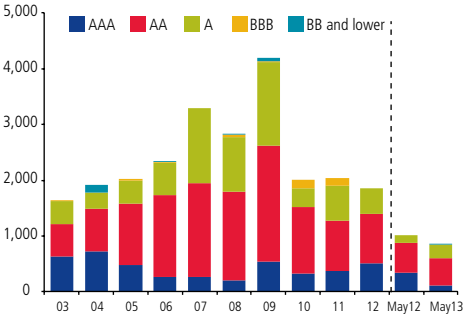
FIGURE II.7
Incentives for issuing overseas (*)
(index and basis points)



(*) Carry-to-risk ratio = (IRR on 2- to 4-year peso-denominated corporate bonds – 5-year U.S. Treasury rate – Corporate spread for Chilean firms overseas) / Exchange rate implied volatility at 90 days.

Source: Central Bank of Chile, based on data from *LVA Índices* and Bloomberg.

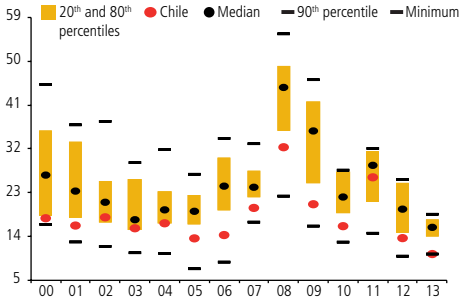
FIGURE II.8
Local bond issues (*)
(Ch$ billion)



(*) Each rating class includes the full range (for example, the class AA includes the ratings AA+, AA and AA–). The bars to the right of the dotted line include issues through May of each year.

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

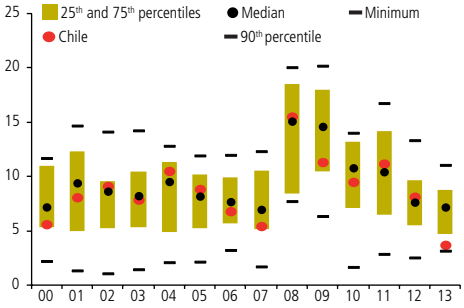
FIGURE II.9
Volatility of stock price indices in emerging countries (*)
(annualized percent, in US dollar)



(*) Volatility is calculated as the 20-day moving average of the daily change in the stock index. The sample includes Brazil, Chile, China, Colombia, Czech Rep., Hungary, India, Malaysia, Mexico, Peru, Philippines, Poland, Russia, South Africa, South Korea and Turkey.

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

FIGURE II.10
Exchange rate volatility relative to the rest of the world (*)
(annualized percent, in local currency)



(*) Volatility is calculated as the 20-day moving average of the daily change in the exchange rate. The sample includes Australia, Brazil, Canada, Chile, China, Colombia, Czech Rep., Eurozone, Hungary, India, Indonesia, Japan, Malaysia, Mexico, Peru, Philippines, Poland, New Zealand, Norway, South Africa, South Korea, Turkey, United Kingdom and Vietnam.

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

The emerging stock markets have recorded the lowest volatility of the last decade, especially in Chile (figure II.9). Volatility has increased sharply in this market in the most recent period, although it remains low from a historical perspective. Given external risk scenarios (chapter I), stock market volatility could rise beyond its current level if the withdrawal of the monetary stimulus in the United States triggers an overreaction or if the tension in Europe intensifies.

Exchange rate volatility has also been historically low, and lower than the currencies of other countries

As of the statistical closing date of this *Report*, the peso-dollar exchange rate was around Ch$500 to the dollar, although it was very stable at around Ch$475 to the dollar throughout the first half. Exchange rate volatility has been historically low both in Chile and in a group of emerging economies, as has the stock market, which reflects the perception that the withdrawal of the monetary stimulus in the United States could be moved up (figure II.9).

In sum, the external scenario, characterized by low rates throughout the half, was transmitted to the domestic market via lower sovereign rates and increased corporate debt issues overseas. While the stronger foreign demand for long-term debt assets has clear benefits, it also implies risks to the extent that it generates incentives for firms in the real and financial sectors to increase their leveraging or currency mismatches. This issue is analyzed in detail in chapters III and IV.

The world financial markets have recently become more volatile in the face of a likely early withdrawal of the monetary stimulus in the United States. This demonstrates the complexities of the withdrawal process, which could contribute to a scenario of more volatile asset prices. Possible scenarios include faster spikes and/or market overreactions in corporate and sovereign long-term rates in both pesos and foreign currency, in conjunction with greater exchange rate volatility.

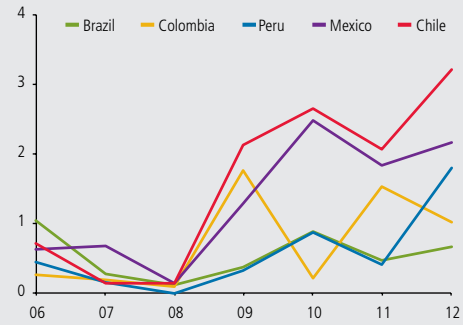
BOX II.1
FOREIGN BOND ISSUES BY CHILEAN COMPANIES

The favorable financing conditions of the past few years have created a positive scenario for the issue of bonds overseas (chapter I), as illustrated by the dynamic corporate bond placements from emerging economies (IMF, 2013). Latin America is no exception, and Chile has recorded one of the highest growth rates in the region (figure II.11). Between 2011 and 2012, foreign bond issues from Chile increased 1.15 percentage points of GDP, versus 1.4 percentage points for Peru and 0.2 percentage points for Brazil.

Foreign bond issues by Chilean firms have become an increasingly important source of financing. Thus, the share of external issues in total bond issues grew from 56%, on average, in 2010–11 to 68% in 2012. As of May 2013, 75% of total issues were placed abroad. Local issues were stable in the same period (figure II.12).

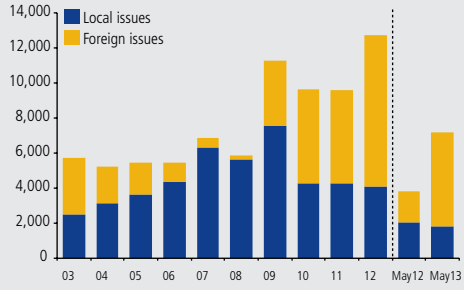
By type of issuer, export firms accounted for 41% of the total amount of bonds issued overseas in 2012, while financial companies accounted for 40%. The rest was issued by firms in other sectors, including retail companies whose revenue base comes from various countries in Latin America. As of May 2013, financial companies led placements, representing more than 52% of total bonds issued. Non-export firms, in turn, increased their relative share to 30% of total issues in the last year (figure II.13).

FIGURE II.11
Overseas bond issues, by country (*)
(percent of GDP)



(*) Bond issues for over US$40 million, issued by domestic firms in international markets.
Source: Central Bank of Chile, based on data from Bloomberg and IMF.

FIGURE II.12
Corporate bond issues (*)
(US$ million)

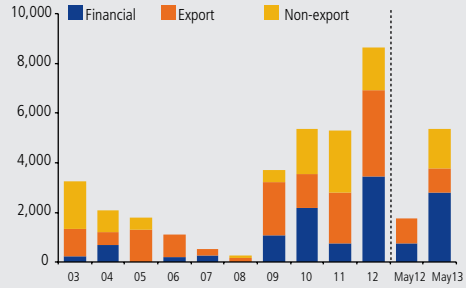


(*) The bars to the right of the dotted line include issues through May of each year.
Source: Central Bank of Chile, based on data from Bloomberg and Santiago Stock Exchange.

Most of the issuers have an investment-grade rating[1]/. Within this subset, there are issuers that have repeatedly turned to the external market to raise funds in recent years. Nevertheless, almost 30% of the bonds issued this year have been placed by non-investment-grade companies, which is a higher percentage than in previous years (figure II.14).

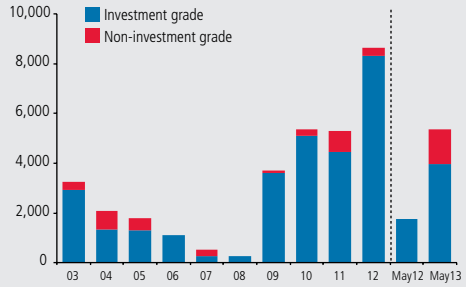
The increase in foreign bond issues is a positive development from the perspective of liability management in the private sector, as it allows companies to diversify their sources of financing and expand their use of long-term instruments. Most foreign placements have a ten-year maturity. Moreover, the increase in foreign issues has not implied a deterioration in the firms' financial indicators, as discussed in chapter III. If the scenario of low external rates continues, however, the process of overseas issues could deepen, creating the conditions for the emergence of vulnerabilities in the local corporate sector, through a significant increase in leveraging and/or currency mismatches. The complexity of this type of scenario is heightened by the volatility that could potentially accompany the normalization of the monetary stimulus in the developed economies. The potential overreaction of the financial markets would generate significant increases in the cost of external financing.

FIGURE II.13
Overseas bond issues, by type of issuer (*)
(US$ million)



(*) Bond issues for over US$40 million, issued by domestic firms in international markets.
Source: Central Bank of Chile, based on data from Bloomberg and IMF

FIGURE II.14
Overseas bond issues, by risk rating of issuer
(US$ million)



(*) The bars to the right of the dotted line include issues through May of each year.
Source: Central Bank of Chile, based on data from Bloomberg.

[1]/ In the international markets, investment-grade bonds have a risk rating of BBB– or better. Bonds with a rating of BB+ or lower are called non-investment-grade bonds or junk bonds.

III. CREDIT USERS

The financial indicators of both firms and households have been stable, on average. However, changes in the composition of consumer debt suggest a greater relative supply to medium- and high-income households. In the real estate sector, recent data point to an easing of the trends highlighted in the last Report*, although there are still factors that need to be monitored.*

FIRMS

The debt of firms has been stable as a share of GDP

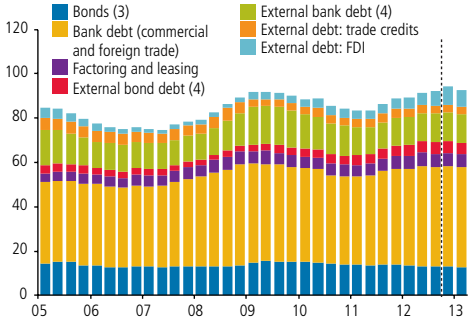
The debt of nonfinancial firms grew 10.8% in annual terms in the first quarter of 2013. This generated a slight increase in the debt level relative to GDP since the last *Report*, from 91% in the third quarter of 2012 to 93% the first quarter of 2013 (figure III.1). In the most recent period, the growth was driven by an increase in commercial loans and external debt associated with loans from parent companies to their affiliates to finance investment projects (FDI-associated loans), while external bond issues slowed relative to 2012 (table III.1).

From the perspective of financial stability, FDI loans between related parties (parent-affiliate) are different from more traditional financial debt. In particular, rollover risk is lower in the face of a financial shock. With that in mind, financial debt excluding FDI loans practically did not change in the last year, staying close to 85% of GDP.

Financial indicators were stable, on average, for firms that report to the SVS

For the set of firms that report their financial statements to the Superintendence of Securities and Insurance (SVS), the average debt ratio was stable throughout the past year, with a value of 0.72 in the first quarter of 2013. Average liquidity similarly did not change significantly (table III.2). In contrast, average profitability deteriorated somewhat relative to the first quarter of 2012, from 6.9 to 5.8%. This deterioration is explained by the reduction in the interest

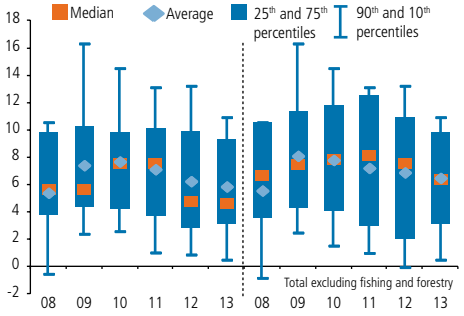
FIGURE III.1
Total debt of nonfinancial firms (1)
(percent of GDP) (2)



(1) The dotted line marks the closing date of the last *Report*.
(2) GDP is for the moving year ending in each quarter.
(3) Corporate bonds (except *Codelco*), securitized bonds with nonbank underlying assets and commercial papers, at market value.
(4) Converted to pesos using the average exchange rate in the moving year.

