FINANCIAL STABILITY REPORT

First Half 2012

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CONTENTS*/

*/ The statistical closing date of this *Financial Stability Report* was 22 May 2012.

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 payments system, with the objective of promoting general knowledge and public debate with regard to the Bank's performance in fulfilling this function.

The Board

SUMMARY

The euro area's macro-financial vulnerability is still latent, being this the main external risk to the Chilean financial system. Over the last weeks, the global scenario has been characterized by increased financial stress and risk aversion. Such stress is associated with the intensification of the financial crisis in the euro area, which growingly affects systemically important economies. Most recently, the government of Spain requested the support of the EU to capitalize its banking industry.

The baseline scenario depicted in this *Report* expects low global growth and new episodes of volatility. These episodes could involve widespread drops in the prices of assets perceived as risky, followed by measures taken by euro area governments to moderate such volatility. As in recent months, these events may be triggered by negative news affecting the fiscal solvency, economic growth and the soundness of euro area banks.

The risk scenario in this *Report* assumes that the European crisis will deepen. The available information suggests that a worsening of the crisis is more likely now than it was at the time of the last *Report*. The economic slowdown and the increase in risk aversion that would occur in this scenario could be significant, especially if macro-financial tensions intensify in Spain or Italy. This, because of their size, the limited capacity of the other advanced economies to implement counter-cyclical fiscal and monetary policies, and the reduced ability of a number of governments to support their financial intermediaries.

How this scenario is going to affect external demand and foreign credit conditions for Chile will depend on the degree of contagion from the euro area to the global economy, especially Asian countries. In such scenario, a sharper than expected economic deceleration in China would be particularly complex.

Most recently, the conditions of external lending to Chile have somewhat tightened. The fall of sovereign and corporate spreads of the first quarter of 2012 reversed in March. Meanwhile, the average cost of banking loans for operations at three and thirteen months have remained close to their figures on the second half of 2011, with a minor fraction coming from peripheral Europe. It is worth mentioning, however, that the flow of credits into the Chilean economy has been fairly stable.

The aggregate liquidity and solvency of the Chilean economy is stable. The stability of the liquidity position is related to the high fraction of gross capital inflows being accounted for by foreign direct investment, investment in variable income and investment in long-term fixed income.

Although domestic financial markets have operated as usual, asset prices have been affected by increased external volatility. Prime-swap spreads at different maturities have shown the same volatility as in the previous *Report*. The higher external volatility has also affected stock prices, the exchange rate and the local corporate bonds market. The link between the return on domestic assets and external conditions—as measured by the *VIX*— is now higher than it was in early 2011. Given current external conditions, new episodes of domestic price volatility are likely to occur, and this should be acknowledged by financial agents. In this context, it is important to progress in initiatives that strengthen the regulatory and supervisory framework, as the legal bills under study that will govern insurance companies.

Total corporate indebtedness grows in tandem with economic activity. Total corporate debt increased 9.7% in the first quarter of 2012, in a context where the Chilean economy has been strong. Domestic commercial loans were the most dynamic component of such debt. External borrowing has been redirected towards longer-term sources—FDI-related credit and bonds. Meanwhile, and considering the aggregate of companies reporting to the SVS, there appears to be no significant change in the distribution of liquidity, repayment capacity, currency mismatches or profitability.

The construction and real-estate sectors have shown a strong dynamism lately. Activity in the real estate market has been strong, both in housing and commercial sectors. While the vacancy rate in the commercial sector has remained low, the expected substantial expansion of supply, especially in top-quality offices, and its inertia imply that this factor must be monitored closely, given the risk scenarios facing economic activity. The evaluation of new projects should take this element into consideration.

Aggregate housing prices move in tandem with the economy's level of interest rates and income. At some districts in the central and eastern area of the Santiago Metropolitan Region prices are outgrowing their historic trends, possibly due to constraints in the land available. It is important to keep in mind that the materialization of the risk scenario described in this *Report* could lead to a breakdown in current price trends. The potential implications of this are price adjustments influencing the profits of executed projects and, additionally, the collaterals backing mortgage loans.

In recent years, household debt has increased along with disposable income. This has translated into fairly stable aggregated debt indicators, whether comparing the debt level or financial burden with either disposable income or the wage bill. In the current scenario, however, it is necessary to continue to monitor household borrowing, because if it continues growing at the present rates, the debt and financial burden may rise substantially in case the risk scenario depicted in this *Report* materializes.

Regarding credit risk indicators, since mid 2011 there have been increases in banks' non-performing consumer loans and in delinquency rates of retailers. These increases have been limited. However, this increase combined with the sustained growth in credit card and car loans financing, should also be taken into account when evaluating the credit risk of households.

Average solvency and liquidity indicators for banks have been stable since our last *Report*. In a context of favorable returns, core capital has remained around 10% of risk-weighted assets, while regulatory capital is close to 14%. Meanwhile, since our last *Report* banks have increased their issuances of long-term debt, and some medium sized banks have pursued strategies to attract retail deposits. However, medium-sized banks, retail banks and investment banks are persistently dependent on institutional financing sources.

Since our last *Report*, consumer loans from banks have decelerated, especially in consumer divisions. This occurs within a context where some banks report a tightening of their lending standards due to higher risk perception and potential costs associated to regulatory amendments. Both these factors are consistent with the widening of consumer loans spreads of smaller amounts.

The banking system's access to foreign financing could be hindered by further deterioration of the global financial environment. In this context, this *Report* sees the greater diversification of the banks' financing sources from abroad and the hoarding of liquid assets in foreign currency as favorable developments. Notwithstanding, the reduction in credits from banks based in peripheral Europe has resulted in further concentration of the banks' financing counterparties.

Although the risk of parent banks' financial situation spreading to their subsidiaries in Chile must be considered, it is important to note that this risk is tempered by their low dependence on funds coming from the parent and low exposure via assets. Furthermore, in terms of their asset-liability structure, these banks are no different from others of similar size that are of Chilean ownership. Finally, it must be noted that Chile's banking legislation requires that subsidiaries have their capital fully established in the country to operate as an entity in the local market, and must fully comply with solvency, provision, market-risk and liquidity requirements as set forth in Chilean regulations. In addition, there are supervisory powers aimed to ensure a stand-alone administration of liquidity and solvency of these banks, regardless their ownership relationship with the parent bank.

The banking system maintains its capacity to absorb the occurrence of a severe macroeconomic risk scenario. Stress tests show that the banking industry's current capitalization levels allow it to cushion an episode characterized by a GDP slowdown, increased financing cost and an exchange rate depreciation associated with the materialization of the external risk scenario.

In summary, macro-financial developments in Europe are of particular concern. A worsening of the situation in the Eurozone, deteriorated external financial conditions and the resulting global slowdown would have a negative impact on the Chilean economy. Accordingly, it is particularly important to monitor those factors or elements that might erode the financial system's resilience to complex external shocks.

The analysis contained in this *Report* indicates that the Chilean financial system has seen no material increase in its systemic vulnerabilities. Nonetheless, some changes have been identified which, if persisting or increasing, might become sources of risk in the near future and therefore must be monitored. Finally, it must be noted that, for the resilience of the Chilean financial system to be preserved over time, it is important that credit users and financial intermediaries internalize the risks described in this *Report* when making their consumption, investment and financial decisions.

I. EXTERNAL ENVIRONMENT AND FINANCIAL RISKS

The latent macrofinancial vulnerability of Europe constitutes the main risk factor at the international level.

EVOLUTION OF THE INTERNATIONAL FINANCIAL SITUATION

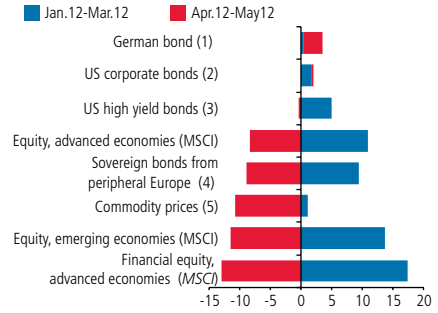
The ECB implemented measures to provide liquidity and strengthen support mechanisms in the euro area

In December and February, the European Central Bank (ECB) implemented the three-year longer-term refinancing operations (LTRO) to provide over €1.06 trillion (gross) in liquidity to the euro area banking system. At the same time, the European Stability Mechanism was accelerated, and the resources allocated to the European Financial Stability Facility were increased by €500 billion. These measures, together with other events such as the restructuring of Greek debt, supported a price recovery and reduced the volatility of the main international financial assets in the first quarter of 2012 (figure I.1).

However, there is still a complex interaction between macroeconomic fragility, the banking system and fiscal sustainability…

In the second quarter of 2012, most financial asset prices adjusted sharply, consistent with the economic deterioration of some peripheral countries of the euro area (figure I.1). In this region, growth expectations for 2012 have fallen since the last *Report*, especially for Italy and Spain[1]/. The public debt continued to grow in the majority of these countries (figure I.2). Moreover, Spain did not meet its fiscal commitments for 2011, and the European Commission raised doubts about the country's capacity to meet its fiscal targets in 2012[2]/. Finally, while the European banking systems improved their solvency indicators, in part due to the capital requirements imposed by European Banking Authority (EBA), they face important challenges associated with the deterioration of the quality of their assets and the higher funding costs stemming from sovereign stress and macroeconomic fragility (box I.1).

FIGURE I.1
Financial asset prices
(percent)



(1) Seven-year duration.
(2) The iShares investment-grade corporate bond index.
(3) Active high-yield US corporate bond total return index.
(4) Average 7- to 10-year sovereign bond.
(5) Jefferies CRB Index.
Source: Central Bank of Chile, based on data from Bloomberg.

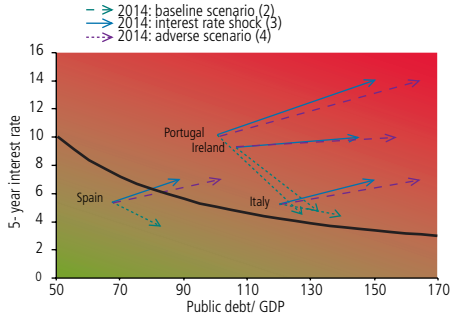
FIGURE I.2
Change in the public debt in Europe
(percentage points over GDP)

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

[1]/ The 2012 growth projections for these countries fell from positive rates in September 2011 to contractions of 1.5 and 1.6%, respectively (Consensus Forecast, April 2012).

[2]/ In its report on 14 May, the European Commission projected that Spain would not meet the fiscal deficit target of 5.3% of GDP agreed for 2012, estimating a deficit of 6.4%. In the case of Italy, the deficit should reach 2.3% of GDP, which is in line with the 2.4% target.

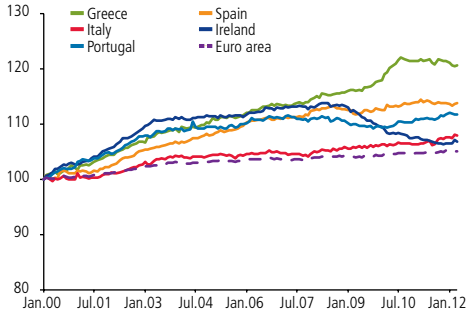
FIGURE I.3
Sovereign debt forecasts: 2011-2014 (1)
(percent)



(1) The red area denotes interest rate and debt combinations that may not converge in the long run. The black line indicates the interest rate and debt combination that corresponds to interest expense of 5% of GDP.
(2) Average interest rate in 2011, with the primary deficit and growth forecasts from the IMF.
(3) Assumes the maximum interest rate in 2011.
(4) Similar to (3), but assumes a primary deficit that is 3 percentage points higher than the forecast and a 3% drop in GDP in 2012 and 2013.

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

FIGURE I.4
Inflation differential (*)
(baseline index Jan.00 = 100)



(*) Ratio between the CPI of each economy versus Germany. Seasonally adjusted data.

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

…and the fiscal situation remains vulnerable to changes in financing conditions in some countries

Over the next few years, the fiscal situation of the European peripheral countries will be very sensitive to both the cost of financing and economic growth. The funding cost sensitivity is related to the high financing needs of some countries, which implies that increases in marginal funding will have a substantial impact on average costs. For Spain and Italy, financing needs in 2012 are estimated at 18 and 17% of GDP, respectively. In a baseline scenario taking the average financing costs from 2011 and expected growth for 2012–14 (IMF, 2012a), sovereign debt will increase in all these countries through 2014. Given these debt levels, marginal rate increases could raise the financial burden to levels that are difficult to absorb (figure I.3)[3]/.

These fiscal challenges are occurring against a complex macroeconomic background

Given the evolution of domestic demand and the existing limitations on fiscal policy, the economic reactivation of the peripheral countries in Europe requires an adjustment in their real exchange rate. The common currency, however, prevents making this adjustment through a nominal devaluation, which will thus require an adjustment in domestic wages and prices. The complexity of achieving this domestic devaluation is evident in the fact that the European peripheral countries have had higher inflation rates than the rest of the region in the past few years (figure I.4). The limitation facing these economies in terms of adjusting their real exchange rate makes the interaction between economic growth, sovereign risk and the banking system even more complex. Finally, while several countries have implemented structural reforms that should increase productivity and facilitate the price and wage adjustment, the effects of these changes could take some time to materialize.

Spain, in particular, has seen an increase in macrofinancial vulnerability since the last *Report*

The continuation of financial and fiscal stress in Spain has translated into increasing uncertainty about the economy's expected growth (figure I.5). Corporate bond spreads remain relatively high, which creates an additional link between the fiscal situation and economic activity. Banking sector activity has systematically contracted, with deterioration in asset quality (mainly mortgages and loans to real estate developers). On the statistical closing date of this *Report*, nonperforming loans were 8.4% (versus an average of 2.2% in 2000–07), mainly due to the unwaveringly high unemployment level and the real estate market adjustment.

[3]/ The debt forecast for Greece is especially complex, given the uncertainty and scope of the fiscal adjustments and expected growth; therefore, it was explicitly excluded in figure I.3.

In the most recent period, these factors were reflected in a new Royal Decree, which increased the provisions of the real estate loan portfolio, and in the financial problems facing BFA-Bankia. In addition, on 9 June 2012, the Spanish government requested as much as €100 billion in aid from the EU to capitalize its banking industry.

The macrofinancial vulnerabilities of the periphery are increasingly affecting other European economies

The prolongation of stress in Europe, the rising risk premiums of Spain and Italy and, in general, the great complexity of the aid agreements reached within the euro area are directly and indirectly affecting the other economies in the region. This is reflected in increased comovement of the sovereign spreads of these countries (figure I.6). These factors are reinforced by a weaker growth scenario, in general, and the need to recapitalize the banks to meet the requirements established by the EBA, which should translate into greater deleveraging of the banking system. In line with these trends, the IMF (2012b) estimates that the supply of bank credit will contract 1.7% in the euro area by the end of 2013, compared to the third quarter of 2011.

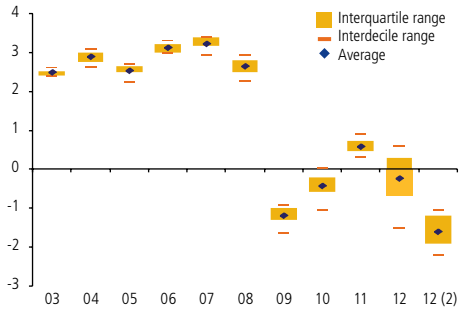
The United States has recorded relatively stable output levels, although the evolution of its fiscal policy remains uncertain

Since the last *Report*, the economic performance of the United States has been characterized by a higher growth forecast for this year (2.1%). In the fiscal area, the deficit is expected to be reduced by 1.5 percentage point of GDP in 2012 and another 1.5 percentage point in 2013 (IMF, 2012c). Uncertainty remains, however, about whether Congress will reach a consensus on the fiscal spending cuts and some pending tax adjustments. The implementation of these adjustments, according to the Congressional Budget Office (2012), would imply, at the margin, a contraction of economic activity of 1.3% in the first half of 2013. If the adjustments are not implemented, the federal debt ceiling established last year (US$16.4 trillion) would be hit again in the fourth quarter of 2012.