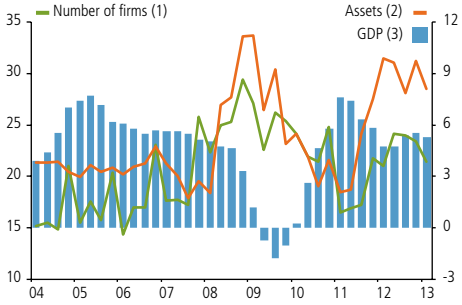
Source: Central Bank of Chile, based on data from Achef, SBIF and SVS.

FIGURE III.2
Return on assets
(percent of total assets)



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

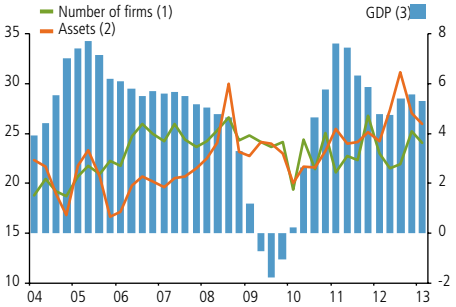
FIGURE III.3
Firms with negative earnings
(percent)



(1) Number of firms with negative earnings over total number of firms.
(2) Assets held by firms with negative earnings over total assets.
(3) Annual change of annualized quarterly GDP, chained.

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

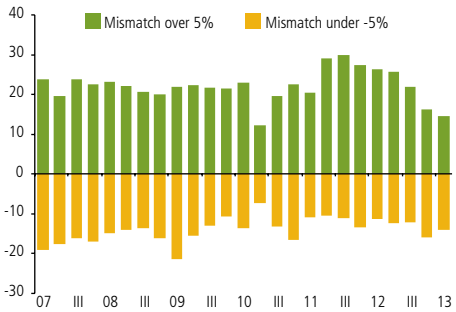
FIGURE III.4
Firms with leverage ratio of over one
(percent)



(1) Number of firms with leverage ratio over one over total number of firms.
(2) Assets held by firms with leverage ratio over one over total assets.
(3) Annual change of annualized quarterly GDP, chained.

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

FIGURE III.5
Share of assets held by firms with a greater mismatch (*)
(percent of total assets)



(*) Dollar liabilities minus dollar assets, minus the net derivatives position, as a percent of total assets.

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

coverage ratio from 3.4 to 2.9 times in the same period. The deterioration in profitability is not generalized, however, but rather is mainly associated with the fishing and forestry sectors[1] (figure III.2).

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

Indicator	Avg. 2005-07	2008 IV	2009 IV	2010 IV	2011 IV	2012 I	2012 II	2012 III	2012 IV	2013 I	Growth contribution (1)	Share
Local debt	12.6	6.8	2.5	3.8	11.7	8.9	10.8	6.9	7.6	8.0	5.7	68.7
Bank and other loans	13.9	9.2	-1.3	4.3	13.5	11.9	14.6	9.4	10.4	9.9	5.5	55.0
Commercial loans	12.6	6.2	8.8	1.9	9.6	11.5	14.4	12.0	12.0	10.5	4.4	41.9
Foreign trade	16.8	32.5	-39.5	11.5	38.5	10.6	18.2	-2.2	3.4	8.2	0.6	6.7
Factoring and leasing (2)	19.7	2.1	-10.2	15.0	16.4	16.1	11.9	7.5	7.9	7.7	0.5	6.4
Bonds (3)	8.1	-1.4	17.0	2.3	5.8	-1.0	-1.5	-1.5	-2.2	1.2	0.2	13.8
External debt (4)	-0.9	13.4	16.7	4.6	8.1	8.2	14.8	19.4	20.8	17.3	5.1	31.3
Loans	6.1	19.0	18.8	-9.5	-2.5	1.2	9.3	11.7	9.8	11.4	1.6	14.0
Commercial credits	3.4	7.8	-19.6	16.2	12.7	0.1	-1.8	-8.4	-9.1	-9.9	-0.4	3.4
Bonds	-11.1	-1.6	51.7	26.1	22.4	15.4	19.0	24.4	15.3	2.6	0.2	5.4
FDI-related loans	-25.2	36.0	38.1	41.2	24.6	30.1	42.4	63.8	81.2	68.0	3.8	8.4
Total	**8.6**	**8.5**	**6.4**	**4.1**	**10.6**	**8.7**	**12.0**	**10.5**	**11.5**	**10.8**	**10.8**	**100.0**

(1) Percentage points.
(2) Factoring includes bank and nonbank institutions.
(3) Corporate bonds (except *Codelco*), securitized bonds with nonbank underlying assets and commercial papers.
(4) Includes FDI-related loans. Converted to pesos using the average exchange rate in the moving year.

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

TABLE III.2
Financial indicators of the corporate sector
(percent, times)

	Average 2002-07	9.IV	10.IV	11.IV	12.I	12.II	12.III	12.IV	13.I
				Average indicator					
Debt (1)	0.64	0.67	0.66	0.71	0.68	0.72	0.74	0.73	0.72
Profitability (2)	6.5	7.4	7.7	7.1	6.9	6.5	6.4	6.2	5.8
Liquidity (3)	1.10	1.16	1.13	1.05	1.04	0.97	0.93	0.98	0.99
Interest coverage (4)	3.0	3.8	4.1	3.6	3.4	3.4	3.3	3.1	2.9
Currency mismatch (5)	2.4	1.8	0.9	2.4	2.3	2.3	1.1	0.4	0.8
				High-risk indicator (6)					
Debt (1)	0.73	0.74	0.75	0.73	0.72	0.85	0.78	0.76	0.76
Profitability (2)	4.8	4.4	4.3	3.8	2.8	3.0	2.8	2.9	3.3
Liquidity (3)	0.68	0.77	0.72	0.57	0.56	0.56	0.59	0.55	0.58
Interest coverage (4)	1.4	2.2	1.7	1.3	1.2	1.4	1.7	1.4	1.1
Currency mismatch (5)									
25th percentile	-3.8	-0.6	-0.3	0.0	0.0	0.0	-0.6	-1.8	-2.7
75th percentile	6.8	6.8	3.5	5.0	7.4	7.2	3.5	0.0	0.3

(1) Debt-equity ratio; times.
(2) Earnings over total assets; percent.
(3) Acid test: current assets minus inventories over current liabilities; times.
(4) Cumulative earnings of the last 12 months before financial expenses plus taxes over financial expenses; times.
(5) Dollar liabilities minus dollar assets, minus the net derivatives position, as a percent of total assets; asset-weighted average.
(6) The 25th percentile for profitability, liquidity and interest cover; the 75th percentile for debt.

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

[1]/ These sectors account for 2.2% of the total commercial bank debt portfolio.

However, there are signs of deterioration at the extremes of the distribution of profitability and debt

The percentage of assets held by firms with negative earnings has been higher than in the period before the subprime crisis and more in line with the levels recorded in 2008 and 2009 (figure III.3). Nevertheless, these firms tend to be concentrated in specific sectors (including fishing and forestry), whereas the performance was more heterogeneous in 2008–09. At the same time, the share of firms with negative earnings is higher than in the last growth cycle (2004–07).

The percentage of assets held by firms whose financial debt exceeds equity—that is, with a leverage ratio of over one—has tended to increase marginally relative to 2008–09, and it is thus higher than the shares recorded in 2004–07. However, the number of firms with debt indicators greater than one has been stable since 2007, with no reduction recorded in the recent economic growth cycle (figure III.4).

The currency mismatch was kept in check on aggregate, with a reduction in exposure to a depreciation

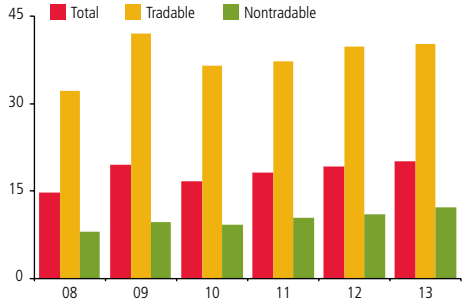
The corporate sector reduced its foreign currency liability position relative to the last *Report*, reaching 0.8% of assets in the first quarter of 2013 (table III.2). The more extreme indicators of the distribution show a trend toward more asset positions, thereby reducing the sector's exposure to a depreciation of the exchange rate. Thus, the percentage of assets held by firms that report their financial statements in pesos and that have a mismatch of over 5% in absolute value has fallen significantly since 2012 (figure III.5).

It is not possible to directly calculate the mismatch of firms that do not report their financial statements to the SVS. However, data on commercial loans show that the fraction of foreign-currency-denominated loans continues to be greatest in the tradables sector (figure III.6).

Aggregate default indicators remain stable, although there is some variation by economic sector

The commercial nonperforming loan ratio has been stable at the system level (figure III.7). As indicated in the *Monetary Policy Report*, the Chilean economy has begun to slow, which will affect the earnings and thus the credit risk of firms whose sales are concentrated in the local market.

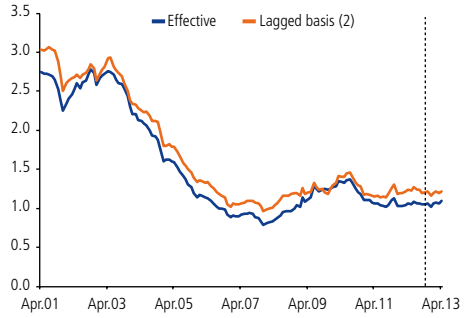
FIGURE III.6
Foreign currency debt (*)
(percent of total commercial debt in each sector)



(*) Data updated to February of each year.

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

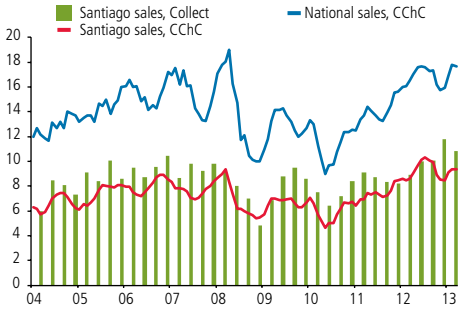
FIGURE III.7
Nonperforming commercial loans (1)
(percent of loans)



(1) The dotted line marks the closing data of the last *Report*.
(2) A 12-month lag is used for the comparative basis.

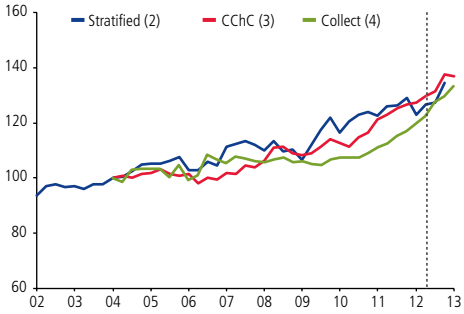
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE III.8
New home sales
(thousands of units, seasonally adjusted series)



Source: Central Bank of Chile, based on data from the Chilean Chamber of Construction (CChC) and Collect.

FIGURE III.9
Real housing prices (1)
(base index: Mar.04 = 100)



(1) The dotted line marks the closing data of the last *Report*.
(2) Preliminary results. Calculated using controls for home characteristics. See Vio (2011).
(3) Price index for new homes in Greater Santiago, compiled by the Chilean Chamber of Construction using the hedonic price methodology.
(4) Index based on the average UF/m2 of new homes in residential projects in the Santiago Metropolitan Region.

Source: Central Bank of Chile, based on data from Collect, the Chilean Chamber of Construction and the SII.

REAL ESTATE SECTOR

Housing sales have slowed substantially, although sales levels are still high in historical terms, with low inventories

New home sales have eased substantially. Despite this slowdown, however, sales levels remain around their historical peaks (figure III.8). Inventories are tight: the share of housing units sold in the construction phase rose to 64% for houses and 54% for apartments in the first quarter of 2013. Consistent with this trend, the number of months to sell existing inventory at the national level has been low since mid-2012, especially for houses.