The growth of China has tended to ease, while some financial risks continue

China is projected to grow 8.2% in 2012, which is lower than past figures (9.5% in 2011 and an average of 10.3% from 2000 to 2010). This growth rate is consistent with the measures implemented to contain the growth of domestic credit, which contracted from 16.7 to 15.0% of GDP between 2010 and 2011[4]/. Thus, the credit trend should help mitigate some of the macrofinancial risks described for this economy in the last *Report*. However, there is little data available on China's financial vulnerabilities, which are related to the quality of real estate assets on the banks' balance sheets, the growth of loans to local governments and the expansion and scope of the informal financial system.

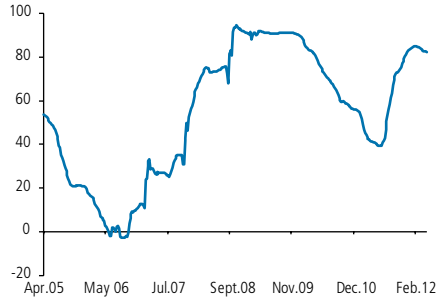
FIGURE I.5
Growth forecasts for Spain (1)
(percent of GDP)



(1) Growth expectations for each year, reported in December of the previous year.
(2) Growth expectations for 2012, reported in April of this year.

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

FIGURE I.6
Comovement of sovereign spreads in Europe (*)
(percent)

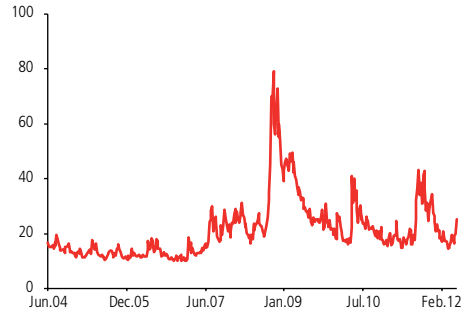


(*) Simple average of N·(N-1)/2 correlations between N countries, in a two-year rolling window. The countries included are: Austria, Belgium, Czech Republic, Cyprus, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Turkey and United Kingdom.

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

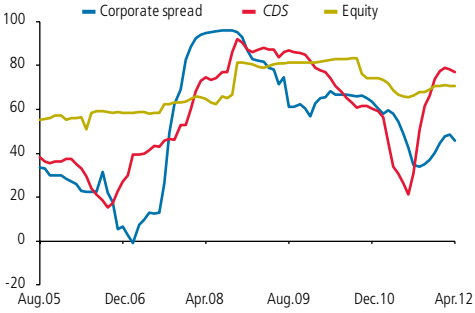
[4]/ The main measures implemented were as follows: (i) increases in the requirements on down payments for second homes; (ii) higher credit restrictions; (iii) the performance of stress tests on banks, with an emphasis on mortgage loans; and (iv) a prohibition on the provision of bank loans to local governments, except for the development of social housing.

FIGURE I.7
Risk aversion
(index)



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

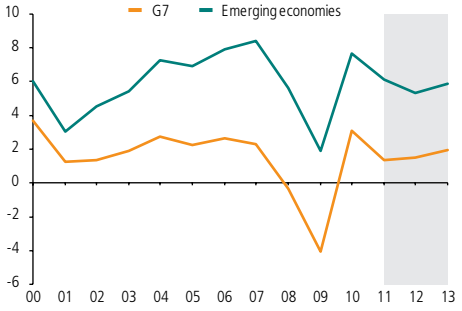
FIGURE I.8
Comovement of international assets (*)
(percent)



(*) Simple average of N-(N-1)/2 correlations between N countries in a two-year rolling window. The sample comprises 25 countries for the corporate spreads, 43 countries for the CDSs, and 36 countries for the equity.

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

FIGURE I.9
GDP growth (*)
(real annual change, percent)



(*) The gray area shows annual forecasts through 2013.
Sources: IMF and Consensus Forecast.

The vulnerabilities and risks described above have unfolded in a context of more volatile financial markets at the global level

In recent years, the risk aversion of investors, measured through the VIX index, has fluctuated significantly and frequently (figure I.7), and it has been combined with a high degree of comovement in the prices of some financial assets, especially in 2008 and 2009 (figure I.8). This is a particularly important factor in terms of the uncertainty about the evolution of risks in international markets. Consequently, the possibility of continued volatility in a broad set of assets cannot be discarded. This creates challenges for the management of internationally diversified portfolios and for external financing conditions, which could be strongly affected due to the more global nature of the shocks.

Finally, the external scenario also presents challenges for the emerging economies

First, the emerging economies are showing signs of slowing down: the average growth rate fell from 7.6% in 2010 to 6.1% in 2011, and the forecast for 2012 is an average growth rate of 5.3% (figure I.9). Second, private credit continues to grow at relatively high rates in some economies (IMF, 2012b). Finally, to the extent that the growth outlook for the more developed economies remains moderate and the risk aversion of foreign investors does not rise, the emerging economies could continue to receive dynamic capital inflows (figure I.10). Given the possible risks associated with capital inflows (see the last *Report*), it is necessary to carry out an ongoing analysis of the specific factors affecting each economy, which could favor the development of macrofinancial vulnerabilities in this area.

MAIN EXTERNAL THREATS TO THE FINANCIAL STABILITY OF THE CHILEAN ECONOMY

The baseline external scenario is similar to the last *Report*, characterized by a low global growth and substantial uncertainty about the evolution of the euro area. Under this scenario, new episodes of volatility are expected, with a decline in the value of financial assets in the peripheral economies and in the prices of assets perceived as risky at the global level. It is also possible that the European banking system will continue its deleveraging process, with reductions in assets within and outside the region.

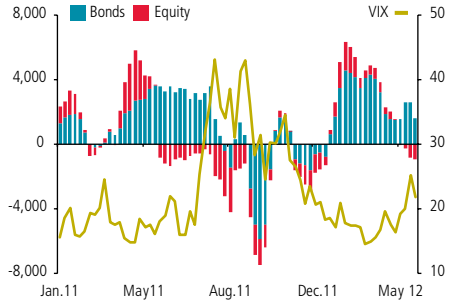
These periods of volatility could be triggered by negative news in any of the three areas described above—namely, the fiscal solvency, economic growth or the soundness of the banking sector. The events of the past weeks can be explained in this context. If the problems in the euro area worsen, it will probably be accompanied by new mechanisms and/or aid programs aimed at mitigating the potential consequences.

The main risk scenario is a deepening of the crisis in Europe. Based on the information discussed in this chapter, the probability of this occurring is estimated to have increased since the last *Report*. Under this scenario a significant economic slowdown and higher risk aversion could be generated, especially if the macrofinancial vulnerabilities of Spain and Italy increase. This because the size of these economies, the limited capacity of the other advanced economies to implement countercyclical fiscal and monetary policies, and the reduced ability of a number of governments to support their financial intermediaries.

In this risk scenario, it is very likely that external financial conditions will tighten for Chilean economic agents, that portfolio capital inflows will slacken and that the value of private financial assets in Chile will drop. The impact of this risk scenario on Chile's external demand will depend on the contagion of the events in the euro area to the global economy, especially to the Asian economies. In this scenario, one particularly difficult outcome would be a bigger economic slowdown than expected in China, mainly because of the similarity of Chile's export baskets to Europe and China.

While the emerging economies continue to be more dynamic than the advanced economies, their evolution needs to be monitored. Factors such as large capital inflows, credit growth and lower growth prospects could potentially generate macrofinancial vulnerabilities. The channels of contagion from these events to the Chilean economy are similar to those in a scenario of deterioration in the euro area.

FIGURE I.10
Capital flows to emerging economies and global instability (*)
(US$ billion, index)



(*) Sample of investments fund portfolio flows to Africa, Asia (excluding Japan), Emerging Europe, Latin America, Middle East and global investments in emerging economies.

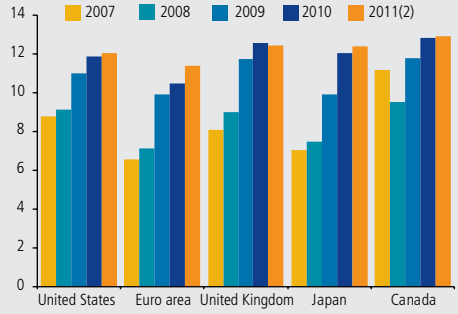
Sources: Bloomberg and Emerging Portfolio Fund Research.

BOX I.1: THE EUROPEAN BANKING SYSTEM

Since the beginning of the subprime crisis, the European banking industry has been affected by fiscal problems and low economic growth in the euro area. While in some respects the financial situation of the banking sector is better than before the crisis, other areas require improvements that will allow the sector to withstand the impact of a worsening of the macroeconomic situation and a bigger decline in market confidence.

In terms of solvency, bank indicators increased between 2007 and 2011. This was partly due to the capital requirements established by the European Banking Authority (EBA) in late 2011, as well as different measures implemented by the banking supervisors in the respective economies. Thus, the average capital adequacy ratio of the euro area increased from 6.6 to 11.4% between 2007 and 2011, in a relatively faster process than was seen in other developed economies (figure I.11).

FIGURE I.11
Capitalization of the banking system (1)
(percent of risk-weighted assets)

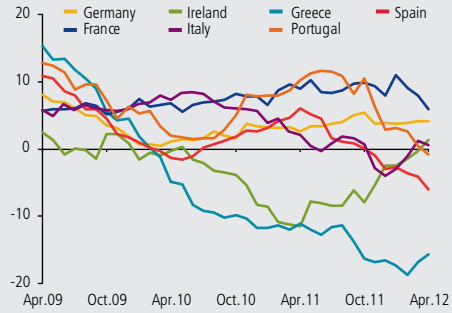


1) Includes the biggest banks in each economy: 19 in the United States, 52 in the euro area, 5 in the United Kingdom, 3 in Japan and 6 in Canada.
(2) Data through September 2011 were used for institutions that did not have data available for the full year.

Source: Reserve Bank of Australia (2012).

However, the low level of economic activity and the prevailing uncertainty in the European peripheral economies have induced a steady deterioration in banking sector activity. Total bank loans contracted 0.3%, on average, in the first four months of this year, with larger contractions recorded in Portugal (–1.4%), Spain (–1.02%) and Italy (-0.3%). The pressures on banking activity in these economies could continue in view of the evolution of bank deposits (figure I.12)[5/].

FIGURE I.12
Banking system deposits in the euro area (*)
(annual change, percent)



(*) Excluding financial institutions and government deposits.

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

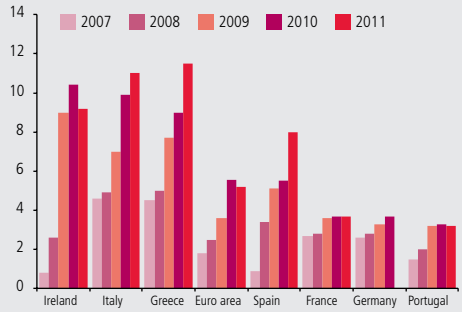
The quality of bank assets has also declined. On average, the region's delinquent assets reached 5.2% in December 2011, which was strongly influenced by Italy (11%) and Spain (8.5%). In 2009 the Irish banking sector saw a drastic increase in nonperforming loans (9%), which led to the rescue of the banking system in late 2010 (figure I.13).

The cost of bank financing improved in early 2012, but it then soared to historical peaks over the course of the second quarter. In this period, the average bank CDS in the euro area increased 60 basis points, with the biggest hikes recorded in Italy (100 basis

[5/] The biggest reductions are associated with wholesale deposits.

points) and Spain (85 basis points). As explained in chapter I, the higher bank funding costs coincided with increased tension at the sovereign level, which illustrates the feedback between the fiscal solvency, the macroeconomic environment and the banking system.

FIGURE I.13
Nonperforming loans in the euro area
(percent of loans)

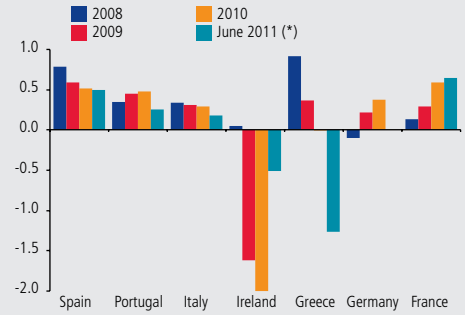


Sources: IMF and World Bank.

Consequently, bank earnings have fallen in the European peripheral economies. In Portugal, Greece and Ireland, this drop is consistent with their weak financial situation and the recent intervention processes. Spain's numbers are still positive, thanks to its international banking activity (figure I.14).

In conclusion, the European banking situation is complex, which is reflected, in part, in a marked and systematic deterioration in risk ratings (figure I.15). The situation described here presents a certain degree of heterogeneity, and the challenges and risks are greatest in Spain and Italy. These trends are relevant for the region's entire banking system, however, given the high degree of financial interrelation and intraregional trade within the European Union.

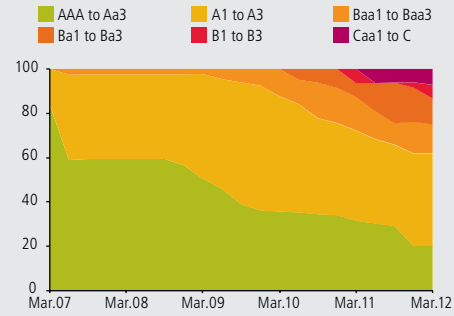
FIGURE I.14
European banking system profits
(percent of assets)



(*) Annualized data.

Source: IMF.

FIGURE I.15
Risk rating of the European banking system (*)
(percent)



(*) Includes the rated European banks that were included in the stress tests carried out by the EBA in June 2011.

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

II. EXTERNAL FINANCING

In the most recent period, conditions have tightened for some of the Chilean economy's external financing sources, but the aggregate external liquidity and solvency position of the economy remains stable.

CAPITAL FLOWS

Net capital inflows have been stable, although there was a reduction in the most recent period…

In 2011, net capital inflows were 8.3% of GDP in annual terms. The counterpart of these flows was an increase in reserve assets of 5.7% of GDP associated with the program implemented in early 2011 (US$12.00 billion), a current account deficit of 1.3% of GDP (US$3.22 billion) and a reduction of 1.3% of GDP in the other components of the balance of payments[1]/. In the first quarter of 2012, however, net capital inflows fell to 6.7% of GDP in annual terms (almost US$16.85 billion), and the current account deficit increased to 1.7% of GDP (figure II.1).

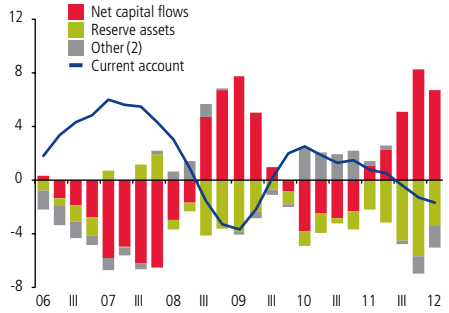
…and gross capital inflows remain high and above the levels recorded in other emerging economies…

Gross capital inflows were stable in the first quarter of 2012, with an annualized accumulation of 12.3% of GDP (figure II.2). This inflow is relatively high compared with other emerging economies, which recorded average gross inflows of 5% of GDP as of late 2011[2]/. In terms of composition, and consistent with the evolution of commodity prices, a significant share of these inflows to Chile is associated with foreign direct investment (FDI)—around 7% of GDP in annual terms—and mostly corresponds to the reinvestment of earnings in the mining sector.

…while equity investments were the most dynamic component of gross portfolio inflows

The composition of portfolio flows has been changing since early 2011, with equity inflows growing from 11 to 55% of total portfolio inflows in the first quarter of 2012. Most of the inflows to local stocks are associated with private

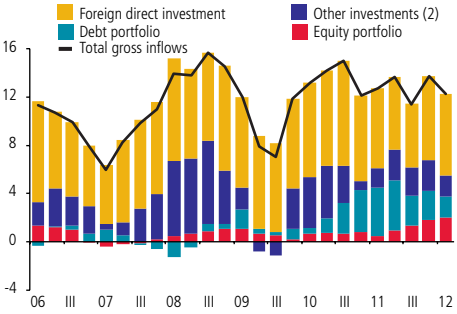
FIGURE II.1
Net capital flows (1)
(percent of GDP)



(1) Accrued annual flow.
(2) Includes capital account, derivatives and errors and omissions.

Source: Central Bank of Chile.

FIGURE II.2
Gross capital inflows to Chile (1)
(percent of GDP)



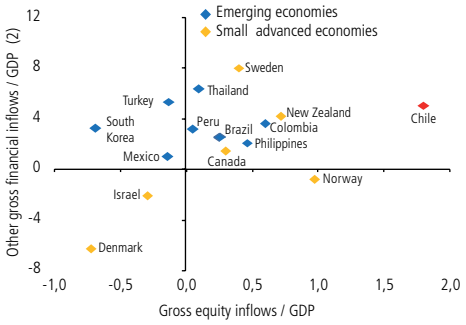
(1) Accrued annual flow.
(2) Includes loans, commercial loans, currencies and deposits.

Source: Central Bank of Chile.

[1]/ The other components of the balance of payments are the capital account, derivative instruments, and errors and omissions.

[2]/ The emerging economies included in this calculation are Brazil, Colombia, South Korea, Mexico, Peru, the Philippines and Thailand. IMF data.

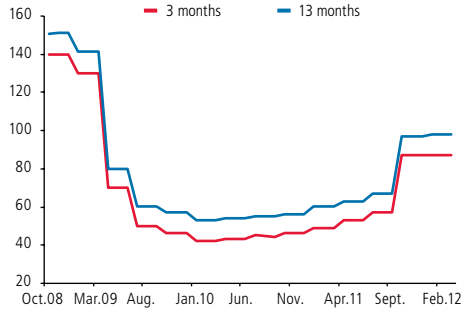
FIGURE II.3
Gross portfolio inflows (1)
(percent of GDP)



(1) Accrued inflows in 2011, except for New Zealand and Norway (accrued through second quarter of 2011) and Peru and Thailand (through the third quarter of 2011).
(2) Includes debt portfolio investments, loans, commercial loans, currencies and deposits.

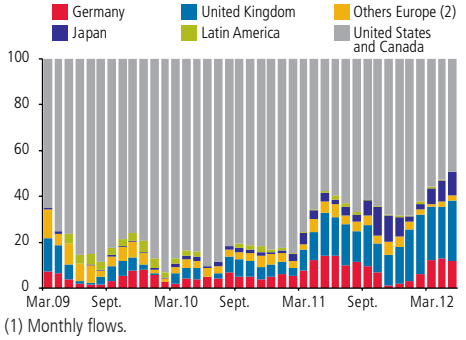
Sources: Central Bank of Chile and IMF.

FIGURE II.4
Short-term external bank funding spread
(basis points)



Source: Central Bank of Chile.

FIGURE II.5
Composition of external bank loans (1)
(percent of total)



(1) Monthly flows.
(2) Includes Spain, France, Italy, Netherlands, Norway, Switzerland, Sweden and Portugal.

Source: Central Bank of Chile.

nonbank investment funds (55%). In particular, the share of investments through exchange traded funds increased from 16% in late 2011 to 23% in the first quarter of 2012. In contrast, the share of external sovereign funds fell from 16 to 5% in the same period.

In comparison with other emerging economies and smaller advanced economies, the equity flows into Chile have been relatively high, while the gross inflow of other financial investments (bonds and loans) has recorded similar levels (figure II.3). From a liquidity perspective, the participation of nonresidents in the equity market represents a less risky source of financing than alternatives such as short-term debt.

Short-term external bank financing conditions were somewhat tighter than in the first half of 2011…

Since the last *Report*, short-term external bank funding spreads were stable. The average spread on three-month and thirteen-month loans was 87 and 98 basis points, respectively (figure II.4)[3]/. In the first quarter of 2012, the composition of bank credit tended to be concentrated at the lower end in terms of both maturity and average amount.

In terms of flows, German institutions have increased their share of loans to the Chilean banking sector, accounting for 12% at the closing date of this *Report*. Loans from the rest of Europe have continued to contract, to just 2.3% of total flows (figure II.5). These changes have not implied a substantial variation in the number of creditor banks since 2010, although there is a greater concentration by creditor relative to 2011 (chapter V).

…and financing conditions in the long-term markets have also tightened in recent months

The sovereign spread (EMBI) and corporate spread (CEMBI) fell 24 and 75 basis points in the first quarter of 2012, to then rise 30 and 68 basis points by the statistical closing date of this *Report*, a trend also seen in other economies (figure II.6). These fluctuations contrast with steadier increases in the spread on external bank loans to Chilean firms, which have generally been higher since the closing date of the last *Report*.

In this context, total bond issues abroad increased relative to the levels reported in the last *Report* (figure II.7). Bank bonds grew to 1.0% of quarterly GDP in March 2012, while corporate bonds reached 0.7% of quarterly GDP. The share of financing through bank loans correspondingly shrank.

[3]/ The values reported in figure II.4 are the spread between the average debtor and creditor bank on a typical operation, taking the average loan amount in the period from January 2011 to March 2012 and holding the maturity constant. The values used are derived from panel estimates (Calani and Díaz, 2012).

Finally, long-term external debt continued to represent one of the main sources of financing for large firms. In general, this debt is used to finance working capital (48% in December 2011), imports (14%), debt restructuring (10%) and project finance (8%). This composition has not changed substantially relative to 2010.

LIQUIDITY AND SOLVENCY

The economy's external liquidity has been stable

Residual short-term external debt (RSTED) grew 23% in annual terms in the first quarter of 2012, reaching US$41.29 billion. These short-term liabilities compare favorably with the economy's external liquid assets and, in particular, with unrestricted international reserves (figure II.8). Similarly, the ratio of residual short-term external financial debt to unrestricted international reserves is also favorable (table II.1). Finally, from an international perspective, the level of residual short-term external debt in Chile, as a percentage of international reserves, lies between emerging economies with a floating exchange rate and other small advanced economies (figure II.9).

The solvency position remains relatively stable

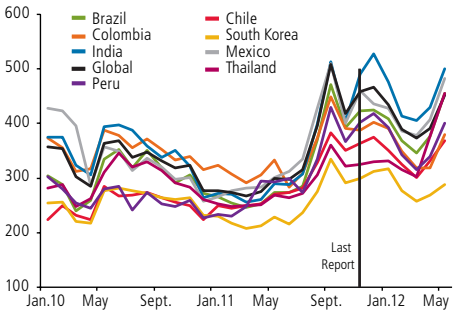
Since the last *Report*, the debit balance of the net international investment position (NIIP) expanded from 7.9 to 10.3% of GDP in the first quarter of 2012 (figure II.10). This was mainly due to the increase in the net debit position of firms, which reached US$120.90 billion, or 48% of GDP. The solvency indicator based on external debt as a share of GDP was also stable in recent quarters (39.8%), while external debt as a share of exports was 106% in the first quarter of 2012, five percentage points higher than the last *Report* (table II.1).

The Central Government maintains its net credit position, thus contributing to the aggregate solvency of the economy

The 2011 fiscal performance resulted in a somewhat higher surplus than projected by the government toward the end of the year. Specifically, the Central Government accrued a surplus of 1.4% of GDP in 2011, which was above the surplus balance projected by the Ministry of Finance in late 2011[4]/. The structural balance projected for the same year was –1.6% of GDP. For 2012 the budget establishes a structural balance target of –1.5% of GDP, and this is not expected to be significantly affected by the tax reform under discussion in Congress. The financial assets of the Central Government were 19.9% of GDP at year-end 2011, and net financial assets increased to 8.7% of GDP.

[4]/ In October 2011 the published deficit was 1.2% of GDP (Budget Office, 2011).

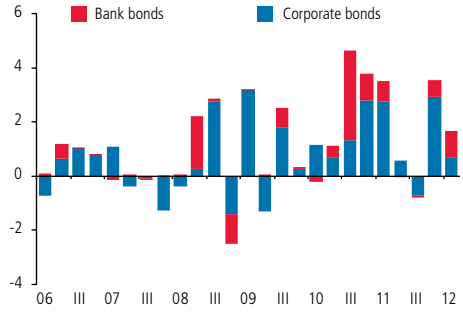
FIGURE II.6
Private bond spreads (*)
(basis points)



(*) CEMBI values at the end of each month. Includes bonds issued by corporations and banks.

Source: Bloomberg.

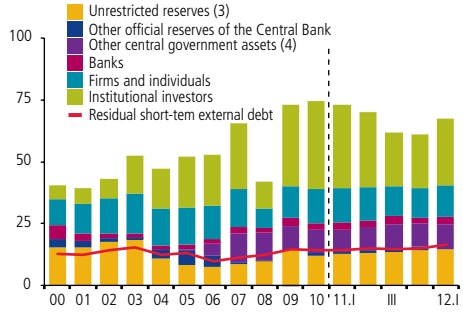
FIGURE II.7
Private external financing via bonds (*)
(percent of GDP)



(*) Quarterly flows.

Source: Central Bank of Chile.

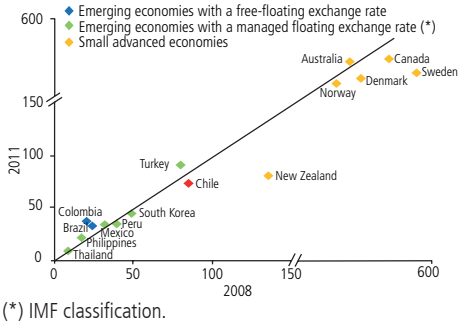
FIGURE II.8
Availability of external financial liquidity for Chile (1)
(percent of GDP) (2)



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

Source: Central Bank of Chile.

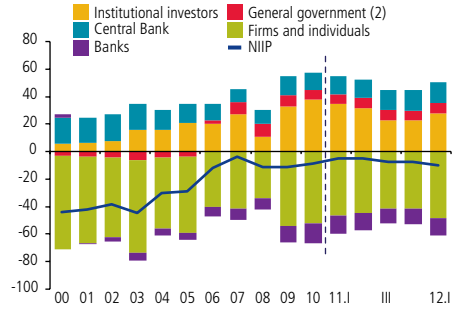
FIGURE II.9
Residual short-term external debt
(percent of international reserves)



(*) IMF classification.

Sources: Central Bank of Chile and IMF.

FIGURE II.10
Net international investment position of Chile
(percent of GDP) (1)



(1) GDP at constant real exchange rate (baseline index Mar.12 = 100).
(2) Central government and municipalities.

Source: Central Bank of Chile.

TABLE II.1
Gross external debt, solvency indicators and external liquidity
(US$ billion, percent, years)

	2008 IV	2009 IV	2010 IV	2011 I	2011 II	2011 III	2011 IV	2012 I
				(US$ billion)				
Total external debt	64	72	84	89	93	95	99	100
PEFD (1)	44	53	59	63	66	66	69	70
RESTD	28	26	30	33	37	38	40	41
Composition of PEFD				(percent of total)				
Banks	29	30	31	32	33	32	31	31
Firms and individuals	71	70	69	68	67	68	69	69
Average maturity of total debt				(years)				
Banks	2.4	2.1	2.3	2.2	2.3	2.2	2.2	n.d.
Firms and individuals	6.0	6.5	6.3	6.4	6.4	6.3	6.5	n.d.
Solvency				(percent)				
External debt / GDP (2)	34.9	41.3	38.8	38.7	38.6	37.9	39.7	39.8
External debt / exports	85	112	103	102	101	101	105	106
Liquidity								
Financial RSTED / UIR (3) (4)	86	73	82	81	76	71	73	76

n.a.: Not available.
(1) PEFD: Private external financial debt, excluding government debt and commercial loans.
(2) Twelve-month GDP in current dollars.
(3) Financial RSTED: Residual short-term external financial debt, excluding commercial loans and inter-firms loans for foreign direct investment.
(4) UIR: Unrestricted international reserves. Does not include short-term foreign currency liabilities (maturing BCX, BCD, swaps), Treasury deposits with the Central Bank and other items.

Source: Central Bank of Chile.

III. LOCAL FINANCIAL MARKETS

The local financial markets are functioning normally, although asset prices have been affected by the increased external volatility.

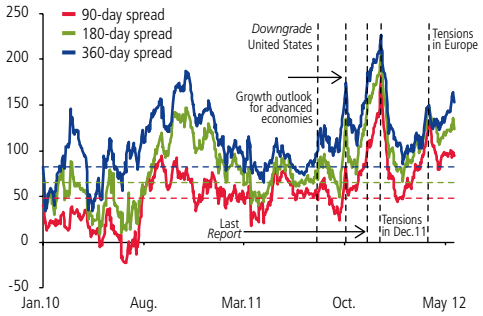
The peso money market is operating normally, with episodes of higher volatility due to both internal and external factors…

Prime-swap spreads have followed the same trend observed since the subprime crisis, characterized by episodes of greater volatility and fluctuations around a higher trend level than in the precrisis period, as in other economies (figures III.1 and III.2). This spread increased sharply in December 2011, due to domestic factors (year-end liquidity management) combined with tighter external financing conditions. At that time, the Central Bank implemented a program of floating-rate 91-day repos to bring deposit rates in line with the monetary policy rate; this produced a rapid reversal of the spreads in the days following the announcement. Other episodes of volatility have generally coincided with increased tension in the euro area (chapter I).

…and time deposit holdings by institutional investors have fluctuated substantially

Investments in time deposits by the institutional investors have been more volatile than in previous periods (figure III.3). In the case of money market mutual funds, this behavior is tied to the portfolio revaluation last December and March. With the pension funds, their behavior is linked to the external scenario and the substantial variation in the tension in the euro area (chapter I). In particular, since the subprime crisis, the pension funds have tended to reduce their overseas investments in response to deteriorations in the external scenario and increase them during periods of lower financial stress, thereby mitigating money market fluctuations through these portfolio changes[1]/.

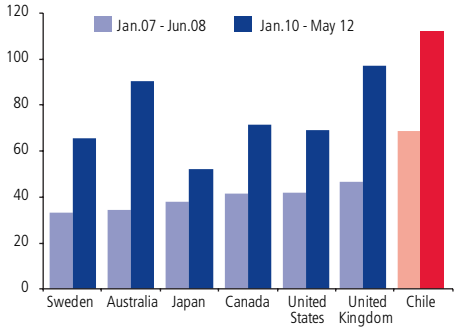
FIGURE III.1
Peso money market (*)
(basis points)



(*) Average interbank prime-swap spread. The horizontal dotted lines mark the average for each series in 2005–2012.

Source: Central Bank of Chile.

FIGURE III.2
International money markets (*)
(basis points)

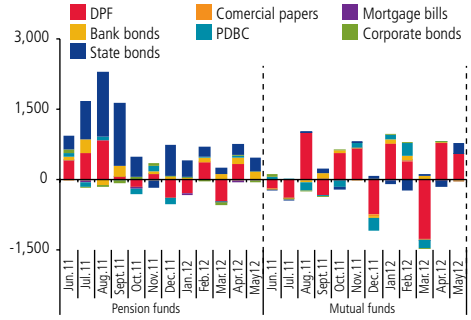


(*) The bar reflects the differential average between the 90-day LIBOR and a daily interest rate swap for each country, except for Chile where spread average interbank prime-swap spread is used.

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

1/ See box III.1 of the *Financial Stability Report* for the second half of 2010.

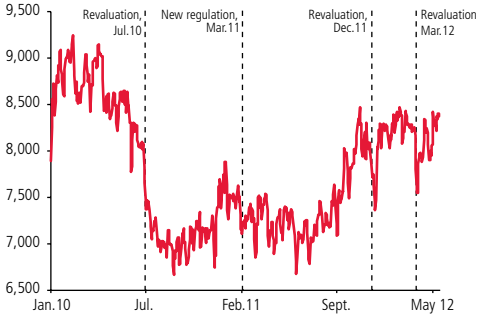
FIGURE III.3
Fixed-income portfolio management and financial intermediation (*)
(change in stock, Ch$ billion)



(*) Data through 18 May 2012.