In terms of supply, data on housing construction activity has been mixed in the most recent period. Synthetic output indicators in the construction sector show signs of easing. In contrast to these indicators, however, employment in the sector has turned up again in the past few months, and the relative growth of wages in the construction sector remains strong (*Monetary Policy Report* June 2013).

In this context, housing prices remain dynamic at the national level

Different indices show that aggregate prices have retained their growth rates, which would be consistent with dynamic national private income and the low long-term interest rates (figure III.9). However, the national average hides substantial heterogeneity, which is probably influenced by differences in the behavior of demand and the relative supply of property. As described in the last *Report*, a set of municipalities have seen prices rise significantly faster than their historical growth rates, and growth rates have recently accelerated in several of these municipalities (figure III.10).

Lending conditions have tightened for real estate and construction companies, with no significant changes in residential financing

Since the last *Report*, the banks report tighter conditions on lending to companies in the sector (figure III.11), while the bank debt of real estate and construction companies has grown in line with sectoral GDP growth. The leveraging of SVS-reporting firms in the real estate sector has thus been stable.

The available information for smaller construction companies reveals shrinking margins in 2011 and 2012[2]/. This contraction has occurred with the sector in a growth phase, which, according to companies in the sector, is explained by lump-sum contracts between real estate and construction companies and increases in construction costs during project implementation. This deterioration could lead to an increase in delinquency in the construction sector.

The evolution of bank lending standards for mortgage loans has been mixed since the last *Report*. According to the Bank Lending Survey, 25% of banks report tighter conditions. The loan-to-value (LTV) ratio has been constant—with a large share of loans with an LTV of over 80%—and some banks have even relaxed this criterion (figure III.12). Finally, the growth rate of mortgage loans has been stable.

In the commercial sector, the forecast for offices coming on the market could affect the vacancy rate in this segment

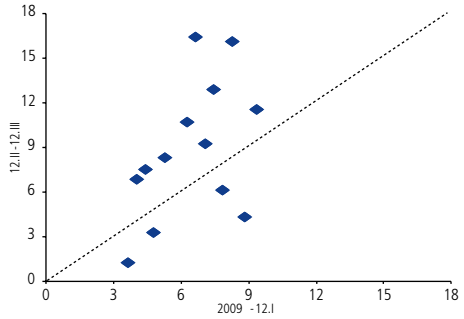
Since the last *Report*, the projected number of square meters of class A and A+ office space that will come onto the market in the coming years has increased marginally (figure III.13). As indicated in past *Reports*, this growth is high relative to historical absorption rates. Consequently, the balance of supply and demand may require adjustments that materialize in higher vacancy rates and/or price adjustments in this and other office segments, such as class B office space.

In sum, recent data suggest that some of the trends in the real estate sector described in the last *Report* may be easing, although there are still factors that need to be monitored

Mortgage loans have not accelerated; the growth rate of residential housing sales has slowed; banks have tightened their lending standards for companies in the sector; and the leveraging of real estate companies has stabilized. Despite these developments, housing sales remain high, and aggregate housing price indices continue to grow at a steady rate, in a context in which mortgage lending standards have not changed substantially. The profitability of small and medium-sized construction firms has fallen. Finally, the supply forecast for new offices continues to be high in historical terms.

Consequently, both credit suppliers and leveraged investors must be cautious in extrapolating the recent increases in housing prices, especially in certain geographical areas. The strong demand in previous quarters derives from a combination of dynamic income and low interest rates—factors that could deteriorate under the scenarios described in chapters I and II of this *Report*. The

FIGURE III.10
Price growth in municipalities (*)
(real annual change, average)



(*) Municipalities that display a significant increase in their growth rate according to the methodology described in Ferreira and Gyourko (2011). The estimation considers 45 municipalities, which represent 84% of total sales 2011–12.

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

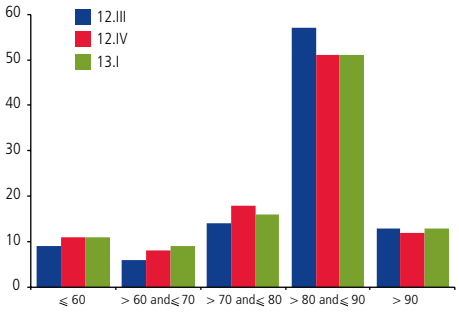
FIGURE III.11
Change in the supply of credit to real estate and construction companies (1) (2)
(percent of total responses) (3)

(1) The dotted line marks the closing data of the last *Report*.
(2) As of June 2010, considers banks that have loans in the respective segment.
(3) The difference between the number of banks that report loan approval standards are looser and the number that report loan approval standards are tighter, as a percent of total responses.

Source: Central Bank of Chile.

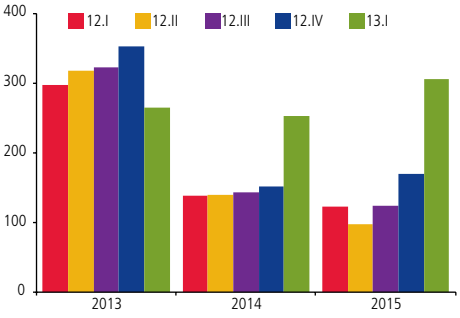
[2]/ The firms included in this larger sample are those that declare VAT.

FIGURE III.12
Mortgage loan-to-value ratio
(percent of loans granted in each period)



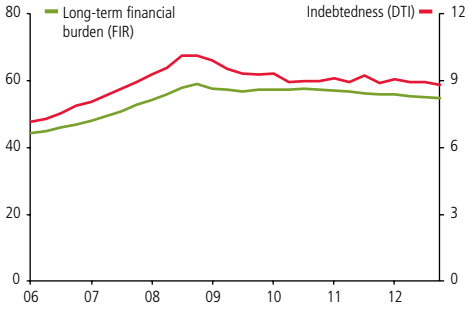
Source: Central Bank of Chile.

FIGURE III.13
Incorporation of new office projects: Class A and A+
(thousands of square meters projected)



Source: Central Bank of Chile, based on data from Global Property Solutions.

FIGURE III.14
Household debt
(percent of available income)



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

same note of caution applies to extrapolating the recent growth of demand in residential and commercial sectors.

HOUSEHOLDS

Aggregate debt fell marginally relative to household income

Gross available household income grew 8.7% in real terms in 2012, while consumption grew 5.9% in the same period. Consistent with this trend, the household saving rate over available income increased from 9.2% in 2011 to 11.2% in 2012, and debt fell marginally from 55.9 to 54.7% of available income in the same period. The long-term financial burden followed a similar pattern (figure III.14).

Consistent with the aggregate data, the Household Financial Survey (HFS) indicates that the debt-to-income ratio and the financial burden of the representative household were stable in all income segments in the period from 2007 to 2011 (box III.1).

Bank debt continues to be the most dynamic …

Total household debt grew 8.0% in the first quarter of 2013, with the strongest contribution coming from banks in both mortgage and consumer debt segments. In the case of mortgage debt, bank loans increased 8.9%, while the share of mortgages from nonbank sources grew 3.9%. Bank consumer loans grew 9.3%, versus a reduction of 0.5% for nonbank sources (table III.3).

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

Indicator	09 IV	10 IV	11 IV	2012 I	2012 II	2012 III	2012 IV	2013 I	Growth contribution (1)	Share
Mortgage	8.5	7.1	7.0	7.0	7.5	7.7	7.6	8.3	4.8	57.4
Bank	9.7	9.2	8.0	8.1	8.3	8.3	8.3	8.9	4.6	51.4
Nonbank (2)	1.1	-5.9	-0.6	-0.8	1.4	3.0	1.9	3.9	0.2	6.0
Consumer	5.0	6.9	7.0	5.1	5.4	5.6	7.3	7.5	3.2	42.6
Bank	3.3	8.8	13.3	11.0	10.7	10.4	8.9	9.3	2.4	26.1
Nonbank	0.2	4.7	-7.6	-9.8	-10.4	-10.2	-2.3	-0.5	-0.1	10.8
Retail cos.	-8.4	6.1	-15.1	-18.5	-19.3	-19.1	-5.6	-2.4	-0.1	5.1
CCAF (3)	9.7	3.8	5.2	3.6	2.5	0.6	3.5	3.9	0.1	3.8
S&Ls	16.7	2.1	-5.1	-5.5	-4.4	-1.8	-3.3	-3.6	-0.1	1.9
Other (4)	36.8	3.6	18.3	18.3	21.4	20.8	21.9	16.6	0.9	5.7
Total	7.0	7.0	7.0	6.2	6.6	6.8	7.4	8.0	8.0	100.0

(1) Percentage points.
(2) Includes securitized mortgage debt.
(3) Family allowance funds (*Cajas de Compensación de Asignación Familiar*).
(4) Includes car financing, university loans and insurance companies.

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

…accentuating the change in the composition of consumer debt

Consumer debt has decreased as a share of income in the past few years, stabilizing at values of almost 34%. However, the relative shares of the different credit suppliers in this segment changed significantly between 2009 and 2012. The share of the traditional banking sector grew from 17 to 19% of income in the period, while the share of all other sources of consumer credit—including bank consumer divisions, retail banks, retail companies, family allowance funds and savings and loan cooperatives—shrank from 19 to 15% (figure III.15).

Lending standards have tightened for consumer debt

In the Bank Lending Survey, the banks self-report that they have tightened their standards for consumer credit, in particular with an increase in the minimum income requirement. This is in line with the discussion in chapter IV on the increased fixed costs in the consumer market, which could translate into a reduced supply to lower income segments. Since 2012, the lending rate on small consumer loans (0–200 UF) has risen relative to larger loans (200–5000 UF), which is also consistent with the tighter conditions for lower income segments of the population.

A number of indicators are consistent with increases in the debt level of some households

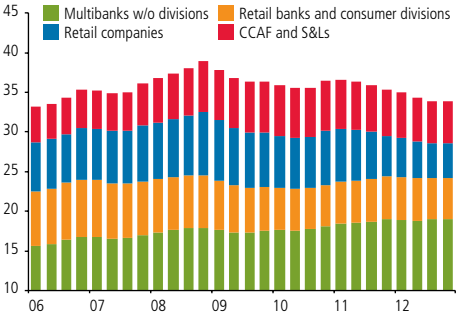
The less dynamic consumer divisions, the contraction of nonbank sources and the evolution of bank lending standards described above point to an increase in the relative supply of credit to medium- and high-income households.

The growth of consumer loans between 2009 and 2013 displays a high degree of heterogeneity among banks. Average consumer debt increased more in the more dynamic banks in this segment. Moreover, for a group of banks, the increase in average debt exceeded the growth of available income in the period (figure III.16).

Aggregate default indicators for bank consumer debt have increased

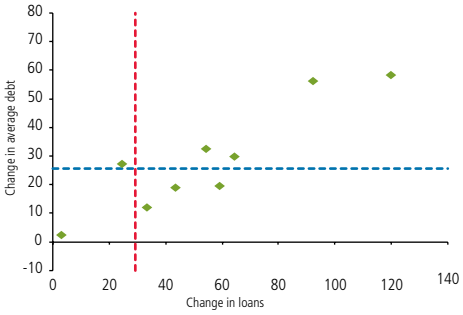
Since the last *Report*, the nonperforming loan ratio has increased for consumer banking (figure III.17). This trend is confirmed by alternative default indicators, such as write-offs and delinquency of 90 days or more (chapter IV). In contrast,

FIGURE III.15
Consumer debt
(percent of income)



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

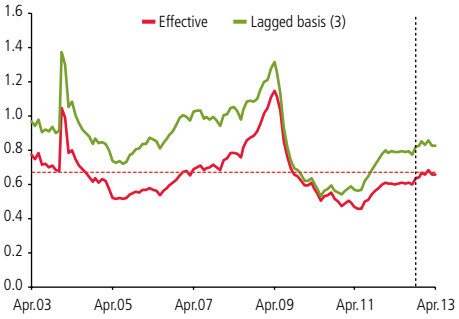
FIGURE III.16
Dynamics of bank consumer debt (1) (2)
(percent)



(1) Change between February 2010 and February2013.
(2) The sample covers multibanks with a large share of consumer loans. The dashed red and blue lines graph the growth of private available income and private available income per capita, respectively, in the same period.