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

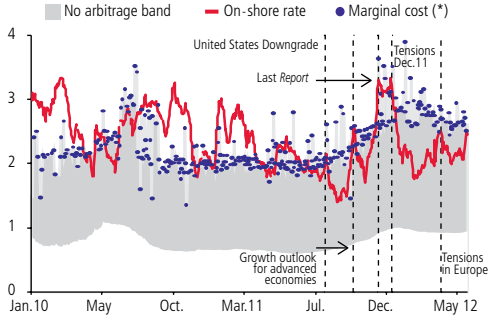
FIGURE III.4
Assets under administration: money markets mutual funds (*)
(Ch$ billion)



(*) Mutual funds invested in short-term debt instruments, with a maturity of 90 days or less.

Source: SVS.

FIGURE III.5
Dollar money market at one year
(percent)



(*) Maximum funding rate for local banks via foreign lines of credit.

Sources: Central Bank of Chile and Bloomberg.

The greater volatility in the money market could have triggered the revaluation of the short-term mutual funds

The increases in time deposit rates last December and March activated the portfolio revaluation mechanisms that were incorporated into the mutual fund regulations in early 2011. These revaluations had limited transitory effects on the assets under administration (figure III.4). Both times, money market mutual fund assets, which contain 95% bank time deposits, were reduced by around 9%, and the asset recovery period was approximately two weeks. However, in the March episode, the reduction in the assets under administration stemmed from both the impact of the revaluation and seasonal factors, which, according to market sources, were related to the distribution of dividends in the corporate sector.

The dollar money market also recorded transitory fluctuations

Since the last *Report*, the on-shore rate has stayed within the no-arbitrage band, so the supply and demand conditions specific to Chile are the main factors explaining its trend (figure III.5)[2]/. In particular, external agents have been more active in the foreign currency derivatives market, first reducing their long dollar positions by US$1.87 billion in January, then increasing them by US$2.20 billion in March and by another US$2.50 billion in May. This contrasts with the smaller movements of the pension funds.

Sovereign rates have fluctuated somewhat…

The yields on long-term sovereign bonds have behaved differently than other local financial markets: specifically, the yields have decreased in periods of financial stress, as the instruments acted as a safe haven asset (figure III.6). In line with the more uncertain external scenario, the pension funds continued to invest in state issued bonds, for a total of Ch$1.10 trillion in the first half of 2012 (figure III.3). This is less than the amount invested in the second half of 2011 (Ch$8.30 trillion), which was marked by events such as the downgrade of the U.S. credit rating, lower world growth forecasts and the deterioration of macrofinancial conditions in the euro area.

2/ The ceiling of the no-arbitrage band is defined by the marginal cost of bank foreign exchange operations.

…and corporate spreads have increased since the end of last year

At the local level, corporate spreads increased in late 2011, and the rise has been maintained through the statistical closing date of this *Report* (figure III.7). In the period after the subprime crisis, spread dynamics have been characterized by greater comovement between corporate spreads at the international level and, in Chile, by a heightened sensitivity to changes in global risk aversion, as measured with the VIX index. Given the current external conditions (chapter I), these factors present challenges for the management of portfolios that include this asset class, especially for the more exposed institutional investors such as the life insurance companies.

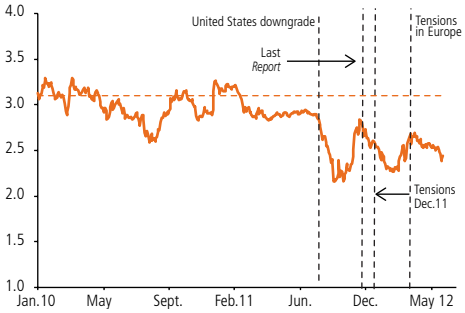
The corporate bond market was affected by the case of the retailer *La Polar* in mid-2011, as local corporate bond issues in the BBB rating category decreased. To date these issues have not recovered their previous levels, which at any rate were low by historical standards. Internal estimates suggest that the retailer's financial problems had a temporary impact on local BBB-rated corporate bond spreads.

In sum, the external frictions have had different effects in the financial markets

The volatility and sensitivity of the different financial assets to changes in external risk aversion vary considerably across markets. Stocks and the exchange rate are the most volatile and sensitive to the VIX (figure III.8). With the exception of the sovereign bond market, the returns on local assets have increasingly commoved with external conditions in most markets relative to the first half of 2011. This greater comovement is especially marked in the stock, foreign exchange and dollar money markets.

In sum, the local markets are functioning normally, with periods of temporary volatility reflecting mostly external financial conditions. Given the baseline and risk scenarios described in chapter I, new episodes of stress are likely to arise in the euro area and to be transmitted to local markets, which will have to be internalized by agents in the financial system. In this context, it is important to progress in initiatives that strengthen the regulatory and supervisory framework, as is the case of the current legal bills under study that will govern insurance companies.

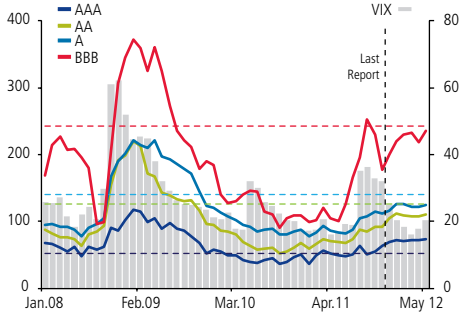
FIGURE III.6
Long-term sovereign rate: BCU-10 (*)
(percent)



(*) The horizontal dashed line marks the historical average for 2002–2012.

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

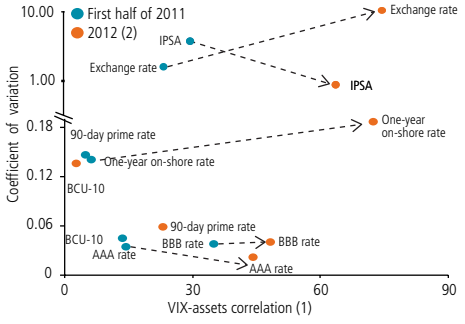
FIGURE III.7
Long-term bond spreads and risk aversion (*)
(basis points, index)



(*) Corporate and bank bonds with maturity longer than 9 years. The horizontal dashed lines mark the average of each spread in 2001–2007.

Sources: Central Bank of Chile and Bloomberg.

FIGURE III.8
Market volatility and sensitivity to the VIX
(percent, times)



(1) Expressed in absolute value.
(2) For the period between the closing dates of this and the last *Report*.

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

IV. CREDIT USERS

On aggregate, the financial indicators of firms and households have not changed significantly. However, the analysis identifies some issues in the real estate sector and in the household debt trend, which could become sources of risk if they continue or accelerate.

FIRMS

Corporate debt continues to grow at a stable rate, driven mainly by local bank loans

In the first quarter of 2012, the total debt of firms grew 9.7% in annual terms, which is slightly lower than the 2011 growth rate (table IV.1). This growth took place in the context of a positive business-cycle of the economy. Thus, the debt-to-GDP ratio was 93.4% in March 2012, which is somewhat higher than the levels recorded in the past few years (figure IV.1).

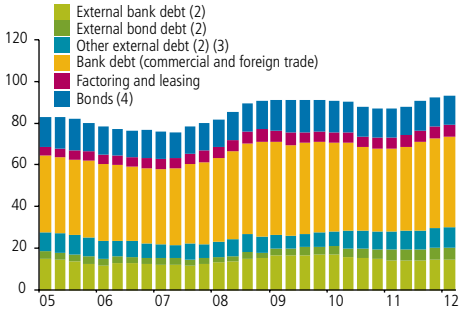
TABLE IV.1
Sources of financing for nonfinancial firms
(real annual change, percent)

Indicator	Ave. 2005-07	2008	2009	2010	2011				2012	Contri-bution to growth (1)	Share
		IV	IV	IV	I	II	III	IV	I		
Local debt	11.8	9.1	1.5	4.7	6.5	7.2	12.1	11.1	10.1	6.8	67.9
Bank loans and other loans	13.2	11.5	-2.3	5.2	7.5	8.4	14.2	12.9	12.3	6.4	52.8
Commercial loans	11.8	8.5	7.7	2.8	4.0	5.9	8.6	9.0	11.9	4.7	39.6
Foreign trade loans	16.1	35.3	-40.1	12.5	23.4	13.9	48.9	37.8	11.0	0.7	6.8
Factoring and leasing (2)	19.0	4.2	-11.1	15.9	17.9	20.6	18.9	15.8	16.4	1.0	6.4
Bonds (3)	7.4	0.7	15.8	3.1	3.4	3.4	5.6	5.2	2.9	0.5	15.1
External debt (4)	2.0	12.1	14.3	12.4	12.5	12.2	8.9	10.5	8.8	2.9	32.1
Bank loans	9.1	17.7	16.4	-2.4	-5.0	-0.2	-0.2	3.4	5.4	0.9	16.1
Commercial loans	6.4	-2.4	-21.3	26.7	31.8	31.6	27.7	11.1	6.0	0.3	4.8
Bonds	-8.5	-2.7	48.6	35.4	47.2	43.1	22.7	24.3	11.6	0.7	5.9
FDI-related loans	-23.1	34.5	35.2	47.9	37.4	10.6	9.1	20.1	20.0	1.0	5.3
Total	**8.8**	**9.9**	**5.1**	**7.1**	**8.4**	**8.8**	**11.1**	**10.9**	**9.7**	**9.7**	**100.0**

(1) Percentage points.
(2) Factoring includes banks and nonbank institutions.
(3) Corporate bonds (excluding *Codelco*), securitized bonds with nonbank underlying assets and commercial papers, at market value.
(4) Includes foreign direct investment loans. Converted to pesos using the average exchange rate for the period from Mar.02 to Mar.12.

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

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



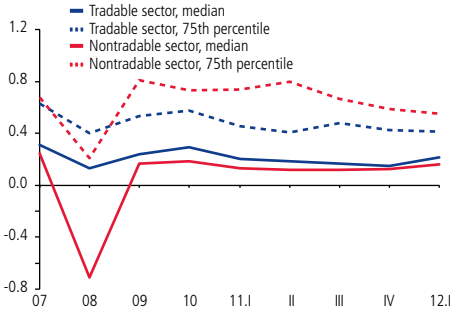
(1) GDP is for the moving year ending in each quarter.
(2) Converted to pesos using the average exchange rate for the period from Mar.02 to Mar.12.
(3) FDI-related loans and commercial loans.
(4) Corporate bonds (excluding *Codelco*), securitized bonds with nonbank underlying assets and commercial papers, at market value.

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

The increase on corporate debt was mainly explained by local debt, which grew 10.1%, and, to a lesser extent, by external debt, which increased 8.8%. In terms of the components of local debt, commercial loans made the largest contribution to the expansion of debt, growing 11.9% and accounting for 40% of the total debt increase. The component that contracted the most was foreign trade loans, which grew just 11% in the first quarter of 2012, down from a growth rate of nearly 40% in 2011.

External borrowing has been redirected towards longer-term financing sources, such as bonds and FDI-related loans, which could help offset the negative consequences of potential financing restrictions stemming from a deterioration of the international scenario. In the first quarter of 2012, these two components accounted for approximately 60% of the growth of external corporate debt, while external loans from unrelated companies represented 30% of the increase (chapter II).

FIGURE IV.2
Currency mismatch of SMEs (1) (2)
(times)



(1) Sample of firms that use foreign exchange derivatives and/or external debt.
(2) Foreign currency mismatch = (external debt – net derivatives position)/(exports - imports).

Source: Central Bank of Chile.

The corporate sector's financial indicators have not changed significantly

At year-end 2011, the corporate sector showed reductions in the indicators of liquidity and solvency (interest coverage) relative to 2010, but these indicators are still near their historical averages (table IV.2). Average earnings fell slightly between 2010 and 2011, from 17.0 to 15.8%, thus reversing the upward trend recorded since late 2008. It is still above its historical average, however (13.8%). Similarly, currency mismatch increased relative to the previous year, but remains around historical values.

At the same time, the values at the extremes of the distribution of these indicators did not deteriorate significantly (table IV.2). Although indebtedness increased in the higher-risk percentiles, earnings and liquidity remain above their historical averages. Furthermore, in the case of earnings, the drop reported in the last *Financial Stability Report* was reversed. With regard to the currency mismatch, the firms in the 75th percentile saw a reduction in this indicator.

The currency mismatch of smaller firms has been relatively stable

The currency mismatch of SMEs in the tradables and nontradables sectors did not change substantially in the first quarter of the year. The trend is similar for SMEs with a large mismatch (the 75th percentile) in both sectors (figure IV.2). This relative stability in the degree of hedging has been accompanied by a more generalized use of foreign currency derivatives. The use of forex derivatives increased from 15% in 2010 to 22% in 2011, with the increase recorded across all segments of export firms. For the smallest exporters, with exports of up to US$500,000, the share grew from 13 to 16%, while firms with exports between US$500,000 and US$1 million doubled their use, from 12 to 25%.

TABLE IV.2
Corporate sector financial indicators
(percent, times)

	Debt (1)	Earnings (2)	Liquidity (3)	Interest coverage (4)	Currency mismatch (5)
Average indicator					
09.IV	0.67	15.73	1.16	4.44	1.81
10.IV	0.66	16.99	1.13	4.31	0.92
11.IV	0.71	15.78	1.03	3.75	2.41
Promedio 02.IV-11.IV	0.66	13.77	1.09	3.62	1.77
Highest risk indicator (6)					
09.IV	0.95	1.66	0.74	0.40	3.40
10.IV	0.99	1.95	0.87	0.63	0.00
11.IV	1.16	4.18	0.79	0.75	0.02
Average 02.IV-11.IV	0.90	1.17	0.68	0.25	1.93

(1) Debt-equity ratio; times.
(2) Return on equity; percent.
(3) Acid test: current assets minus inventories over current liabilities; times.
(4) Operating flow over financial expense; 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 and currency mismatch.

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

Commercial nonperforming loans remain below its historical average

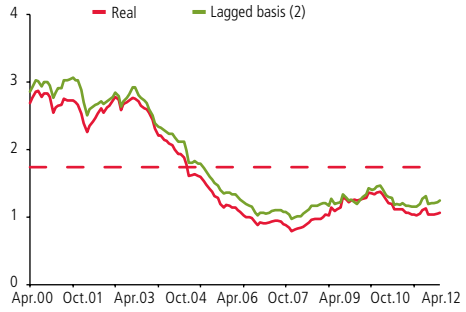
In the first quarter of the year, the nonperforming loan ratio (NPLR) on commercial loans stayed near 1% of the total commercial portfolio, which compares favorably with the historical average. The NPLR based on the lagged loan stock performed similarly to the real NPLR, so a deterioration in portfolio risk is not being hidden by the growth of commercial loans (figure IV.3)[1/]. The analysis of delinquency by firm size confirms that the reduction is seen across most segments of firms, as highlighted in the last *Report* (figure IV.4). The exception is very large firms, which recorded stable delinquency rates.

Debt increased in the construction, consumer and public services sectors

In line with aggregate debt, the financial debt of firms registered with the Superintendence of Securities and Insurance (SVS) has increased in recent years, to 0.71 times equity. This is slightly higher than the historical average (0.66 times). The debt level has risen above the historical average in some sectors, including construction, the consumer sector, sanitation and gas services, and transport and maritime services (figure IV.5).

1/ The NPLR based on the lagged loan stock aims to control variations in the NPLR stemming from changes in the loan level.

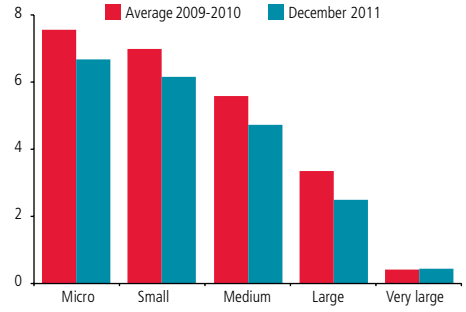
FIGURE IV.3
Commercial nonperforming loan index (1)
(percent of commercial loans)



(1) The dashed line marks the average real index.
(2) 12-month lag for the comparative basis, average maturity of the segment. See Matus et al. (2009).

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

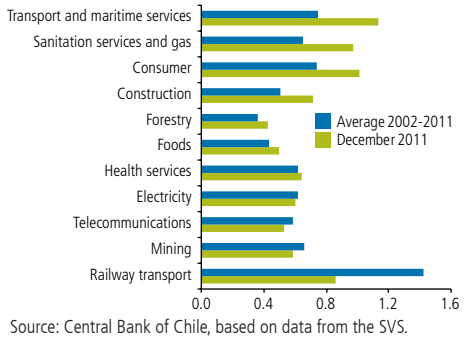
FIGURE IV.4
Delinquency by size of debt (*)
(percent of total loans in the segment)



(*) More than 30 days past due. Micro: debt under UF500; small: debt from UF500 to UF4,000; medium-sized: debt from UF4,000 to UF18,000; large: debt from UF18,000 to UF200,000; very large: debt of over UF200,000.

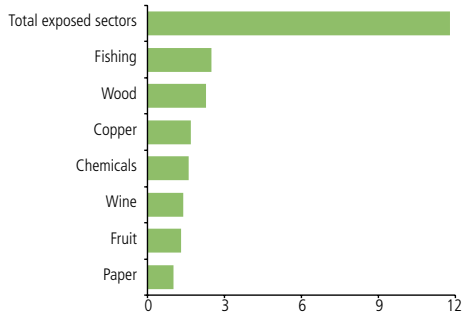
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.5
Sectoral financial debt over equity
(times)



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

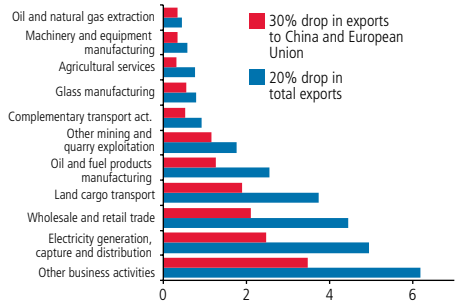
FIGURE IV.6
Sectoral commercial debt (*)
(percent of total commercial debt)



(*) As of December 2011.

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

FIGURE IV.7
Drop in production in related sectors (*)
(percent)



(*) Sectors with an impact of more than 0.3%.

Source: Central Bank of Chile.

The evolution of the debt level in the real estate sector reflects more dynamic activity

The higher debt level in the real estate sector reflects more dynamic sales, in both residential and commercial segments (box IV.1). While the vacancy rate in the commercial sector has remained low, the expected substantial expansion of supply, especially in high-end offices, and its inertia imply that this factor must be monitored closely, given the risk scenarios facing economic activity. The evaluation of new projects should take this element into consideration.

The aggregate price index is in line with interest rates and income levels in the economy. In the residential sector, the counties of *Santiago, Ñuñoa, Las Condes, La Reina, La Florida* and *Vitacura* all recorded price increases above historical rates. These trends could be explained by the limited availability of lands. It is important to keep in mind that the materialization of the risk scenario described in this *Report* could lead to a breakdown in current price trends. The potential implications of this are price adjustments, which would affect the profitability of projects being developed, as well as the collateral backing mortgage loans.

The potential external shocks can have strong negative effects on export firms and on access to external financing

There are two channels through which a deterioration of the European situation—and potentially lower growth in China—could affect companies' financing conditions. First, firms that directly contract debt abroad could have less access to credit. Although the euro area's share in the financing of large firms has fallen since the crisis, it still accounts for 50% of their external debt. Moreover, there are signs in the most recent period that the cost of external bank financing could be rising (chapter II). Second, there is a real-activity channel associated with a possible contraction of external demand. An analysis of the main export sectors, taking into account the importance of China and the EU as export destinations, finds that the most exposed sectors are traditional exports. However, these sectors account for a small share of commercial bank debt (around 12% in September 2011), so the direct effects on commercial credit risk are limited (figure IV.6).

To analyze the indirect effects on industries that supply inputs to export sectors, a simulation was carried out of the effects of a 20% reduction in total exports and a 30% drop in exports to these two markets. The results suggest that the effects on output in the related sectors could be substantial (figure IV.7), but the potential effects on credit risk would be limited to a small number of sectors. Nevertheless, there would be strong repercussions on aggregate demand and household credit risk, given that the majority of these sectors, such as services and trade, are labor intensive. The impact of a rise in unemployment is discussed in the next section.

HOUSEHOLDS

Household debt grew faster in the first quarter than in previous years

In March 2012, total household debt grew 7.3% in annual terms, which is higher than the rate of the past few years. As it has been analyzed in past *Reports*, the most active components of consumer debt were bank debt, which grew 12.4%, and the item containing other sources of financing, where car loans in particular grew 20% in annual terms.

In contrast to previous years, retail debt has contracted sharply since the last quarter of 2011. This is largely explained, however, by the specific case of the retailer *La Polar*. When *La Polar* is excluded, retail debt grew 4.6% in the first quarter (table IV.3).

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

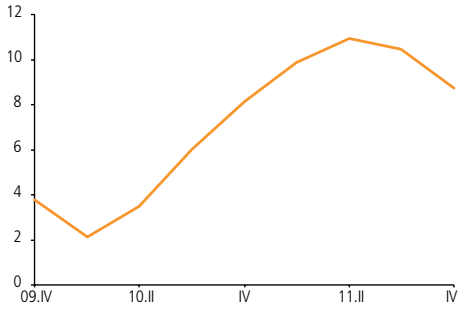
	2009	2010	2011				2012	Contribution to growth (1)	Share in debt (2012 I)
	IV	IV	I	II	III	IV	I		
Mortgage	7.4	6.9	7.7	8.5	8.1	7.3	8.3	4.7	57.3
Bank	8.6	9.0	9.3	10.0	9.4	8.4	9.4	4.7	51.1
Nonbank (2)	0.1	-6.1	-3.2	-2.3	-0.8	-0.3	0.4	0.0	6.2
Consumer	4.0	6.6	9.9	12.0	11.2	7.3	5.9	2.5	42.7
Bank	2.2	8.6	11.8	14.0	14.4	13.7	12.4	3.0	25.9
Nonbank	-0.8	4.5	6.1	5.7	2.9	-7.3	-8.8	-1.2	11.8
Retailers	-9.3	5.9	9.0	8.1	3.4	-14.8	-17.6	-1.3	5.7
FCF (3)	8.5	3.6	4.4	5.9	6.6	5.5	4.9	0.2	3.9
Cooperatives	15.5	1.9	0.8	-1.2	-4.1	-4.8	-4.4	-0.1	2.2
Other (4)	35.5	3.3	11.0	20.8	18.2	18.6	15.0	0.7	5.1
Total	5.9	6.8	8.6	10.0	9.4	7.3	7.3	7.3	100.0

(1) Percentage points.
(2) Includes securitized mortgage debt.
(3) Family compensation funds.
(4) Includes car financing, university loans and insurance companies loans. Beginning the first quarter of 2009, also includes higher education loans provided under Law 20,027.

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

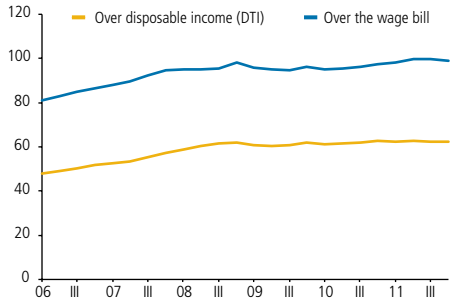
The growth of consumer debt slowed somewhat toward the end of 2011, even excluding the contraction experienced by *La Polar*. This slowdown is in line with reductions in the consumer growth rate in late 2011, which fell from around 11% in early 2011 to almost 9% in the last quarter of 2011 (figure IV.8).

FIGURE IV.8
Household consumption
(real annual change, percent)



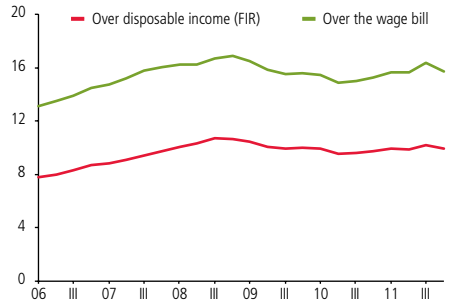
Source: Central Bank of Chile.

FIGURE IV.9
Household indebtedness
(percent)



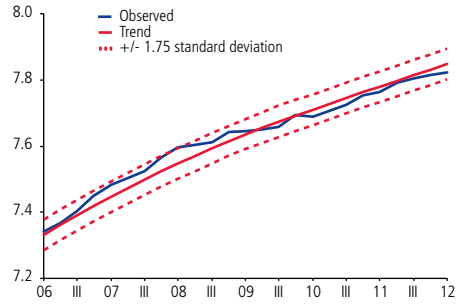
Source: Central Bank of Chile, based on data from the SBIF, SuSeSo and SVS.

FIGURE IV.10
Long-term financial burden of households
(percent)



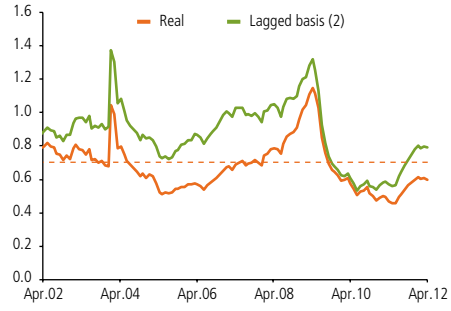
Source: Central Bank of Chile, based on data from the SBIF, SuSeSo and SVS.

FIGURE IV.11
Total household debt
(credit per capita on a logarithmic scale)



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

FIGURE IV.12
Nonperforming loan index for bank consumer debt (1)
(percent of consumer loans)



(1) The dashed line indicates the average real index.
(2) 22-month lag for the comparative basis, average maturity of the segment. See Matus et al. (2009).

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

Debt indicators are stable and consistent with the increase in household income

Following a growth period that lasted until just before the global financial crisis, household debt has increased in parallel with disposable income in recent years. This has originated relatively stable aggregate debt indicators at around 60% of disposable income (the DTI ratio). This stability is robust to using alternative income measures, such as the wage bill (figure IV.9). The long-term financial burden-to-income ratio (FIR) has remained around 9%, and again the results are similar using the financial burden to the wage bill (figure IV.10)[2]/. Finally, according to the methodology developed by Mendoza and Terrones (2008) to identify periods of excessive credit growth, household debt is currently around its long-term trend (figure IV.11)[3]/.

Default indicators on consumer bank loans have increased in the recent months

The nonperforming loan ratio (NPLR) for bank consumer loans has increased since mid-2011, and the trend continued in the first months of this year. The rise is most pronounced in the measure based on the lagged loan stock, which suggests that the real NPLR could be underestimating the increased credit risk (figure IV.12). This is a source of concern given the positive evolution of economic output and unemployment during 2011. Nevertheless, the NPLR is still below its historical average, and it is in line with the levels predicted by a model of macroeconomic deteminants[4]/. The NPLR for bank mortgage debt ended the reduction described in the last *Report*, and it just increased slightly in April 2012. Excluding the *BancoEstado,* this measure was below its historical average at March of the current year (figure IV.13).

Default indicators of other consumer credit suppliers also deteriorated slightly

The evidence is similar for other credit suppliers for which information on credit risk is available. In March 2012, almost all the retailers recorded an increase in delinquent debt more than 30 days past due (figure IV.14)[5]/. Default indicators also deteriorated for cooperatives supervised by the Superintendence of Banks and Financial Institutions (SBIF). The nonperforming loan ratio for these institutions was 1.35% in March 2012, which is higher than the rate in the same month a year earlier (1.02%) and higher than the average for the period 2006–11 (0.74%).

[2]/ From an international perspective, debt and financial burden indicators in Chile are relatively consistent with the economy's income level (see "Household Indebtedness in Chile: Analysis and Implications for Financial Stability," *Financial Stability Report*, first half 2010).

[3]/ The methodology for evaluating significant deviations in debt is based on Mendoza and Terrones (2008) and was discussed in the *Financial Stability Report* for the first half of 2011.

[4]/ The model finds that the NPLR for consumer loans depends positively on unemployment, total inflation and food inflation and negatively on economic growth.

[5]/ Delinquent debt that is more than 90 days past due has increased in three of the six retailers. In contrast with the nonperforming loan measure, delinquency data include the full amount of the past-due credit and not just the payment in question.

The recent deterioration of default indicators could intensify if the external risk scenario were to materialize

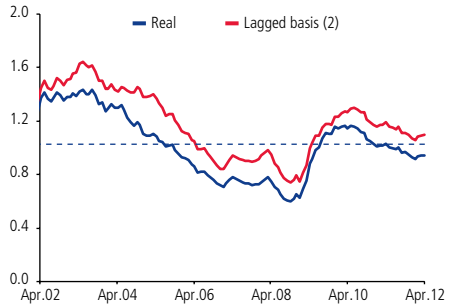
The risk scenarios analyzed in chapter I imply that households could be negatively affected by external shocks, given the potential direct impact on employment originated by an export contraction and the indirect effects through related labor-intensive sectors, such as trade and services. These effects could be even stronger in the current environment, because consumer credit risk indicators have deteriorated even when the economy has maintained a low unemployment rate.

As discussed in the last *Report*, these risks are especially relevant for lower-income households, since they are more vulnerable to unemployment shocks. In addition, in the years of higher unemployment, these households saw a sharp increase in their debt relative to income (box IV.2). These factors must be weighted by the fact that the lower-income segments represent a small share of aggregate debt, but they are important for some credit suppliers, such as retailers.

In sum, household debt has increased in line with disposable income in recent years. This has produced relatively stable aggregate debt indicators, whether comparing the debt level or the financial burden with disposable income or with the wage bill. In the current scenario, however, it is necessary to continue monitoring the evolution of household debt. If it continues to grow at current rates, there is a possibility that the household debt level or the financial burden could increase significantly in the event that the risk scenario described in this *Report* were to materialize.

Finally, with regard to credit risk indicators, the nonperforming loan ratio on consumer bank loans and the delinquency rate among the retailers have increased since mid-2011. Although the increases have been limited, these are factors that should be taken into account in the evaluation of household credit risk, together with the steady growth of credit card financing and car loans.

FIGURE IV.13
Nonperforming loan index for bank mortgage debt (1)
(percent of mortgage loans)



(1) Excluding *BancoEstado*. The dashed line indicates the average real index.
(2) 12-month lag for the comparative basis.
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE IV.14
Delinquency of retailers (*)
(percent of the total portfolio)

(*) More than 30 days past due.
Source: Central Bank of Chile, based on data from the SVS.

BOX IV.1:
THE REAL ESTATE SECTOR: RECENT EVOLUTION AND OUTLOOK

As highlighted in the last *Report*, real estate cycles have been important factors in the formation of financial vulnerabilities in many advanced economies. While the development of the residential real estate market played a key role in the subprime crisis in the United States, the international literature emphasizes that in times of financial turbulence, greater exposure to the commercial real estate sector would explain a large share of bank credit losses (Woods, 2007; Ellis and Naughtin, 2010)[6]/.

Given the relevance of the issue for financial stability, this box provides an aggregate analysis of the risk factors associated with the Chilean real estate sector, including both residential and commercial segments.

The banking system's exposure to the real estate sector includes two types of loan: (i) loans backed by residential properties (to households) and commercial properties (to firms and investors); and (ii) commercial loans to real estate developers and construction companies[7]/. International experience indicates that bank exposure to real estate developers and construction companies tends to be the riskiest, because these debtors would be the most vulnerable to default in the event of an unfavorable economic scenario. They generally have high levels of debt, and, unlike mortgage debtors, the property is valued only as an investment good and not as a consumption good (ECB, 2008).