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

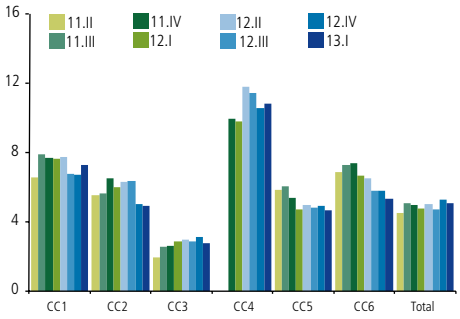
FIGURE III.17
Nonperforming loan ratio for bank consumer debt (1) (2)
(percent of consumer loans)



(1) The dotted vertical line marks the closing date of the last *Report*.
(2) The dotted horizontal red line indicates the average effective index.
(3) A 22-month lag is used for the comparative basis, which is the average maturity in the segment. See Matus and others (2009).

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

FIGURE III.18
Delinquency in the retail houses (*)
(percent of the total portfolio)



(*) Delinquency of over 90 days.

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

default indicators have been stable for nonbank credit suppliers. For the retail companies, delinquency of 90 days or more stayed around 5.1%, while the nonperforming loan ratio of savings and loan cooperatives supervised by the SBIF was under 2% at year-end 2012 (figure III.18).

In sum, aggregate debt indicators remain stable, but the composition of debt has changed over the past few years. Bank debt has been relatively more dynamic than other sources of credit and more dynamic than income. Different indicators suggest that the growth of bank lending is concentrated among medium- and high-income households.

BOX III.1 FINANCIAL EVOLUTION OF CHILEAN HOUSEHOLDS FROM 2007 TO 2011-12: FIVE HOUSEHOLD FINANCIAL SURVEYS

The Household Financial Survey (HFS) is a project spearheaded by the Central Bank of Chile, aimed at collecting information on the income, debt and assets of households. In the first half of 2013, the Central Bank published the 2010 and 2011–12 versions of the HFS, thus completing a cycle of two national urban surveys (2007 and 2011–12) and three surveys of the Santiago Metropolitan Region (2008, 2009 and 2010)[3]/. This box presents some of the results on the evolution of household debt at the national level between 2007 and 2011–12.

The availability of data at the household level allows for a richer analysis than can be achieved with aggregate data. For example, survey data can be used to evaluate the consequences of the way debt is distributed among households. All else equal, a given amount of debt concentrated on a few families implies a greater risk—for both the families themselves and the system as a whole—than the same amount distributed among more families.

Debt holding

The results of the HFS show that the share of households with debt grew 5% on average and 9% in the lowest income segment. Retail companies, which are the biggest source of credit to households, registered a decrease in their share from 51% in 2007 to 45% in 2011–12 (table III.4), while the share of households with some sort of consumer debt rose marginally, from 61.5% to 63.2%. The share of households with debt from the family allowance funds or savings and loan cooperatives grew 63% in the period of analysis[4]/.

Finally, the survey makes it possible to identify the joint holding of different instruments. For example, over 16% of households hold non-mortgage debt from both banks and other institutions at the same time.

TABLE III.4
Debt holding (1)
(percent of households)

	2007	2011-12
Debt holding	64.8	68.0
Segment 1	56.7	61.7
Segment 2	72.2	71.9
Segment 3	74.0	78.0
Mortgage	13.4	15.2
Non-mortgage	61.5	63.2
Bank	22.3	23.3
Retail companies	51.1	44.9
CCAF (2) or S&Ls	7.5	12.2
Bank and other	16.5	16.2

(1) Segment 1: 1st to 5th income deciles; Segment 2: 6th to 8th income deciles; Segment 3: 9th and 10th income deciles.
(2) Family allowance funds (*Cajas de Compensación de Asignación Familiar*).

Source: Central Bank of Chile.

Relative amount of debt by type

In terms of composition, mortgage debt represents close to 20% of the total amount of household debt (table III.5). This share is increasing across the income segments[5]/. Mortgage debt represents 11% of total debt for the first segment, 21% for the second segment and 36.5% for the third segment. The share of mortgage debt in the total has increased strongly in the first segment. This trend reflects, in part, the greater access to mortgage financing in this segment in recent years.

TABLE III.5
Share of mortgage loans in total debt (*)
(percent of households, average share)

	2007		2011-12	
	% Debt total	Holding	% Debt total	Holding
Segment 1	8.6	5.6	10.9	7.5
Segment 2	19.1	15.6	20.9	17.0
Segment 3	34.4	29.7	36.5	31.8
Total	18.0	13.4	19.9	15.2

(*)Segment 1: 1st to 5th income deciles; Segment 2: 6th to 8th income deciles; Segment 3: 9th and 10th income deciles.

Source: Central Bank of Chile.

[3]/ The fieldwork for the 2011–12 HFS was carried out between September 2011 and May 2012. More information on the HFS is available online at www.bcentral.cl/estadisticas-economicas/financiera-hogares.
[4]/ Cajas de Compensación de Asignación Familiar (CCAF).

[5]/ The first income segment includes the first five income deciles, with a monthly income of up to Ch$500,000; the second segment encompasses deciles 6 through 8, with a monthly income of Ch$500,000 to Ch$1,100,000; and the third segment includes the ninth and tenth deciles, with a monthly income of over Ch$1,100,000.

Debt and financial burden

The values for the debt-to-income ratio (DTI) and the financial burden-to-income ratio (FIR) reported below are the median of households with debt. Consequently, they differ from the average DTI and FIR figures presented in other sections of this *Report*. The latter are built on the basis of aggregate data on household debt, financial burden and total available income[6]/.

The results show that the DTI level for the median household in each of the three income segments is practically the same in both periods (table III.6). However, the more indebted half of each of the segments (75th percentile) saw a rise in debt. The increase was sharpest in the first and second income segments.

TABLE III.6
Ratio of total debt to annual income (DTI) (*)
(percent)

	2007		2011-12	
	Median	75th percentile	Median	75th percentile
Segment 1	17.1	54.7	17.9	62.4
Segment 2	19.5	62.2	19.3	71.0
Segment 3	28.1	99.7	28.4	103.8
Total	19.2	66.0	20.1	74.5

(*) Households with debt. Segment 1: 1st to 5th income deciles; Segment 2: 6th to 8th income deciles; Segment 3: 9th and 10th income deciles.

Source: Central Bank of Chile.

The evolution of the FIR confirms the above analysis (table III.7). It was stable for both the median household and the 75th percentile, which could be related to changes in the type of products, maturities or rates.

TABLE III.7
Financial burden-to-income ratio (FIR) (*)
(percent)

	2007		2011-12	
	Median	75th percentile	Median	75th percentile
Segment 1	23.0	48.2	24.2	49.7
Segment 2	19.8	39.2	18.7	38.5
Segment 3	18.8	36.5	17.1	31.1
Total	21.1	42.4	20.3	41.1

(*) Households with debt. Segment 1: 1st to 5th income deciles; Segment 2: 6th to 8th income deciles; Segment 3: 9th and 10th income deciles.

Source: Central Bank of Chile.

[6]/ Both types of data are useful for the analysis. Aggregate data provide a first glimpse at the household financial situation, given how quickly they are available. However, they hide the way debt is distributed across the population, so they do not necessarily reflect the situation of the representative household. If the distribution of the variable of interest is not very uniform, then the extreme values will skew the results, and the averages will not provide a good indicator of the common household. Since the median does not suffer from this problem, it is thus a better indicator of the representative household in the HFS.

Finally, while the highest-income households (the third segment) have the highest DTI, the lowest-income households (the first segment) have the highest FIR. Some of this difference is due to the fact that the latter generally only have access to shorter loans (especially non-mortgage loans) than do households in the highest income segment.

The increased debt holding recorded in the period has not been accompanied by higher indebtedness, or a greater financial burden, for the median household. In some segments, however, there has been an increase in debt relative to income, even though it is not reflected in the financial burden.

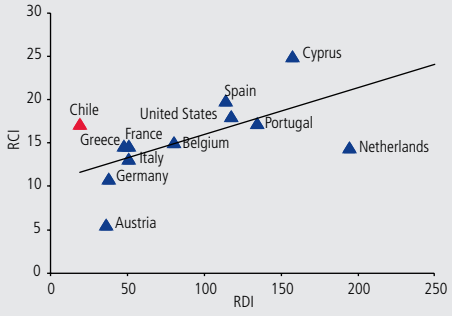
International comparison

Finally, the national values from the 2011–12 HFS were compared with the results of financial surveys carried out in the United States and Europe.

While these countries have a higher income level and greater financial depth than Chile, the fact that they have recently published financial surveys similar to the HFS justifies the comparison[7]/.

Chile's FIR is among the highest of the group and above the average DTI-to-FIR ratio for the other countries (figure III.19)[8]/. This result is similar to the findings described in past *Reports* using aggregate data. This difference is, in part, related to the substantial difference in the relative amounts of consumer and mortgage debt in Chile versus the other countries. Whereas mortgage debt accounts for 20% of the total in Chile (as indicated earlier), the share is 80% in the European countries. Consumer debt has a shorter maturity and a higher interest rate than mortgage loans, which results in a higher FIR for a given DTI.

FIGURE III.19
Debt ratios
(median household with debt)



(1) Data for Spain are for 2008; for Greece and the Netherlands, 2009; for Austria, Belgium, Cyprus, France, Germany, Italy, Portugal and United States, 2010; and for Chile, 2011–12.

Sources: Central Bank of Chile, European Central Bank (2013), and United States Federal Reserve (2010).

[7]/ European Central Bank (2013).
[8]/ To be comparable, Chile's FIR and DTI are expressed relative to gross income in this figure.

IV. BANKING SYSTEM

The profitability of the banking sector fell, in part as a result of higher loan loss provisions for the consumer portfolio. Nevertheless, the risk scenarios described in this *Report* would have a limited impact on bank solvency.

Credit growth was nearly 10%, both by product and by type of bank…

The real annual growth rate of bank credit has averaged 10% since the last *Report*. The growth rates of the different types of loan have tended to converge (table IV.1), while the gap between medium and large banks has narrowed, due to a sharp deceleration in the former and a recovery in the latter (figure IV.1).

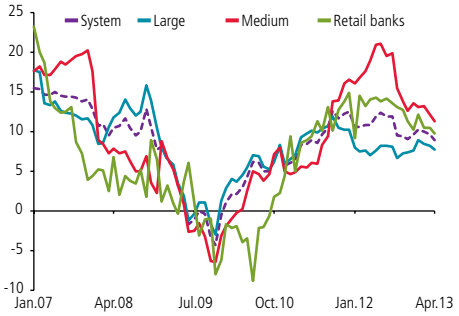
The annual growth rate of commercial loans fell from 11% in late 2012 to 9% in April 2013. The deterioration of the payment performance of firms in some specific sectors (chapter III) increased delinquency in banks with a greater exposure to those companies (figure IV.2).

The personal banking segment recorded a slowdown in consumer loans originated by specialized consumer divisions and by medium-sized banks, in the midst of a substantial increase in provisions for the consumer portfolio (figures IV.3 and IV.4). Residential mortgage loans have continued to grow at around 8% in real annual terms, with a higher growth rate in medium-sized banks (17%) than in large banks (6%) (table IV.1).

… and solvency indicators have stabilized

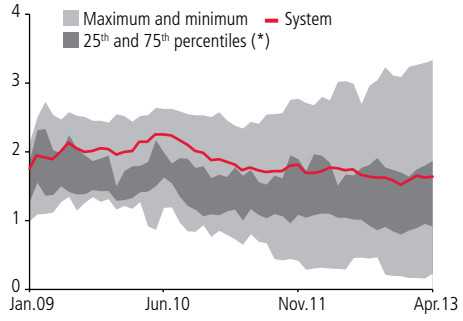
Between October 2012 and April 2013, banks increased their capital by approximately US$1.3 billion, reversing the drop in the capital adequacy ratio (CAR) recorded in the last *Report* (figure IV.5). The banking system's CAR rose from 13.2% in October to 13.5% in April (estimated), even though the share of liquid assets on the balance sheet, which have a lower risk weighting, contracted slightly at the system level (figure IV.1).