The financial and credit situation of these developers depends on the strength of their current economic indicators (debt level, liquidity, profitability, etc.), as well as the expected evolution of property prices and, more generally, the expected balance of supply and demand for properties. Together, these factors determine the expected profitability of the real estate projects and, hence, the developers' capacity to meet their debts.

[6]/ The commercial real estate sector is defined as the set of buildings that generate some type of rent, including office buildings, warehouses, hotels, shopping centers and residential properties that are managed exclusively as rental properties.

[7]/ In Chile, 7% of total bank loans are commercial loans to real estate developers and construction companies, for both commercial and residential projects.

Financial situation of real estate developers and construction companies

The financial indicators of real estate developers and construction companies have followed a trend consistent with the economic recovery after the subprime crisis and the earthquake in February 2010. In particular, the aggregate leverage level of these firms has dropped from the peaks reached in the 2008–09 period and is currently at the levels recorded in 2006.

In contrast with the aggregate trend, the debt ratio of the largest companies (for which public financial information is available) was above the precrisis level in December 2011 (table IV.4). This higher debt level, combined with the phase of the cycle, has led to a deterioration of their liquidity indicators. In particular, the acid test fell to 1.0 time in December 2011, down from 1.2 in 2009. Profitability has not yet recovered to precrisis levels.

TABLE IV.4
Financial indicators of large real state developers and construction companies
(times, percent)

	Average 2003-08	2009	2010	2011
Debt (1)	0.5	0.6	0.6	0.7
Earnings (2)	11	7	10	8
Liquidity (3)	1.1	1.2	1.1	1.0

(1) Debt-equity ratio; times.
(2) Return on equity; percent.
(3) Acid test: current assets minus inventories over current liabilities; times.

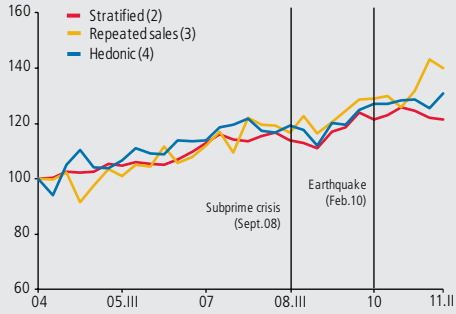
Source: Central Bank of Chile, based on data from the SVS.

Property prices

In the residential sector, aggregate price indices for houses and apartments vary widely depending on the methodology used. Stratified and hedonic indices show an average real annual

growth rate of 2% for the 2008–11 period, while the repeated sales index grew 4% in real annual terms in the same period, which is consistent with more dynamic prices for used homes (figure IV.15)[8]/.

FIGURE IV.15
Real residential price index (1)
(baseline index Mar.04 = 100)



(1) Preliminary results.
(2) Measures changes in the price of different types of homes, dividing the sample into subgroups based on appraisal value.
(3) Based on changes in the price of homes sold more than once.
(4) Controls for constructed area, age range and housing quality.

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

Internal estimates show that the aggregate growth of the stratified and hedonic price indices is fairly in line with economic activity and long-term interest rates. The situation is not substantially different for the repeated sales index.

Price dynamics at the county level reveal higher growth in a few localities, generally more expensive neighborhoods (table IV.5). Their higher prices could be extended to other areas to the extent that available land becomes tight. The counterpart to a relatively low land supply is a larger price adjustment in the face of demand shocks. Real estate developers and construction companies, as well as their creditors, need to internalize this greater price volatility in their saving and financing decisions.

TABLE IV.5
Real price change, by county (*)
(percent)

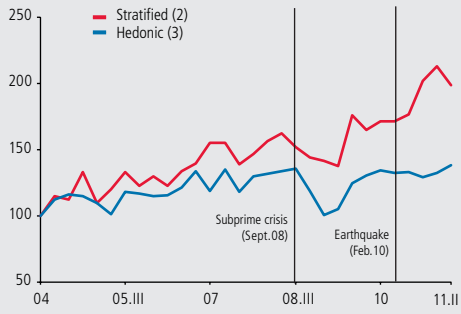
County	Mar.02-Sept.09	Sept.09-Jun.11
Santiago	-0.6	5.1
Ñuñoa	0.8	4.0
Las Condes	0.5	8.5
La Reina	2.8	10.2
La Florida	1.6	6.2
Vitacura	1.3	7.4

(*) Average annual growth rate of the hedonic price index in the period.

Source: Central Bank of Chile, based on data from the SII and Ferreira and Gyourko (2011).

The international evidence indicates that the price dynamics for commercial properties tend to be more sensitive to the economic cycle than residential properties (Zhu, 2003; Gyourko, 2009). Thus, a scenario characterized by weaker economic conditions could generate sudden, large price adjustments. In the case of the office market in Chile, prices have been relatively stable, with a real annual growth rate of almost 2% in the hedonic index in the 2008–11 period (figure IV.16). The stratified index presents real annual growth rates of over 8% in the same period. This increase, however, could be explained by a compositional change in the market, due to the entry of a larger number of high-end offices in prime locations, which would not be controlled for in the stratified index.

FIGURE IV.16
Real office price index (1)
(baseline index Mar.04 = 100)



(1) Preliminary results.
(2) Measures changes in the price of different types of properties, dividing the sample into subgroups based on appraisal value.
(3) Controls for constructed area, age range and property quality.

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

[8]/ For more details on the price index methodology, see Vio (2011).

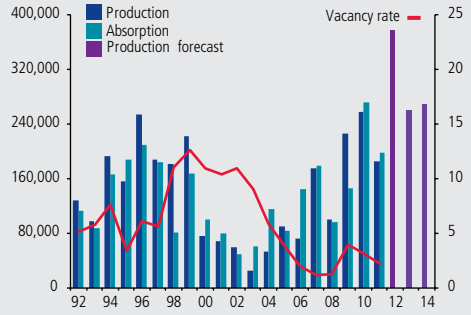
Internal estimates show that the growth of these prices is in line with the dynamic economy and the interest rate level, and it is not significantly different from the trend for rental prices. Finally, at the international level, office prices have grown less in Chile than in advanced economies that have undergone price adjustments, and rental prices are similar to the average of the economies in the region (CBRE, 2011).

Evolution of supply and demand

The recovery of activity in the residential sector has been in line with sales. In 2011, the months to sell existing inventory was stable at around 8 months for houses and 15 months for apartments, levels that are near the historical averages of each market[9]/. In late 2011, however, the number of new apartments coming on the market slightly exceeded the sales level. While this situation is specific to the most recent period and has not caused a significant expansion of inventories, it needs to be monitored in light of the sharp correction in apartment supply during the 2008 crisis, which affected the financial situation of many real estate companies.

With regard to commercial properties, demand has been consistently dynamic since 2004. The sector's vacancy rate has therefore fallen substantially, to under 5% of the existing stock (figure IV.17). According to market sources, however, office space is expected to increase, on average, by 300,000 square meters per year in the period 2012–14, which could involve some degree of adjustment in the balance of supply and demand in the sector. This possible increase in the inventories of real estate development companies could affect property prices and/or vacancy rates in some counties. For example, estimates using 2009 absorption levels indicate a vacancy rate of 8% this year. These adjustments could cause a considerable deterioration in the income flows of firms in the sector and thus increase their probability of default[10]/.

FIGURE IV.17
Supply and demand for offices
(Square meters, percent)



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

Conclusions

In recent years, companies in the real estate sector have evolved favorably, with limited increases in aggregate property prices and low inventory levels. However, the risk scenarios considered in this *Report* could cause a sharp deterioration in economic conditions and, hence, an increase in the vulnerability of these firms. Given the expected expansion of supply for the next two years, this could potentially have complex consequences in the office market, which would raise important challenges for the firms in the sector in terms of ensuring that their financial indicators do not drop or their credit risk rise.

Finally, over the past two years, some areas have recorded an unprecedented upward price trend for residential properties. If this trend persists and becomes generalized to other sectors, it could represent an additional source of risk. Both borrowers and lenders need to understand that the recent price increases do not ensure that prices will continue to rise in the future, especially considering the risk scenarios described in this *Report*.

[9]/ Based on data from Collect.

[10]/ A longer lag in construction—generally two to three years—and long-term leases would imply a more elastic supply and slower adjustment cycles (ECB, 2008).

BOX IV.2:
HOUSEHOLD DEBT: 2006-2009

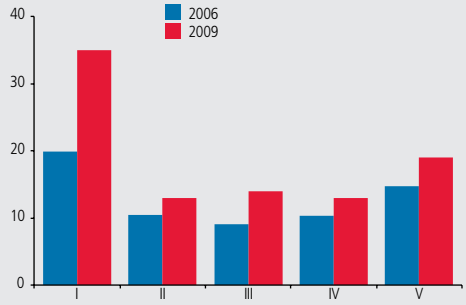
Aggregate household debt indicators have been relatively stable since 2008. As argued in the literature, however, and analyzed in past Reports, aggregate indicators need to be complemented with microeconomic analysis[11]/. This box thus analyzes the changes in debt indicators by income quintile during the unemployment shock associated with the subprime crisis, based on the Social Protection Survey (SPS) from 2006 and 2009[12]/.

Evolution of debt

Despite the relative stability of household debt following the crisis, a trend highlighted in the last *Report* is the growth of debt indicators among lower-income households. Between 2006 and 2009, the median debt-to-income (DTI) ratio of households with debt grew strongly in the lowest income quintile, rising from 20 to 35% (figure IV.18)[13]/. This pattern is not seen in the other income segments[14]/.

The increase in the DTI ratio could be associated not only with increases in household debt, but also with reductions in income, due to the fact that one or more household members lost their jobs. This factor would have been particularly important during the last financial crisis, when the unemployment rate rose to around 11% in the period. In fact, the movement of households among quintiles is relatively high (table IV.6)[15]/. Between 2006 and 2009, the share of households that stayed in the first quintile was 38.5%. Moreover, a nonnegligible share of households that were in the second (25.5%), third (16.7%) and fourth (11.6%) income quintiles in 2006 moved into the first quintile in 2009. It is therefore important to develop a complementary understanding of debt indicators that includes a measure of the income-generation capacity of households, which should take into account the effect of temporary reductions in income.

FIGURE IV.18
DTI by income quintile (*)
(percent of disposable income)



(*) Median of households with debt.

Source: Central Bank of Chile, based on data from the Social Protection Survey (SPS).

TABLE IV.6
Transition matrix by income quintile
(percent)

	2009					Total
	I	II	III	IV	V	
2006						
I	38.5	25.0	16.1	10.1	6.7	19.3
II	25.5	34.5	24.9	14.7	6.3	21.6
III	16.7	21.2	31.0	25.6	12.1	21.5
IV	11.6	13.7	20.1	33.3	22.6	20.2
V	7.7	5.6	7.9	16.3	52.4	17.5
Total	**18.7**	**21.9**	**20.5**	**20.0**	**18.9**	**100.0**

Source: Central Bank of Chile, based on data from the Social Protection Survey (SPS).

[11]/ See "Household Indebtedness in Chile: Analysis and Implications for Financial Stability," *Financial Stability Report,* first half 2010.

[12]/ In comparison with the Household Financial Survey, the SPS has panel data that allows following the evolution of a given household over time. It also has more observations, which facilitates a better analysis by income group.

[13]/ Given that this is a survey, the aggregate debt and financial burden indicators do not necessarily coincide with the data presented in chapter IV.

[14]/ The evidence is similar for the financial burden.

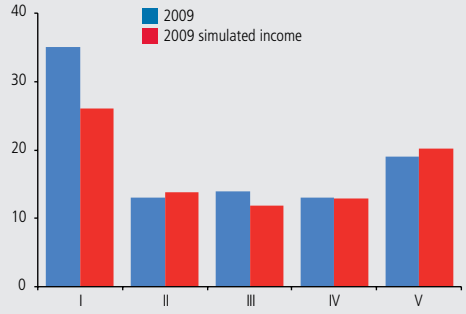
[15]/ In the absence of movement, all the diagonals in the transition matrix would be close to 100%.

To determine the importance of these temporary reductions in income, a household income simulation was carried out for computing the income of unemployed household members in the case that they were employed. This simulated income was then used to estimate the household debt indicators[16]/. As expected, the results indicate that the DTI ratio falls, but not homogeneously across income quintiles: for 2009, the median DTI ratio decreases from 35 to 26% in the first quintile, but it is practically unchanged in the remaining quintiles (figure IV.19). These results are consistent with earlier evidence showing that households with a lower income-generation capacity are the most sensitive to increases in aggregate unemployment in Chile (Fuenzalida and Ruiz-Tagle, 2009).

Final comments

The microeconomic evidence shows significant increases in the DTI ratio in lower-income households. The analysis of these increases reveals that they would be largely tied to the negative effects of the financial crisis on employment of some household members. While this phenomenon has limited systemic implications, it could have a large impact on credit suppliers focused on this household segment, especially if the risk scenario described in this *Report* were to materialize and the unemployment shocks were protracted.

FIGURE IV.19
Real and simulated DTI (*)
(percent of disposable income)



(*) Median of households with debt.

Source: Central Bank of Chile, based on data from the Social Protection Survey (SPS).

[16]/ This methodology assumes that the income-generation capacity depends on observable individual variables, such as education and work experience. An income equation can then be estimated and used to calculate an individual's income given these characteristics.

V. BANKING SYSTEM

The banking system has continued to strenghten its solvency through higher capital levels and liquid asset holdings, thereby maintaining its resilience to the risk scenarios described in this Report.

In recent months, credit activity has slowed in the largest institutions

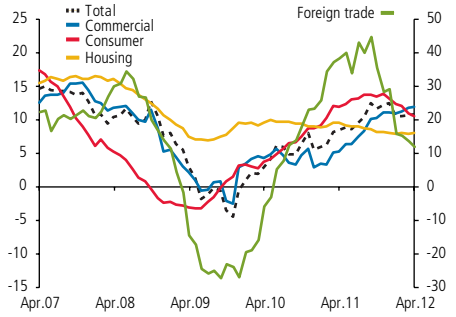
In the first four months of 2012, loans continued to grow at real annual rates of over 10%, although more recently they have become less dynamic relative to past periods (figure V.1)[1/]. This performance is uneven, however, among different-sized institutions. Medium-sized banks have grown faster than the system average, thereby increasing their market share, while the largest institutions have recorded a slowdown in their credit portfolios. This deceleration in the larger banks is concentrated in consumer loans and, to a lesser extent, commercial loans.

The higher deposit rates of some medium-sized multibanks have allowed them to increase the share of retail deposits in their funding sources. Nevertheless, the medium-sized multibanks, retail banks and treasury banks are all still highly dependent on institutional funding sources (figure V.2). The banking system has expanded its long-term debt issues in local and international markets by approximately US$3.0 billion and US$1.0 billion, respectively (figure V.3).

These changes in the structure of financing, together with lower activity levels and the more conservative liquidity policies adopted by the banking industry after 2008, have strengthened the sector's liquidity and solvency position. The funding volatility ratio has recorded a positive trend, as a result of an increase in liquid assets and more stable liabilities (figure V.4).

Net interest margins increased in the first few months of the year, due to larger loan spreads and, to a lesser extent, higher inflation. Loan loss provisions have tended to decrease relative to previous years, when banks made large additional provisions due to regulatory changes, internal models were strengthened and there were some specific, one-time events.

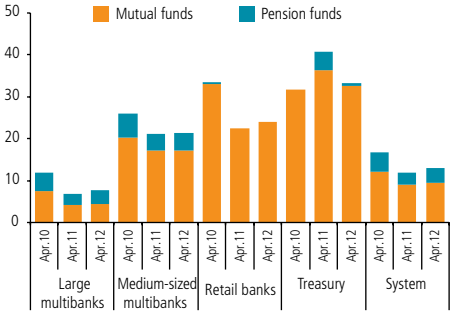
FIGURE V.1
Bank loans
(real annual change, percent) (*)



(*) Except foreign trade, where the change is in dollars.