FIGURE IV.1
Total loans
(real annual change, percent)



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

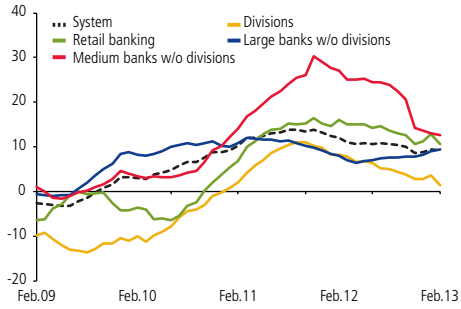
FIGURE IV.2
Delinquency of 90 days or more in the commercial portfolio
(percent)



(*) Excludes retail, treasury and foreign trade banks.

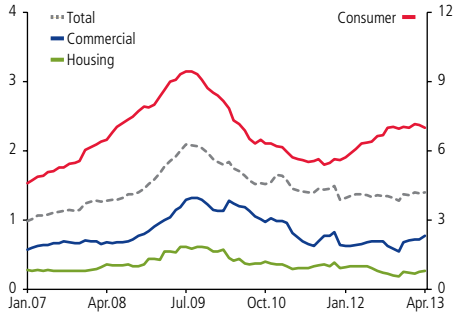
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.3
Consumer loans
(real annual change, percent)



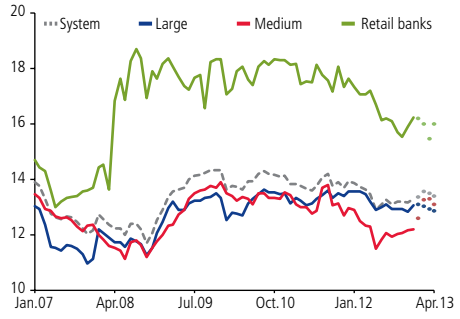
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.4
Loan loss provisions
(12-month moving sum, percent)



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

FIGURE IV.5
Capital adequacy ratio (*)
(percent of risk-weighted assets)



(*) The dots are preliminary estimates for the first four months of 2013.
Source: Central Bank of Chile, based on data from the SBIF.

MAJOR HIGHLIGHTS

The consumer portfolio registered an increase in risk indicators. The expansion of loan loss provisions for this portfolio is one of several factors that have had a negative impact on banks' profitability.

In the past year, credit risk has increased in the consumer portfolio, which contributed to lower profitability

The credit risk of the consumer portfolio has increased in the last year, despite favorable employment and wage conditions in the period (for details, see the June 2013 *Monetary Policy Report*). The strong growth of this portfolio in years past could explain part of this trend. The greater risk is reflected in an increase in delinquency and write-offs, which, together with the deterioration of economic expectations, could explain the increase in loan loss provisions (figures IV.4 and IV.6).

The expansion of loan loss provisions is an important factor in the reduction in the industry's profitability in the last year, which has been especially notable in the retail banking segment (figure IV.7).

Other factors explaining the decreased profitability include lower interest margins and lower inflation

Lower interest margins are another key factor in the reduced profitability of some banks. Part of this reduction could be associated with a flattening of the yield curve in pesos (figure IV.4). In the medium-sized banks, margins may also have been affected by the strong growth of larger firms and the strategies to attract retail deposits described in the last *Report* (figure IV.7). In contrast, large banks benefitted from the favorable external financing conditions (chapter II), reducing the marginal cost of debt in the last period (box IV.1).

In addition, the lower inflation rate recorded in the last year had a negative effect on earnings in banks that hold an asset position in UFs on their balance sheet (figure V.7). For the large and medium-sized multibanks, the impact of this factor on the return on assets (ROA) was over 10 basis points, but it should be temporary as inflation converges to the target.

In addition, income from commissions has fallen, and the cost structure of bank products could rise

Income from commissions represents around 20% of banks' operating income. Between 2011 and 2012, income from this source fell by more than 60 basis points, measured relative to system-wide operating income (figure IV.8). Almost half of income from commissions in the last year was generated by card management and by billing, collections and payment services (figure IV.5).

Commissions from insurance affiliates account for around 10% of total income from commissions. The process of tendering insurance for residential mortgage loans, which the banks initiated in the fourth quarter of 2012 and the first quarter of 2013, could translate into a reduction in the income contribution of insurance affiliates to the parent banks in the current period.

In addition, some of the regulatory changes introduced in recent years could cause an increase in operating costs and the cost of managing consumer products[1]/. Market participants have emphasized the importance of this effect.

This less profitable scenario could give the banks an incentive to explore new business strategies

Profitability indicators have been falling for most banks since early 2011, despite the favorable cyclical position of the economy. Given the cyclical position, the return on capital seems low (figures IV.9 and IV.2).

The lower profitability of the last few periods could lead banks to explore new business strategies, in an effort to maintain or increase the size of their balance sheets and their earnings. The search for new niches and markets could lead to the targeting of small firms in the productive sector, many of which are supported by government financial guarantee programs, and the internationalization of the local banking sector (figure IV.6).

When the search for higher short-term yields translates into looser lending policies, greater leveraging, the use of more volatile sources of financing or an increase in off-balance-sheet activities, the long-term costs for the real economy can be substantial. This issue will require monitoring in the short and medium terms.

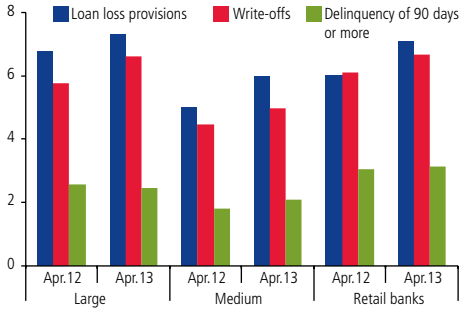
RISK FACTORS

The economic slowdown could contribute to a decline in lending activity and an increase in credit risk indicators

The *Monetary Policy Report* forecasts a moderate slowdown in economic activity. This deceleration could have a bigger impact on bank profitability and solvency in institutions that are more exposed to procyclical sectors, such as trade, construction and consumer loans. Other important factors include the quality of admission policies and the levels of provision coverage adopted by the banks in prior periods. In this sense, the convergence to more stable growth rates and the increase in provision coverage ratios are positive trends for the banking system (figure IV.10).

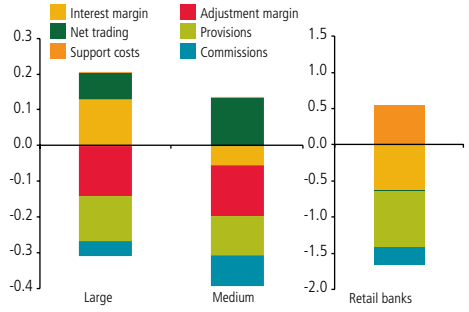
[1]/ Examples include the costs of implementing the new consumer financial protections (*Sernac financiero*), information requirements on the equivalent annual charge (CAE), the prohibition on joint sales and recalibration of scoring models due to the loss of information caused by the new Law on Consumer Credit Reports (*Ley Dicom*).

FIGURE IV.6
Credit risk indicators, consumer portfolio
(percent of loans in the segment)



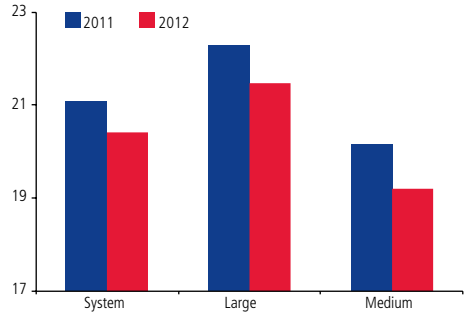
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.7
Change in the main components of ROA
(change in the percent of assets between 2011 and 2012)



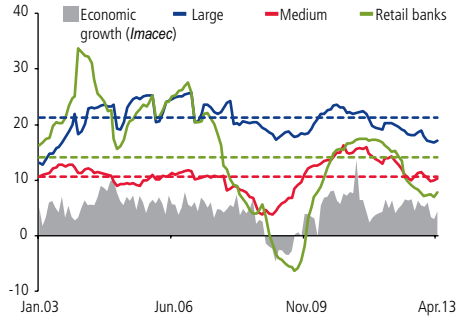
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.8
Net commissions
(percent of operating income)



Source: SBIF.

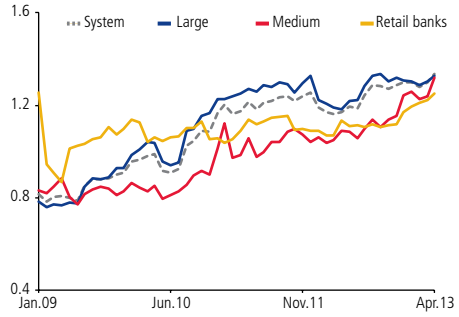
FIGURE IV.9
Return on capital (*)
(12-month moving sum, percent)



(*) Dashed lines show the average of the last ten years.

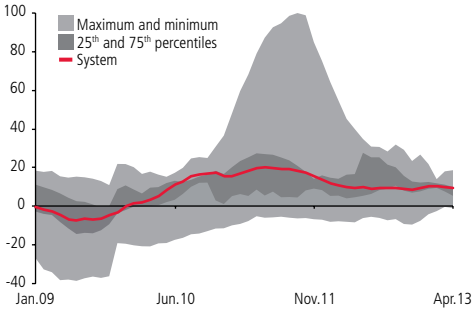
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.10
Provisions coverage index
(over delinquency of 90 days or more)



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

FIGURE IV.11
Growth of revolving loans, medium and large banks
(real annual change, percent)



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

However, in the consumer loan segment, the average size of debt in some banks has increased more than income in recent years, especially in the more dynamic banks (figure III.16), while the credit risk indicators of this portfolio have risen. Some banks have also recorded strong growth of revolving loans; while much lower than in past years, this could cause an underestimation of credit risk, as described in past *Reports* (figure IV.11).

Volatility in the local money market could affect the banks' financing conditions, especially in the case of smaller banks…

As discussed in chapter II, the money market in pesos has been affected by the behavior of the pension funds, where the latest portfolio reallocations have responded to announcements made by some financial advisors.

In this context, the strong dependence of the smaller banks on wholesale financing continues to be a source of concern (figure IV.7). These banks must develop contingency plans for a potential reversal of the financing conditions in this market.

…while external volatility could affect long-term rates and the exchange rate

Given the complexity of the withdrawal of the monetary stimulus and its potential impact on the local market (chapters I and II), the scenario of a gradual rise in long-term sovereign and corporate rates in pesos and foreign currency must be supplemented with scenarios of sharper hikes and potential overreactions in these rates, together with greater exchange rate volatility.

The market risks of the banking sector are contained (box IV.1). However, given the current global conditions, it is critical for banks to prudently manage their currency risk and their exposure to long-term interest rate fluctuations.

ASSESSMENT OF RISK SCENARIOS

Stress tests show that the banking system has the capacity to absorb the materialization of a severe risk scenario

Using accounting information for December 2012, the risk scenario considers a significant deceleration toward the end of this year[2]/. This scenario assumes temporarily negative growth rates between the second quarter of 2013 and the first quarter of next year, which then converge to 2.5% by 2016. This set-up approximates the impact of important episodes of financial volatility in the past few decades, which were characterized by a short, but sharp slowdown that eased off in the medium term. The scenario further assumes a 20% exchange rate depreciation, together with interest rate hikes of 300 basis points in the short term and 100 basis points in the long term[3]/.

In comparison with the stress tests carried out for the last *Report*, which used data through June 2012, the return on equity (ROE) for the banking system is 1.5 percentage point lower (14.4 versus 15.9%), while the capital adequacy ratio (CAR) increases by 0.2 percentage point, (from 13.1 to 13.3%).

The stress tests show that under the risk scenario, there would be system losses equivalent to a decrease in the ROE of 9.2 percentage points (table IV.1). At the individual level, the banks that would have negative results under the risk scenario account for 43% of the banking system's Tier 1 capital (figure IV.12). This is substantially higher than the 29.6% of Tier 1 capital found in the last stress test. For the majority of the banks, however, the CAR would remain above 11% (figure IV.13)[4]/.

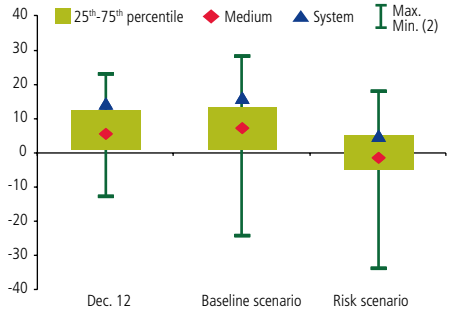
Additional stress tests, incorporating severe hikes in the long-term rates on sovereign instruments, also generate only limited effects on the profitability and solvency of the banking system[5]/. However, given that extreme scenarios will most probably involve tighter financing, particularly overseas, it is important for the banking sector to maintain its efforts to diversify its funding sources, especially at longer terms.

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

	Risk scenario
Initial ROE	14.4
Market risk	-1.9
Valuation	-0.7
Repricing	-1.3
Currency	0.0
Credit risk	-12.6
Consumer	-7.0
Commercial	-5.2
Home mortgage	-0.4
Margin	5.1
Final ROE	5.0

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

FIGURE IV.12
Estimated return on capital under different scenarios
(percent)

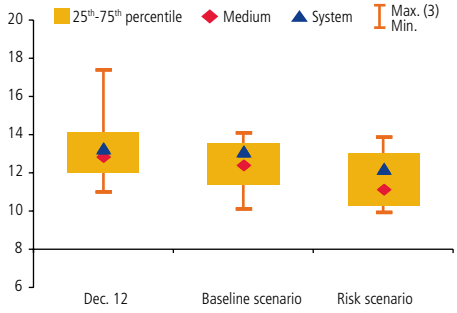


(1) Data are weighted by the Tier 1 capital of each institution.
(2) The minimum is the 1st percentile.

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

[2]/ This analysis is based on the methodology described in Jara and others (2007) and in Alfaro and Sagner (2011). Both the analysis and the results are regularly reported to the SBIF.
[3]/ The baseline scenario considers an output level and interest rates consistent with the *Monetary Policy Report* for the first quarter of 2013. In the March 2013 *Monetary Policy Report*, the economic growth forecast was in the range of 4.5 to 5.5%. The interest rate on UF-denominated loans with maturities of one to three years and the mortgage interest rate at over 20 years are 5.2% and 4.9%, respectively, as forecast in December 2013.
[4]/ These results take into account the reinvestment of earnings.
[5]/ There are some differences at the institutional level, depending on the composition of each portfolio.

FIGURE IV.13
Capital adequacy index under different scenarios (1)(2)
(percent)



(1) Data are weighted by the Tier 1 capital of each institution.
(2) Calculations do not include treasury or foreign trade banks.
(3) The maximum is the 90th percentile.

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

Finally, bear in mind that stress tests are an analytical tool that contribute to identifying weaknesses and sizing up financial strengths 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.

The risk that a deterioration of the financial situation of foreign parent banks could affect the operations of the bank affiliates established in Chile has thus far remained limited

In a negative scenario, the macro-financial risks in the euro area (described in chapter I) could trigger new adjustments in the capital and liquidity position of the parents of some banks established in Chile. However, as emphasized in previous *Reports*, there are some important mitigating factors influencing the potential impact on the local affiliates.

Consequently, the downgrade of the debt ratings of foreign parents has had a limited effect on the international and local risk rating of the affiliates established in Chile. However, the rating agencies will revaluate the impact on the financial profile of the affiliates if the parent banks deteriorate further.

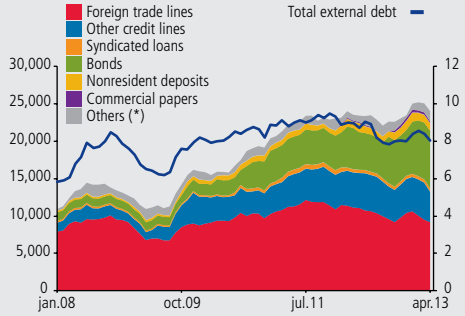
BOX IV.1
EXTERNAL FINANCING OF THE LOCAL BANKING SYSTEM

The composition of external bank debt has changed in recent years, in terms of instrument, maturity and creditor country. Despite the increase in the amount of external debt, external liabilities of the banking system continue to represent less than 10% of total liabilities, and these resources have not translated into greater leveraging[1]/ (figure V.14). This box focuses on the compositional changes in external bank financing and its effect on currency and liquidity risk.

In late 2010, over 60% of external bank financing corresponded to credit lines for financing foreign trade operations[2]/ (figure V.14). This is reflected in the strong correlation between the two operations in that period (figure V.15). Thereafter, as external reference rates began to fall, local banks increased their use of other types of liability in their external financing structure, in particular working capital lines of credit and long-term syndicated loans that were mainly contracted in Asian markets[3]/ (figure V.14). The issue of debt securities overseas has also been dynamic in recent years. In the first quarter of 2013, bond issues, syndicated loans and working capital lines of credit exceeded foreign trade credit lines in terms of amount.

From early 2010 to the first quarter of this year, local banks have issued over US$7.5 billion in bonds, mostly at longer maturities. Although the United States is the main market for these placements, since 2012 banks have also issued bonds in Europe, Asia and Latin America, which has increased the share of this source of financing to more than 30% of external bank debt and 2% of total bank liabilities. Other short-term liabilities have also been issued in the United States, such as commercial paper totaling approximately US$400 million and certificates of deposit (CDs) for around US$1.0 billion.

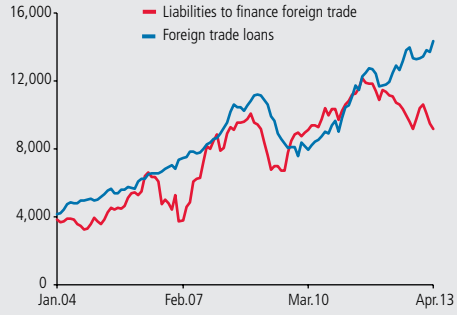
FIGURE IV.14
External bank debt
(US$ million, percent of total assets)



(*) Other money market instruments. Includes certificate of deposits issued in the United States.

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

FIGURE IV.15
Foreign trade
(US$ million)



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

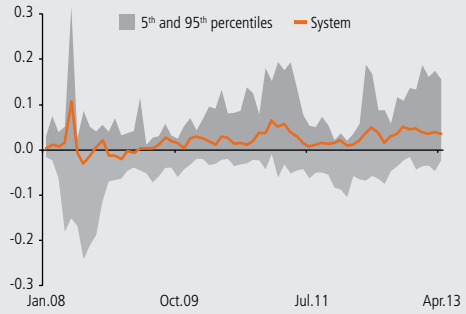
[1]/ Tier 1 capital remains around 8% of total system assets.
[2]/ With maturities of 13 months or less and a base rate of the three-month or six-month Libor.
[3]/ As of March 2013, the balance of these loans was US$400 million.

In terms of the currency mismatch, the banking system has limited its exposure to currency risk. Around 12% of bank assets are denominated in foreign currency, with a large share of commercial loans[4]/. This position is offset by external liabilities, foreign currency deposits from residents and the use of hedging instruments (figure V.16).

The changes in the structure of external bank financing represent a positive development from the perspective of liability management. In particular, the trend has fostered a greater diversification of financing sources, in terms of both instruments and creditors[5]/; the lengthening of maturities has improved the liquidity position in local and foreign currency (figure V.17)[6]/; and the favorable interest rate conditions have reduced funding costs for issuing banks.

However, if global financing conditions continue to deteriorate, banks must have contingency plans in place for substituting their funding sources, in order to contain liquidity and currency risk.

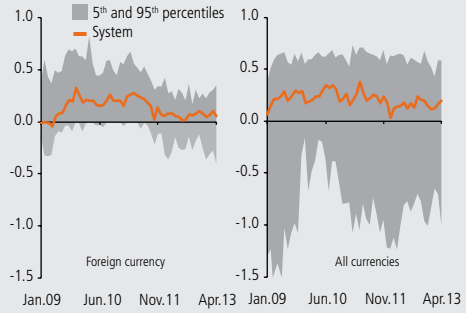
FIGURE IV.16
Foreign currency mismatch
(assets minus liabilities, times effective equity)



(*) The areas show the 5th and 95th percentiles. Excludes foreign trade and treasury banks.

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

FIGURE IV.17
Mismatch at 30 days
(assets minus liabilities, times Tier 1 capital)



(*) Adjusted basis for banks that are authorized to use it. The areas show the 5th and 95th percentiles. Excludes foreign trade and treasury banks.

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

[4]/ Foreign-currency-denominated commercial loans account for 8% of total system assets. They include foreign trade operations and other foreign currency loans.
[5]/ The issue of debt instruments has allowed some banks to reduce their dependence on local institutional funds.
[6] / Liquidity in foreign currency has been favored by the issue of bonds and by the increase in the average maturity of loans contracted with banks overseas. The weighted average contractual maturity of these loans rose from 8 months in 2009 to 11 months in the first quarter of 2013 (excluding syndicated loans).

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 2013[1]/

NATIONAL REGULATION

New regulations for credit card issuers and operators

In April 2013, the Central Bank published the new regulation on issuing and operating credit cards (Chapter III.J.1 of the Compendium of Financial Regulations)[2]/. This regulation pursues two main objectives: to strengthen the payment systems and to facilitate competition and innovation in retail payments[3]/.

Specifically, the following changes were introduced to strengthen the retail payment system: (i) the regulatory perimeter was extended to incorporate all nonbank credit card issuers, independent of the volume of payments channeled to unrelated entities; (ii) the prudential requirements for credit card issuers and operators were increased; (iii) the supervisory role of the SBIF was adjusted to the new regulatory requirements; and (iv) market discipline was strengthened through more stringent requirements on corporate governance and reporting.

Additional modifications included the clarification of the definition of regulated operators; the authorization for a single corporate entity to operate both credit and debit cards; and the definition of the concept of a card for regulatory purposes, to make it compatible with the use of different devices or instruments and to ensure that the regulations do not inhibit possible innovations, such as mobile payments.

Credit card operators and issuers must comply with more stringent requirements, which are related to the relevance of the company. This should not represent an undue burden, since the majority of the entities already comply with the new provisions. As a result of the new requirements, some previously unregulated entities will be brought under the regulatory umbrella.

[1]/ The section on payment systems included in chapter VI of past *Reports* has been replaced with a Statistical Appendix.
[2]/ A draft of this chapter was published for public comment in the last quarter of 2012. The final version was published after incorporating some of the comments received.
[3] / For a detailed explanation of the changes, see the minutes prepared jointly by the Central Bank and the SBIF, available online at http://www.bcentral.cl/prensa/otros/pdf/19042013_minuta.pdfs.

Finally, given the existing new institutional framework on financial consumer protection, the new credit card regulations do not address issues in this area, as they are currently regulated by the new legislation and the financial regulations issued by the National Consumer Service (*Sernac*).

In conjunction with the definitive publication of the new Chapter III.J.1, which will enter into effect on 22 July 2013, the SBIF published for public comment a draft of the Administrative Directive 40 (which will replace the current Administrative Directive 17), which imparts specific instructions for the application of the aforementioned regulatory guidelines and considers the necessary information systems for the proper implementation of the Central Bank regulations.