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

FIGURE V.2
Time deposits held by institutional investors
(percent of total liabilities) (*)

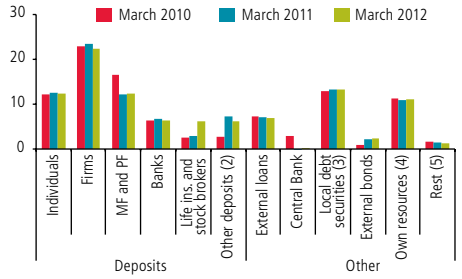


(*) Total liabilities net of contingent liabilities and the fair value of derivatives.

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

[1/] For more details on banking system indicators, see the Statistical Appendix of the *Financial Stability Report* (www.bcentral.cl).

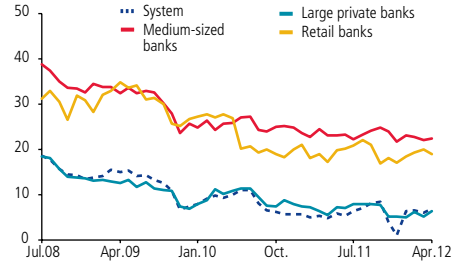
FIGURE V.3
Bank funding sources
(percent of total liabilities) (1)



(1) Total liabilities net of contingent liabilities and fair value of derivatives.
(2) Includes the public sector and external sector.
(3) Includes mortgage, senior and subordinate bonds.
(4) Includes tier 1 capital, provisions, net fair value of derivatives and earnings.
(5) Residual in comparison with balance sheet data.

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

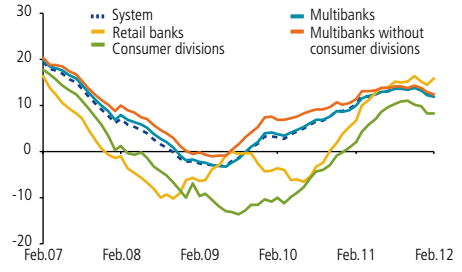
FIGURE V.4
Funding volatility ratio (*)
(percent)



(*) (Volatile liabilities – liquid assets) / (total assets – liquid assets). Volatile liabilities include institutional deposits (mutual funds and pension funds), interbank liabilities (direct and time deposits) and external loans.

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

FIGURE V.5
Consumer loans
(real annual change, percent)



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

Thanks to the banking industry's earnings-generation capacity and a larger share of low-risk liquid assets (18% of total assets), the capital adequacy ratio has been stable at around 14% of risk-weighted assets in the past year, with a large share of tier 1 capital.

MAJOR HIGHLIGHTS

This section analyzes the most important trends in the consumer credit market over the past few years, identifying changes in the banking industry's commercial and risk management practices. The effects of changes to the housing subsidy policy are also discussed.

CONSUMER LOANS

Consumer bank loans have tended to decelerate recently, but they still post annual growth rates of over 10%…

This market has recovered significantly since 2008, when it grew at around 3%, and in late 2011 it recorded a real annual growth rate of approximately 14%. However, consumer loans slowed at the start of this year, with a real annual growth rate of 11% in the first four months. This slowdown is especially marked in consumer divisions, which saw growth rates drop below 9% in real annual terms in February. Consumer loans grew somewhat more steadily over the past year in multibanks without separate consumer divisions (which are oriented to higher-income households) and retail banking (figure V.5).

…where the growth is driven mainly by credit cards

As in the past two years, credit cards have grown faster than other consumer products (figures V.6 y V.7). Given this dynamic performance, credit cards now account for a larger share of total consumer bank credit, expanding from 14% in February 2010 to 16% in February 2012[2]/. While the credit card share is largest in the multibanks without separate consumer divisions (the banking segment oriented to higher-income clients), consumer divisions have also recorded a similar trend (table V.1)[3]/. As highlighted in the last *Report*, this performance reflects a banking strategy to replace installment loans with credit cards, by offering lower rates on the cards.

[2]/ Consumer installment loans remain the main product in this segment, accounting for approximately 75% of consumer loans.

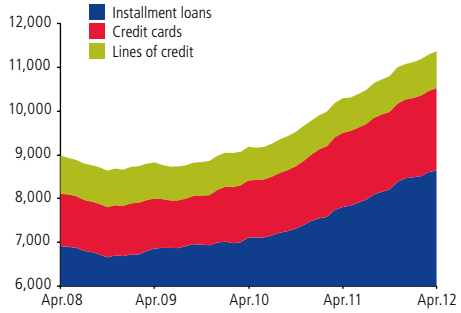
[3]/ Industry insiders indicate that the objective is to try to increase client loyalty. A long payment commitment with a given credit card tends to increase the probability that the client will use the card to make general payments and purchases, instead of alternatives from the competition.

TABLE V.1
Composition of consumer loans by product
(percent)

	Multibanks without consumer divisions		Consumer divisions		Retail banks		System	
	Feb.10	Feb.12	Feb.10	Feb.12	Feb.10	Feb.12	Feb.10	Feb.12
Installment loans	72.2	71.5	87.2	79.5	96.1	95.7	76.5	75.4
Credit cards	15.6	18.2	12.4	14.3	2.7	1.9	14.0	16.3
Lines of credit	11.1	9.2	0.4	0.5	1.2	2.3	8.6	7.4
Share of total consumer loans	76.3	77.4	15.4	13.8	8.3	8.3	100.0	100.0
Total consumer loans over total loans	9.1	9.8	71.4	69.5	69.9	72.0	11.4	12.0

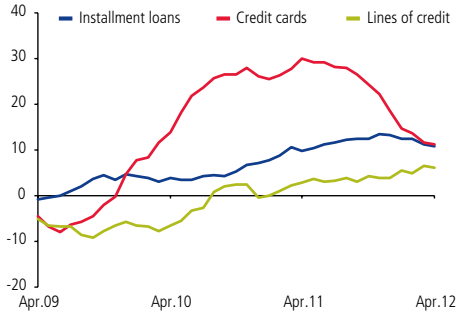
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE V.6
Consumer loans by product: level
(Ch$ billion) (*)



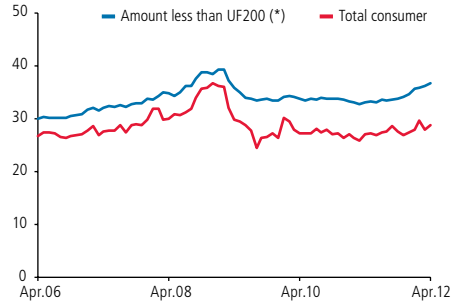
(*) April 2012 pesos.
Source: Central Bank of Chile, based on data from the SBIF.

FIGURE V.7
Consumer loans by product: growth
(real annual change, percent)



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

FIGURE V.8
Average nominal interest rates in the banking system
(annual percent)



(*) Operations over 90 days.
Source: Central Bank of Chile, based on data from the SBIF.

Since January of this year, interest rates on consumer loans have risen substantially …

Interest rates on consumer loans have risen since the last *Report*. This increase varies depending on the size of the loan and the type of product. The rate on loans up to UF200 (a segment made up primarily of consumer loans) rose more than 200 basis points in the first four months of this year, thus approaching the levels recorded in 2008–09[4]/. In contrast, the rate on all consumer loans rose less and remains significantly below the 2008–09 levels (figure V.8)[5]/. The hikes have been larger for installment loans and lines of credit, in keeping with the bank strategy to expand the use of credit cards. This heterogeneous performance contrasts with the pattern of 2008, when the hike was generalized across all loan sizes and products (figure V.9).

The increase in consumer loan rates, however, cannot be fully explained by higher costs. Internal estimates show that only a fraction of the increase observed in the first four months of 2012 corresponds to higher deposit rates and larger credit risk provisions.

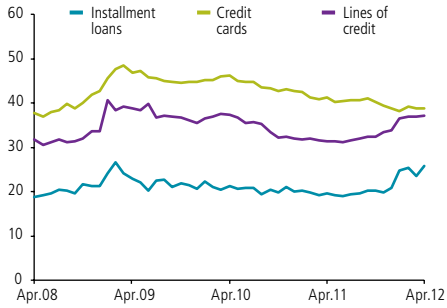
…which, according to the banks, could reflect higher future costs stemming from increased credit risk and the regulatory environment

In the Bank Lending Survey carried out by the Central Bank in the first quarter of this year, several banks reported tighter conditions for consumer loans (figure V.10). Some of the survey respondents attribute this tightening to an increase in the credit risk of some borrowers, which could arise from a more adverse economic scenario in the coming months. At the same time, some reporting banks consider that their costs could be affected by the set of regulatory and legislative initiatives on household debt that are either under discussion or in the process of being implemented.

[4]/ This rate is used by the SBIF as a benchmark for defining the conventional maximum interest rate applicable to consumer loans, which is also used for various other financing operations such as small business loans.

[5]/ Loans over UF200 include production loans.

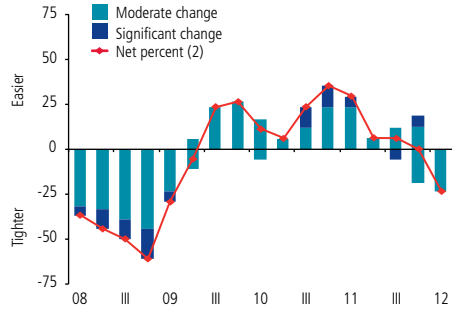
FIGURE V.9
Consumer loan spreads by product (*)
(annual percent)



(*) Average nominal lending rate, less 360-day deposit rate, for operations up to UF200.

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

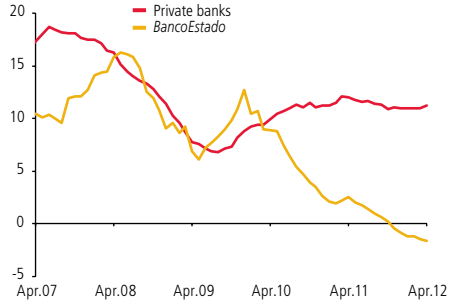
FIGURE V.10
Change in consumer loan supply (1)
(percent of total responses)



(1) Since June 2010, includes banks that lend in the respective segment.
(2) Difference between tighter and easier responses, as a percent of total responses.

Source: Central Bank of Chile.

FIGURE V.11
Housing loans
(real annual change, percent)



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

HOUSING LOANS

In response to the new subsidy policy, the share of *BancoEstado* in total housing loans shrank significantly, in a divergent trend from the rest of the banking sector

BancoEstado has traditionally held the largest market share in subsidized housing loans for under UF1,000. However, as a result of the earthquake in 2010 and changes in housing policies in 2011, the state bank has significantly reduced its supply of this type of loan, which has affected the total growth of its mortgage loan portfolio. Whereas mortgage loans have continued to grow at 11% in real annual terms in the private banking sector, *BancoEstado* has recorded a steady contraction since early 2010 (figure V.11).

Following the earthquake in 2010, the Ministry of Housing and Urban Development focused its efforts on reconstruction, reducing the availability of subsidies for purchasing new homes and, therefore, the flow of loans through *BancoEstado*. In 2011, changes to the Ministry's housing subsidy policy entered into effect, with the objective of broadening coverage of beneficiaries and expanding the pool of loan suppliers[6]/. In the case of low-income borrowers, who are defined as the most vulnerable, this new model would allow them to finance their homes through direct subsidies combined with personal savings, with no additional debt. For higher-income segments, the scheme continues to include the use of complementary debt, but it can be provided by any institution authorized to finance mortgage loans. The new model thus incorporates a larger number of actors in this market, which until 2011 remained concentrated in *BancoEstado*.

ASSESSMENT OF RISK FACTORS

The main risk factors for the banking sector are a deterioration of external financing conditions and a slowdown of economic activity, both of which could materialize in the external risk scenario described in chapter I. In addition, consumer credit risk has risen since the last *Report*, due to the increase in the share of loans channeled through credit cards.

Risk management of consumer loans could be negatively affected by the growth strategy centered on credit cards

The proliferation of consumer installment loans channeled through credit cards could imply an increase in revolving credit and an underestimation of borrowers' credit risk. This effect would arise to the extent that missed loan payments on credit cards are treated as a new revolving loan, while the client's monthly

[6]/ Housing finance subsidies are aimed at homes valued between UF600 and UF2,000, with the amount of the subsidy ranging from UF100 to UF500, depending on the value of the home. The greater the family's vulnerability, the larger the benefit, as follows: subsidy for emerging sectors (for purchasing homes between UF600 and UF1,000) and subsidy for medium sectors (for home between UF1,000 and UF2,000).

payment obligation corresponds only to the so-called minimum payment. In this case, the loan is not delinquent (i.e., there are no unpaid installments), in contrast to a traditional loan, and the client's exposure increases in that the revolving credit has floating rates that are significantly higher than the fixed rate on the original installment loan.

Evidence of this potential underestimation of credit risk includes the fact that the stock of provisions for credit cards has not increased, but rather remains lower than the stock of provisions for traditional installment loans (figure V.12). This is despite the fact that credit card write-offs have increased proportionally more than other consumer products (figure V.13).

Deterioration in the global financial environment could restrict banks' access to external funding

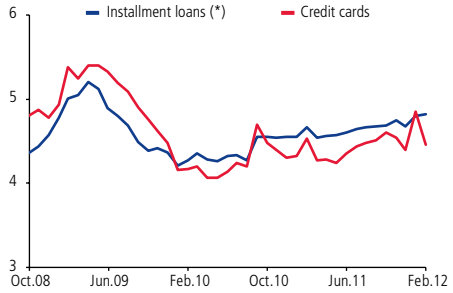
Access to external funding continues to represent an important risk for the local banking sector, due to the difficulties in the euro area financial system and the impact on global financial markets. In this context, the banking sector's strategies for facing the continuation of a risky external scenario include the diversification of overseas funding sources and the hoarding of liquid foreign currency assets.

Internationally active banks have continued to diversify their forms of external funding, incorporating debt issues in emerging financial markets, certificate of deposit listings in the United States and the negotiation of new syndicated loans. In the first quarter of this year, the local banking industry issued US$1.0 billion in overseas bonds.

With regard to credit from overseas banks, the amount used on lines of credit tended to drop in the first quarter of this year, which is consistent with the slowdown in credit from local banks to finance foreign trade operations. The spreads on foreign bank liabilities were stable in the first months of the year (chapter II).

The dependence on funding from banks established in the European peripheral countries has continued to decline, especially for foreign-owned local banks. In March of this year, these countries represented 1.4% of the banking system's external debt stock, versus 15% in March 2010 and 2.8% in March 2011 (figure V.14). This shift has affected the concentration of the set of creditors: in March of this year, the five main creditor banks accounted for 49% of total funding from overseas banks, which is similar to the share in March 2010 but is more concentrated than in March 2011 (40%).

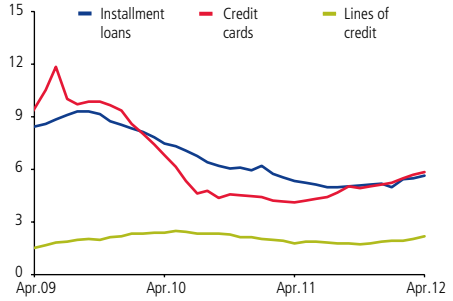
FIGURE V.12
Consumer provisions index by product
(percent of respective segment)



(*) Excludes renegotiated loans.

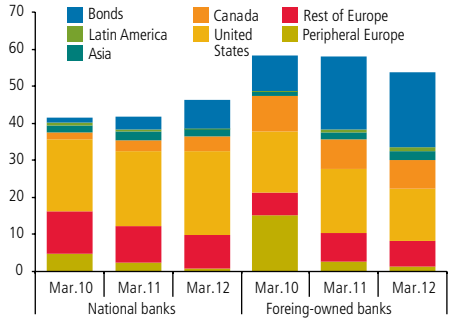
Source: SBIF.