Consumer protection regulations

Box VI.1 of the *Financial Stability Report* for the second half of 2010[4]/ describes the different approaches to consumer protection at the international level. Some countries have a single or integrated supervisor, which is in charge of monitoring both the solvency of the regulated institutions and consumer protection. Others separate prudential regulation from the preservation of market conduct and consumer protection (the so-called twin peaks approach). While the latter approach has some advantages, such as allowing each supervisor to focus on a single objective, it can also lead to problems if conflicts arise between regulatory authorities that have different objectives tied to financial stability and consumer protection. To prevent this difficulty from arising, the countries that have adopted this approach (Australia, Canada and the United States) have established systems in which the authority in charge of consumer protection either verifies regulatory compliance but does not participate directly in the development of the regulations, or is subject to veto by the authorities in charge of the country's financial regulation. In addition, some of the countries have a Board that coordinates the initiatives on financial system solvency and financial consumer protection.

In Chile, the Consumer Rights Protection Law was modified in 2011 (through Law 20,555). Following some of the rationale of the twin peaks approach, the new legislation created a specific agency with the mandate to protect the rights of financial consumers and, at the same time, authorized the Ministry of Economy to issue regulations[5]/.

In the exercise of this authority, the Ministry of Economy has issued four regulations, on the conditions for receiving the "*Sernac* Seal" and on the provision of information to consumers on consumer loans, mortgage loans and bank and nonbank credit cards. These provisions were incorporated into the consumer protection regulations, whose compliance is verified by *Sernac*.

[4]/ Available online at http://www.bcentral.cl/publicaciones/recuadros/pdf/ief/2010/2Sem_RecVI1_Institucionalidad.pdf.
[5]/ The powers conferred on the Ministry of Economy imply the exercise of the regulatory power conferred on the President of the Republic by the Constitution. If the regulations cover areas governed by special laws, they must be signed by the respective minister before being issued.

The legislation also reinforced the authority of *Sernac* to require information from the suppliers of financial products. It further established the obligation for the Superintendencies, as regulatory bodies with sanctioning power in sectors that are regulated by special laws, to provide Sernac with copies of any resolutions adopted.

The new powers and functions conferred on *Sernac* by Law 20,555 do not incorporate any additional authority for the direct supervision of activities subject to special regulation, such as banking or insurance, in particular with regard to interpreting or imparting instructions on compliance with the legal framework. Moreover, *Sernac* was not given sanctioning power, which remains in the hands of the Tribunals, with due regard for the authority of the sectoral supervisors in their respective areas. Therefore, this new legislation does not alter the legal authorities granted to the supervisors of the capital market and the financial system (SBIF, SVS and SP).

Given this institutional design, it is important for the authorities to coordinate their actions, in order to prevent conflicts of jurisdiction and any potential gaps in regulation and supervision. In addition, the measures should be implemented gradually, so as to avoid market disruptions.

TABLE V.1
Main regulations issued in the first half of 2013

Date	Organization	Regulation	Material and objectives
02.Jan.2013	SVS	EXEMPT RESOLUTION N°1	Approves operating regulations for the CCLV to clear and settle ETFs in a centralized system.
18.Apr.2013	CENTRAL BANK	CHAPTER III.J.1 CNF	Strengthens the payments system and facilitates competition and innovation in retail payments (http://www.bcentral.cl/prensa/otros/pdf/19042013_minuta.pdf).
18.Apr.2013	SVS	NCG N°345	Exempts certain public offering of securities from registration to facilitate access to financing for SMEs.
30.Apr.2013	SBIF	*CIRCULAR* 3549	Repeals and modifies instructions on the provisions related to the Consumer Rights Protection Law and its regulations.
06.May.2013	SVS	NCG N°346	Improves the information that securities issuers provide to the market.
17.Jun.2013	SBIF/SVS	*CIRCULAR* 3.551/NCG N°347	Modifies the regulation for individual and collective insurance contracts associated with mortgages, minimum conditions that have to be included in the procedures for tenders and information that must be provided to debtors.

TABLA V.2
Main regulations published for public commentary in the first half of 2013

Date	Organization	Regulation	Material and objectives
19.Apr.2013	SBIF	REPLACEMENT OF *CIRCULAR* 17	Instructions for companies that issue and operate credit cards.
23.May.2013	SBIF	CHAPTERS 1-13, 1-4 and 1-15 RAN and *CIRCULAR* 12 on External Auditors	Strengthens corporate governance of banks and the role of external auditors.
12.Jun.2013	SP		Modifies the investment scheme of the Pension Funds, with the objective of increasing the flexibility of portfolio management of type E pension funds.
19.Jun.2013	SP		Complements the regulations on fund changes.
13.Jun.2013	SBIF/SVS/SP		Annual updating of the maximum commissions that can be charged to the pension funds, for investments in specified instruments.

Other important documents

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

INTERNATIONAL REGULATION

Initiatives to separate investment banking from commercial banking

In response to the financial crisis that began in 2008, the United States, the United Kingdom and the European Union have developed different regulatory initiatives to prevent banks that take deposits from engaging in investment activities beyond what is necessary for liquidity management, personal and business financing and other financial services.

In general, the main objectives of these initiatives are the following:

• To reduce risk for deposit takers and the treasury, by imposing limits on proprietary trading;

• To preserve the continuity of the essential functions of the banking system: deposit taking, financial intermediation and the provision of financial services to people and nonfinancial firms; and

• To reduce complexity and increase transparency in banking operations, decreasing bank interconnectedness and facilitating potential resolution processes.

These regulatory initiatives take distinct forms in different countries. Not only because of idiosyncratic characteristics of each country's regulatory

framework, but also because of the lack of consensus on which measures to adopt to achieve the stated objectives. In the United States, this debate translated into the enactment of a law; in the European Union and the United Kingdom, the guidelines are just recommendations for the time being, pending implementation by the authority. These cases are analyzed below.

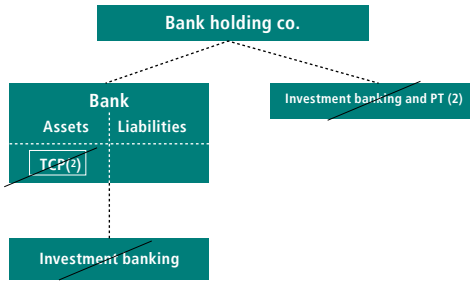
In the United States, the Volcker Rule, which was developed as part of the reforms driven by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, restricts banks from engaging in proprietary trading and from owning any financial vehicle that depends on the holding (figure V.1). The regulator thus tries to limit the size and interconnectedness of bank groups. So far, the Volcker Rule is applied to banks and holding companies that take deposits insured by the Federal Deposit Insurance Corporation (FDIC); branches and affiliates of U.S. banks, both in the United States or overseas; and foreign banks with operations in the country. However, not all trading activities are prohibited, as institutions that are subject to the Volcker Rule can freely trade U.S. Treasury securities and state, municipal or GSE debt[6]/. They can also engage in underwriting[7]/ and market-maker activities[8]/ for their clients; hedging activity; investment in small businesses on behalf of their customers; and loan securitization transactions.

The Volcker Rule was expected to be in force as of July 2012, but developing the regulations necessary for implementing the legislation has proven to be particularly complex. The effective date has therefore been postponed until at least 2014.

In the United Kingdom, the Vickers Commission proposed defining a regulatory perimeter, or ring fence, around banking activities associated with deposit taking (figure V.2). In particular, the ring fence would encompass institutions that exceed a given level of deposits from individuals and small and medium-sized enterprises (SMEs). This initiative would give natural persons and SMEs direct access to investment banks that are not inside the regulatory circle, or indirect access through banks inside the circle that are acting as agents.

The Commission considers that the banks inside the ring fence should operate in such a way that eventual resolution wouldn't be affected by the fact that they belong to a financial conglomerate. Thus, these banks could not engage in wholesale and investment banking or have operations outside the European Economic Area, although these activities could be operated by a financial vehicle controlled by the parent bank. Exceptions to these prohibitions include

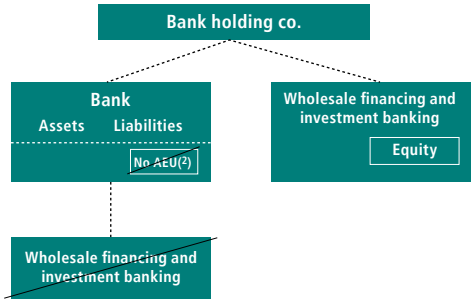
FIGURE V.1
Simplified banking structure resulting from the initiatives to separate investment banking from commercial banking (1): The Volker Rule



(1) For simplicity, the various exceptions and nuances of the regulation are not shown. Some investment banking activities can continue operating normally.
(2) Proprietary trading.

Source: Calvo and Silva (2013).

FIGURE V.2
Simplified banking structure resulting from the initiatives to separate investment banking from commercial banking (1): The Vickers Commission

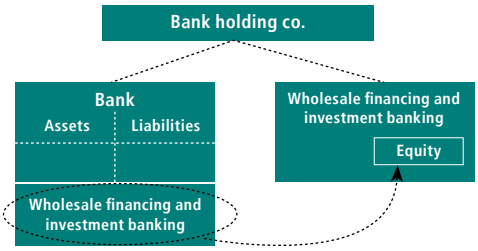


(1) For simplicity, the various exceptions and nuances of the regulation are not shown. Some investment banking activities can continue operating normally.
(2) EEA: European Economic Area.

Source: Calvo and Silva (2013).

6/ Government Sponsored Enterprises.
7/ Securities placement.
8/ A market maker is a financial entity that quotes both a buy and a sell price on a financial instrument (held on its own account).

FIGURE V.3
Simplified banking structure resulting from the initiatives to separate investment banking from commercial banking (*): The Liikanen Report



(*) For simplicity, the various exceptions and nuances of the regulation are not shown. Some investment banking activities can continue operating normally.

Source: Calvo and Silva (2013).

funding and the management of the liquidity risk of the balance sheet. The use of derivatives is allowed with some restrictions, such as when they are used to hedge interest rate and currency risk on behalf of customers; and the derivatives must be traded on deep, liquid markets with centralized clearing. Finally, market risk should be limited as a percentage of Tier 1 capital, and the ring-fenced banks should only be allowed to hold short-term financial institution debt for the purpose of liquidity management and sovereign debt for liquidity buffers.

Draft legislation to implement the proposals of the Vickers Commission was submitted to Parliament early this year, and a law is expected to be enacted in 2014.

The Liikanen Report for the European Union goes in the same direction, in that it aims to preserve the essential functions of the banking system (figure V.3). In contrast to the recommendations of the Vickers Commission, however, the ring fence would affect investment banks. In this regard, trading activities that exceed a specified limit would have to be separated into independent affiliates or subsidiaries. This compartmentalization reduces the complexity and interconnectedness of banks, making them safer, easier to supervise and easier to manage in case of insolvency and resolution processes. Thus, proprietary trading activities, as well as assets and derivatives originating from market-maker activities, that exceed a limit established by the supervisor must be allocated to a separate legal entity of the bank; the same applies to unsecured loans to hedge funds, the creation of special investment vehicles, investment in private equity and other comparable activities. Divided banks would be allowed to engage in mortgage loans, interbank loans, portfolio and private asset management, simple securitization and retail payment services. They would also be allowed to use derivatives for own asset and liability management purposes, provide hedging services to non-banking clients (subject to limits) and engage in securities underwriting.

In May 2013, the European Commission published for public comment a draft of the Liikanen proposals. The comment period extends through July of this year.

Criticisms of these initiatives

These proposals have given rise to a number of concerns and criticisms. In particular, the changes described above could reduce market liquidity, have a negative impact on the development of new financial products and services and create difficulties for government financing by lowering the demand for foreign instruments (IIF, 2012; Duffie, 2012). Another concern is that such complex regulations, featuring so many exceptions, could make supervision more difficult and could even prove detrimental in terms of systemic risk (Haldane, 2012).

The detractors of these measures argue that the restrictions will increase systemic risk outside the scope of regulation and supervision (FINMA, 2011; Gambacorta and Van Rixtel, 2013). It is worth noting, however, that the Vickers and Liikanen reports address several of these potential problems.

Another controversial factor has been the reduction of asset diversification in the commercial banking system as a result of the regulations described above. While some analysts criticize this trend (Chow and Surti, 2011), others hold that the benefits of diversification for the company are lower than the implicit social benefits of the continuity of financial services in the face of systemic shock (Richardson, 2011).

Relevance of the discussion for Chile

Some of the restrictions on banking activities that are being debated abroad already exist in Chile to a degree, through the General Banking Law. This legislation prescribes the activities in which banks can engage, according to a list of specific instruments that are eligible for investment; the ways in which they can be financed; and the services that can be offered to customers. The restrictions include a prohibition on investing in stocks[9]/.

Some of the activities that banks are not allowed to undertake directly can be channeled through affiliates, which must have their own capital. Thus, bank affiliates in Chile can act as securities agents, stock brokers and insurance brokers; can manage mutual funds, investment funds or foreign capital funds; and can engage in securitization.

Additionally, whether due to the regulatory framework or market development, the Chilean banking system is mainly commercial banking, with a high share of loans in total assets. Consequently, the discussion on the separation of banking activities is, for now, somewhat less relevant in Chile. In this sense, in the future it will be important to evaluate the advisability of adopting regulations to limit contagion from a bank's investment activity to its commercial activity, in line with the proposed regulations overseas. This issue could become relevant for Chile to the extent that greater market development drives the growth of investment banking.

[9]/ There are exceptions for the participation of companies that support business operations, such as acting as an underwriter for customers for a short period or for the purpose of consolidating with another bank.

The analysis in this section has examined whether the initiatives to decouple banking functions are relevant to Chile. A separate discussion, which merits its own analysis, has to do with the effects of the initiatives being developed abroad on the local banking system or other areas of the financial system. This could materialize through the impact on foreign-owned banks in Chile or the interaction of Chilean banks with foreign banks that are subject to the regulations. While progress in this area is of interest to the Central Bank, a thorough analysis requires a greater degree of certainty on the specific content of the regulatory changes that are being implemented in other countries[10]/.

Other important documents

Table V.3 lists the main documents published on regulatory themes at the international level, which focus on solvency and liquidity issues.

TABLE V.3
List of documents reviewed

Document	Title	Organization	Solvency/ Liquidity	Infrastructure/ Transparency	Resolution	Risk mgmt../ Governance
1/	Thematic Review on Risk Governance	FSB				x
2/	Report to G20 Finance Ministers and Central Bank Governors on Monitoring Implementation of Basel III Regulatory Reform	BIS	x			
3/	Monitoring Tools for Intraday Liquidity Management: Final Document	BIS	x	x		
4/	Authorities' Access to Trade Repository Data: Consultative Report	BIS		x		
5/	Central Bank Collateral Frameworks and Practices	BIS	x			
6/	Asset Encumbrance, Financial Reform and the Demand for Collateral Assets	BIS	x	x		
7/	Asset and Liability Management: Suggestions for Greater Effectiveness	BoE	x	x		x
8/	Financial Conglomerates Directive: Technical Review Amendments	BoE	x			
11/	Credit Risk: Internal Ratings Based Approaches	BoE	x			
12/	Collateral Upgrade Transactions and Asset Encumbrance: Expectations in Relation to Firms' Risk Management Practices	BoE	x			x
13/	Counterparty Credit Risk Advanced Model Approaches: Process for Post Approval changes	BoE	x			
14/	Financial Services Compensation Scheme: Management Expenses Levy Limit	BoE				x
15/	Recommendation on the Development of Recovery Plans	EBA			x	

Source: Web sites of the different institutions.

[10]/This extraterritorial dimension has been analyzed by the FSB given the potential effects of these regulations on liquidity in the debt and derivatives markets in emerging economies (see "Identifying the Effects of Regulatory Reform on Emerging Markets and Developing Economies: A Review of Potential Unintended Consequences," FSB, 2012).

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GLOSSARY

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

American Depositary Receipts (ADRs): A negotiable security that is backed by shares of a company established outside the United States, which are deposited in a U.S. bank. Foreign shares do not trade directly in the U.S. market, but rather are represented by ADRs, which do trade freely in that market as equivalent to the actual shares.

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

Basis point: Unit of measure of the volatility of a bond that is traded in financial markets, equal to one one-hundredth of one percent (0.01%).

Capital inflows: See gross capital inflows.

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

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

Commercial papers: Documents issued by corporations specially authorized by the Superintendence of Securities and Insurance (SVS), with the goal of attracting funds directly from the public to finance the short-term operations of the issuer (working capital).

Consumer divisions: Bank units oriented to a specific segment or group of the parent bank's clients, generally a lower-income segment. Several of these divisions are heirs to the old finance corporations.

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

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

Credit default swap (CDS): A derivative instrument that provides insurance against the credit risk of the issuer of a given underlying sovereign or corporate bond. The institution that grants the CDS commits to covering the loss associated with a previously established credit event occurring before the bond's maturity date.

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

Currency carry trade: An investment strategy in which an investor contracts debt in one currency at a low interest rate and invests the funds in instruments denominated in a different currency yielding a higher interest rate. When the instrument matures, the investor converts the funds into the original currency to pay off the debt.

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.

Deleveraging: Reduction in the leverage ratio, defined as liabilities over equity.

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

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

EMBI spread: The most commonly used measure of an economy's risk. It measures the difference between the return on a country's sovereign debt in dollars issued in international markets and U.S. Treasury bonds.

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

ESSF: Economic and Social Stabilization Fund (*Fondo de Estabilización Económica y Social,* or FEES). Created in 2007 by Statutory Decree N° 1, of 2006 issued by the Finance Ministry. The Fund's objective is to accumulate the surplus flows that are generated by the application of the structural balance rule, and it will serve as a source of financing in future deficit periods.

External debt: Includes bank debt, bonds and other overseas loans, as well as loans associated with foreign direct investment.

Factoring: A financing option oriented toward small and medium-sized enterprises, which allows such firms to obtain liquidity by selling or assigning their accounts receivable. The receivables are usually made up of invoices, checks and bills. The firm receives a cash advance in exchange for transferring the right to collect payment on the accounts to the factor, which could be either a bank or a specialized firm called a factoring company.

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

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

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

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

Global depositary notes (GDN): A debt security created by a depository bank, which establishes ownership of a debt instrument denominated in local currency. GDNs emulate the terms (interest rate, maturity date, credit quality, etc.) of a particular bond denominated in local currency. However, they are traded, settled and pay interest and amortization in U.S. dollars, and they are eligible to be settled and held in custody via Euroclear, Clearstream or DTC.

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

High grade: Generic name for low-risk bonds with a high credit rating. Their credit rating fluctuates between AAA and AA– (S&P ratings).

High yield: Generic name for bonds with a low credit rating, corresponding to higher risk, which therefore offer a high return rate.

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

Institutional investors: The Securities Market Law defines institutional investors as banks, financial corporations, insurance companies, national reinsurance companies and legally authorized fund administrators.

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

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

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

Leasing: A contract through which a natural or legal person (the lessor) transfers to another (the lessee) the right to use a physical good in exchange for some compensation, usually a periodic payment for a specified period, at the end of which the lessee has the option to buy the good, return it, or renew the contract.

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

Liquidity risk: The risk that a counterparty (or participant in the payment system) will not be able to meet its obligations when they come due, although it may be able to do so in the future. Liquidity risk does not necessarily imply that the counterparty is insolvent.

Low for long: A term used to describe the risk that central bank rates will remain low for a long period.

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.

MSCI Index: An index created by Morgan Stanley Capital International to measure the stock market performance of different regions worldwide.

Multibanks, large: Banks with a large market share and a high degree of diversification in their operations (loans and derivative and nonderivative financial instruments).

Multibanks, medium-sized: Banks with a smaller market share than large multibanks, but as much diversification.

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

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

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

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

Onshore dollar rate: Estimate of the external rate relevant to the national foreign exchange market, which is, in general terms, derived from the covered interest rate parity.

Onshore dollar spread: The difference between the onshore rate and the Libor. It is therefore a proxy for the cost of financing in dollars in the national market vis-à-vis the international market.

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

Percentage point: Unit of measure equal to one out of a hundred, or 1% out of 100%.

Peripheral Europe: A term referring to the countries of the euro area that have experienced fiscal difficulties following the subprime crisis and that signed fiscal deficit agreements with the European Commission in 2010, through 2020. Specifically, the term encompasses Spain, Greece, Ireland, Italy and Portugal.

PRF: Pension Reserve Fund (*Fondo de Reserva de Pensiones*, or *FRP*). A fund created in 2006 under the Pension Reform, whose objective is to complement the financing of fiscal liabilities deriving from the state minimum pension guarantee on old age, disability, and survivor's pensions and welfare benefits. It thus complements the financing of future contingencies related to pensions.

Prime deposit rate: Interest rate that financial institutions offer their best clients on short- and medium-term deposits.

Prime-swap spread: The difference between the prime deposit rate and the

average interbank swap rate. Like equivalent measures in other markets (such as the Libor-OIS spread), it is used as a benchmark for analyzing funding liquidity conditions in the banking sector.

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

QE: Quantitative easing. An unconventional monetary policy consisting in increasing the supply of money through the purchase of government, central bank or private assets in the market.

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

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

Retail banks: Banks whose main business is consumer lending.

Retail companies: Companies whose main line of business consists in the mass commercialization of products or services. Their main distribution channels include commercial centers, supermarkets and so on.

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

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

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

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

Search for yield: An expression describing investors' tendency to seek out higher returns on their investments.

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

SOE: Small open economy.

Sovereign bonds: Debt instruments issued by the government of a country in local or foreign currency. In the case of a foreign-currency-denominated sovereign bond, the selected currency generally corresponds to a more stable economy.

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

Subprime: A loan segment of the U.S. financial market. They are loans (usually

mortgages) granted to debtors whose characteristics and payment history are below the average standards of the banking industry, such that they present a greater default risk than the average for other loans. The loans granted to debtors that satisfy the average standards of the banking industry are called prime.

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

Tier 1 capital: Paid-in capital plus bank reserves and period earnings, net of provision for the distribution of dividends.

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

Trading: Net earnings from financial operations and foreign exchange transactions.

Treasury banks: Banks that are dedicated to investment in derivative and nonderivative financial instruments and that do not have loans.

VIX: Stock volatility index calculated by the Chicago Board of Trade, and the most commonly used measure of general market volatility at the international level. Measures the implicit volatility in S&P 500 options contracts.

ABBREVIATIONS

ACHEF: *Asociación Chilena de Empresas de Factoring* (Association of Chilean Factoring Firms).
ADR: American depositary receipt.
AFP: *Administradoras de Fondos de Pensiones* (Pension fund administrators).
BCS: *Bolsa de Comercio de Santiago* (Santiago Stock Exchange).
BCU: Central Bank bonds denominated in UFs.
BIS: Bank for International Settlements.
BP: Basis points.
CDS: Credit default swap.
CSD: Central Securities Depository.
ECB: European Central Bank.
EMBI: Emerging Market Bond Index.
ESSF: Economic and Social Stabilization Fund.
EU: European Union.
FDI: Foreign direct investment.
Fed: United States Federal Reserve.
FSR: Financial Stability Report.
FTD: Fixed-term deposit.
GDN: Global depositary notes.
GDP: Gross domestic product.
IMF: International Monetary Fund.
IPSA: *Índice de Precios Selectivo de Acciones* (Selective Stock Price Index).
MPR: Monetary Policy Report.
MSCI: Morgan Stanley Capital International.
NIIP: Net international investment position.
OECD: Organization for Economic Cooperation and Development.
PF: Pension funds.
PP: Percentage points.
PRF: Pension Reserve Fund.
QE: Quantitative easing.
RSTED: Residual short-term external debt.
SBIF: *Superintendencia de Bancos e Instituciones Financieras* (Superintendence of Banks and Financial Institutions).

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

SMEs: Small and medium-sized enterprises.

SOE: Small open economies.

SP: *Superintendencia de Pensiones* (Superintendence of Pensions).

SuSeSo: *Superintendencia de Seguridad Social* (Superintendence of Social Security).

SVS: *Superintendencia de Valores y Seguros* (Superintendence of Securities and Insurance).

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

USA: United States of America.

USD: United States dollar

VIX: Volatility Index.

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