FIGURE V.13
Consumer write-offs index by product
(percent of respective segment)



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

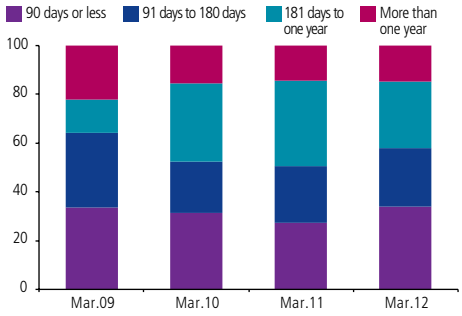
FIGURE V.14
External debt of the banking system, by region (*)
(percent of the system stock of external debt)



(*) By country of residence of the creditor bank's parent.

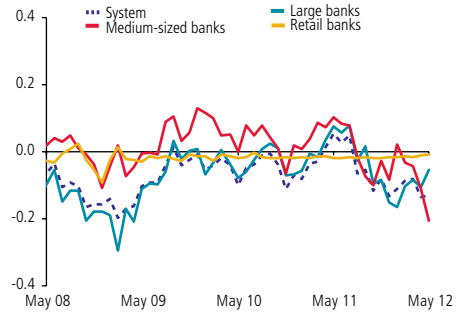
Source: Central Bank of Chile.

FIGURE V.15
Maturity structure of loans with external banks
(percent)



Source: Central Bank of Chile.

FIGURE V.16
7-day mismatch in foreign currency
(liabilities minus assets, times tier 1 capital)



(*) Adjusted basis for banks authorized by the SBIF.

Source: Central Bank of Chile.

One unfavorable trend is the increase in the share of external debt coming due in the shorter maturity bands (under 180 days) (figure V.15). This reflects the reduction in the average maturity of loans contracted with overseas banks. Nevertheless, the short-term liquidity position in foreign currency is stable, as seen in the seven-day maturity gap of the banking system (figure V.16).

Although there is a risk that the financial situation of foreign parent banks will affect the performance of their subsidiaries in Chile, this risk is mitigated by the subsidiaries' low dependence on funding from the parent bank and a low exposure through assets

Foreign-owned banks represent 40% of total system assets. These banks depend less on creditors in the euro area than do the locally owned banks. More than 50% of their liabilities are financed with deposits, in particular retail deposits, while external financing accounts for less than 15%, with a high share of bonds. Their asset and liability structure is the same as that of locally owned banks of a similar size (table V.2).

TABLE V.2
Asset and liability structure of the banking system in March 2012
(percent of total assets)

	Local banks	Euro area banks	Non-European foreign-owned banks
Assets			
Commercial loans	44.3	38.1	37.2
Consumer loans	8.4	10.5	7.1
Housing loans	16.6	19.5	18.4
Foreign trade	5.6	5.5	8.2
Liabilities			
External debt			
Bonds	1.0	5.5	0.0
Overseas liabilities	5.2	7.6	8.6
Time deposits	45.0	38.8	43.7
Sight deposits	18.1	15.3	11.2
Local debt securities	12.4	10.8	14.3

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

Several factors attenuate the possible impact of the capital or liquidity position of the parent bank on local subsidiaries. These are mainly related to the low dependence of the subsidiaries in Chile on their parent banks, especially in terms of funding. Direct funding of local subsidiaries by their foreign parent and related banks represents a small fraction of their total liabilities (1%), and their direct exposure through assets corresponding to related counterparties is also small[7]/.

[7]/ The share of foreign investment in total assets does not differ substantially among national banks and foreign-owned banks. In both cases, it is under 5% (with the exception of niche banks dedicated to foreign trade), and it mainly comprises deposits in external correspondent banks. The Spanish parent banks have explicit self-financing policies for their subsidiaries, which in Chile translates into a share of less than 2% of their total liabilities.

Finally, Chilean banking legislation requires that the subsidiary must wholly constitute its capital in the country in order to operate as an entity in the local market, and it must fully comply with Chilean regulatory requirements on solvency, provisions, market risk and liquidity. In addition, there are supervisory powers aimed to ensure a stand-alone management of liquidity and solvency of these banks, regardless of their ownership relationship with the parent bank.

Nonetheless, the controlling bank will logically make some decisions that affect their investments in Chile. For example, as part of the process of strengthening its equity base, the Spanish bank Santander sold off some of its shares in its Latin American subsidiaries. To the extent that there is a demand for these assets, the sales will not have repercussions on the local financial system. This was the case with the sale of 7.8% of Santander's subsidiary in Chile, which went through without affecting the prices of its main financial assets. Santander also sold 4.4% of its shares in Brazil and 100% in Colombia, and it has announced the upcoming sale of 25% in Mexico. The Spanish group BBVA has also announced the possible sale of its pension fund business in Latin America (Chile, Colombia, Mexico and Peru).

Finally, the recent downgrading of Spanish sovereign debt and of some of the foreign parent companies has had a limited impact on the international and local risk ratings of the Chilean subsidiaries of Spanish banks.

An external scenario featuring greater risk could have a negative impact on the banking sector's profits

The combination of lower credit activity, increased credit risk and higher costs of domestic funding could reduce system profitability and erode the capital base. This risk is particularly relevant for less diversified institutions and institutions oriented to segments characterized by both procyclical payment behavior and procyclical volume of operations, such as consumer lending.

As the stress tests show, however, the banking system has a capital base that should allow it to weather a deterioration of profits and keep its solvency levels above the regulatory limit.

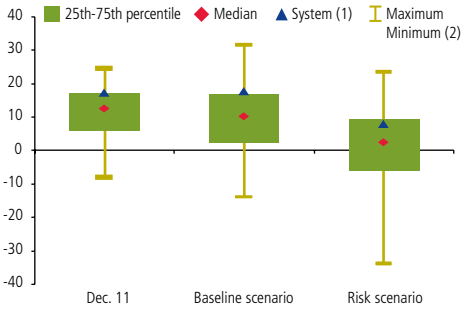
TABLE V.3

Impact of stress tests on profitability
(percent of tier 1 capital)

	Risk scenario
Initial ROE	17.4
Market risk	-2.6
Valuation	-1.2
Repricing	-1.5
Currency	0.0
Credit risk	-14.2
Consumer	-7.4
Commercial	-5.3
Housing	-1.4
Margin	7.5
Final ROE	8.1

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

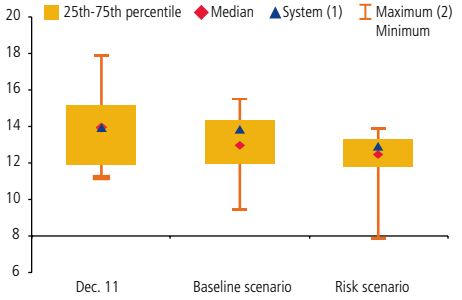
FIGURE V.17
Return on equity forecasts under different scenarios
(percent)



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

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

FIGURE V.18
Capital adequacy ratio forecasts under different scenarios
(percent)



(1) Data weighted by the tier 1 capital of each institution.
(2) Maximums correspond to the 90th percentile.

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

STRESS TESTS[8]/

The tests carried out using December 2011 balance sheet data show that the banking system maintains its capacity to absorb the materialization of a severe risk scenario.

The baseline scenario considers an activity level and interest rates consistent with the forecasts presented in the *Monetary Policy Report* in June of this year. Specifically, the economic growth rate used for 2012 is 4.7%, and UF interest rates on loans between 1 and 3 years and on mortgage loans over 20 years, forecast for December 2012, are 5.0 and 4.6%, respectively.

The risk scenario considers a significant deceleration toward the end of this year. This scenario assumes temporarily negative growth rates in 2012, which then converge to 2.4%. This set-up replicates 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. This scenario further assumes interest rate hikes (in pesos, UF and US$) of 300 basis points in the short term and 100 basis points in the long term, together with a 20% exchange rate depreciation.

The stress tests show that under the risk scenario, there are system losses equivalent to a decrease in return on equity (ROE) of 9 percentage points of tier 1 capital (table V.3). At the individual level, the banks that have negative results under the risk scenario account for 15.2% of the banking system's tier 1 capital. For the majority of the banks, however, the capital adequacy ratio (CAR) remains above 11% (figures V.17 y V.18)[9]/.

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.

[8]/ This analysis is based on the methodology described in Jara et al. (2007) and Alfaro and Sagner (2011). Both the analysis and the results are regularly reported to the SBIF.

[9]/ These results consider an average profit reinvestment rate of 30%.

VI. FINANCIAL REGULATIONS AND INFRASTRUCTURE

During this semester, the amounts settled in the large-value payment systems continued to grow, as did the use of electronic means of retail payments. Regulatory issues include the introduction of various regulatory changes and the opening of a period of public comment on future regulatory changes in several areas.

PAYMENT SYSTEMS AND FINANCIAL INFRASTRUCTURE

LARGE-VALUE PAYMENT SYSTEMS

The large-value payment systems (LVPS) are comprised of the real-time gross settlements (RTGS) system and the large-value payment clearing house (*Combanc*). The RTGS system settles gross transactions immediately in the accounts of each bank, whereas *Combanc* nets the transactions for each bank at the end of the day and then clears the net amount through the RTGS system.

On aggregate, the amounts processed through *Combanc* grew more strongly than the RTGS system…

In the first quarter of 2012, the payments processed by *Combanc* increased 17% in annual terms, while the total amount settled in the RTGS system grew 9% in annual terms. However, the relative share of the RTGS system in the large-value payment systems did not change significantly (73% in the first quarter of 2012). The RTGS system settled a daily average of almost Ch$8.5 trillion, whereas the daily balances cleared through *Combanc* averaged just over Ch$3 trillion (table VI.1).

The increase in the RTGS system is explained by the dynamism of interbank operations and client account transactions (36% annual) and securities transactions not processed by the securities clearing house (CCLV) (41% annual). In contrast, the amounts processed in the CCLV, which recorded significant growth due to an increase in the stock market transactions between the months of August and October, have returned to the levels of the first half of 2011 (figure VI.1).

…especially in terms of securities transactions settled through *Combanc*

In the first quarter of 2012, there was a strong increase in settlements deriving from the OTC markets (figure VI.2). The increase was proportionally greater

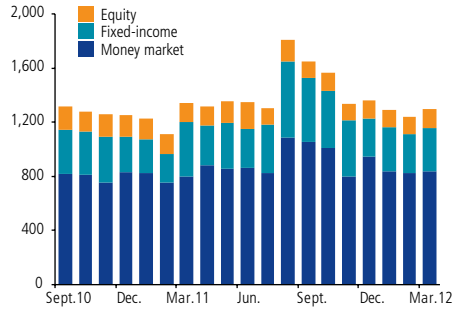
TABLE VI.1
Amounts settled and processed through the large-value payment systems (*)
(Ch$ billion)

	2011				2012
	I	II	III	IV	I
Payments settled in the RTGS	**7,725**	**8,691**	**7,719**	**8,344**	**8,456**
Interbank	2,647	3,143	3,049	3,393	3,141
Own account	891	1,006	1,120	1,315	1,239
Client account	1,020	1,303	1,001	1,164	1,355
Securities market, CCLV	348	386	428	404	357
Securities market, not CCLV	389	449	500	510	547
Clearing houses (net)	597	608	581	601	560
Checks	110	127	114	123	120
Automatic teller machines	20	22	21	22	22
Combanc	467	458	447	456	418
Central Bank of Chile	4,480	4,940	4,090	4,351	4,755
Payments processed in *Combanc*	**2,676**	**3,031**	**3,204**	**3,354**	**3,131**
Own account	750	821	867	926	804
Client account	1,433	1,610	1,650	1,744	1,564
Securities market, not CCLV	493	601	688	684	763

(*) Daily averages for each quarter.

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

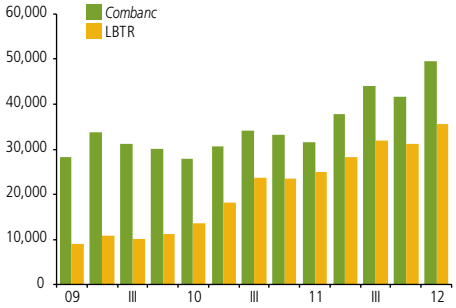
FIGURE VI.1
Amounts settled in the CCLV by type of instrument (*)
(Ch$ billion)



(*) Daily averages.

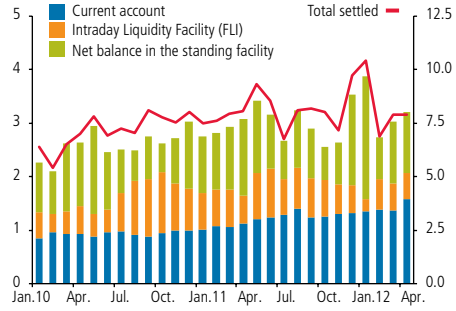
Source: Central Bank of Chile, based on data from the SVS.

FIGURE VI.2
Settlement systems for securities market transactions (*)
(Ch$ billion)



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

FIGURE VI.3
Liquidity in the RTGS system (*)
(Ch$ trillion)



(*) Monthly daily average.
Source: Central bank of Chile.

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

	2009	2010	2011
Checks	336,650	320,174	326,563
ATMs	13,729	17,212	20,325
Nonbank credit cards	4,636	5,438	5,048
Bank credit cards	3,713	4,598	5,970
Debit cards	2,580	3,460	4,763

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

in payments processed through *Combanc* (57%) than in payments cleared through the RTGS system (43%). These transactions were mostly settled through *Combanc* due to the advantages that this clearing house has over the RTGS system. In particular, *Combanc* offers delivery versus payment (DVP) services, which substantially reduces the credit risk involved in this type of transaction. *Combanc* also has lower liquidity requirements since it is a net settlement system.

Toward the end of 2011, the banks increased their use of the Central Bank's liquidity and deposit facilities

In December 2011 and January 2012, both the standing liquidity facility and the standing deposit facility grew strongly, while the intraday liquidity facility recorded one of the lowest levels in the period analyzed (figure VI.3). This suggests that the greater use of the standing liquidity facility provided by the Central Bank is not due to a reduction of other short-term funding sources, but rather reflects a precautionary decision on the part of the banks.

RETAIL PAYMENT SYSTEMS

The use of checks as a means of payment continued to decline…

During 2011, the number of transactions using checks as a means of payment decreased, as they were substituted with other means such as credit and debit cards (table VI.2 and figure VI.4). In terms of amount, however, checks increased slightly in 2011 (2% annual). The growth rate of bank credit cards in 2011 was 30% in terms of amounts and 21% in terms of the number of transactions. Debit cards posted even higher annual growth rates: 38% in terms of amounts and 34% in terms of the number of transactions.

This downward trend in the use of checks is a process that has been underway for several years. The number of transactions has fallen almost continuously since 1998, from over 324 million transactions to almost 200 million in 2011. The amount of these check transactions was Ch$326 trillion in 2011, less than 60% of the peak of Ch$568 trillion in 2002 (figure VI.5).

…similar to the modernization trend seen in developed economies in the last decade

The use of checks has also fallen at the international level, in line with the development of the economies and their financial systems. This trend has been accompanied by the growth of electronic payment systems, as highlighted in past *Reports*. As the use of checks has declined, the technology associated with payment confirmation has advanced in the last decade toward electronic image processing, which allows for safer and more efficient payments. For example, in the United States, image recognition in check processing has been in use since 2004[1]/.

[1]/ The Check 21 Act is a U.S. federal law that entered into effect in October 2004. For more detail on this law, see www.fdic.gov/consumers/consumers/alerts/check21.html.

In this context, the new regulatory guidelines on the early release of check funds, through an initiative promoted by the industry, will allow Chile to progress toward convergence with international standards (next section). Alongside this regulatory development, the banking industry as a group has committed to implementing the mentioned electronic recognition in January 2014.

FINANCIAL REGULATION

REGULATIONS ISSUED IN THE COUNTRY

The Central Bank and the SBIF have opened up a period of public comment on a change to the Regulations on the Check Clearing House and other regulations on national currency

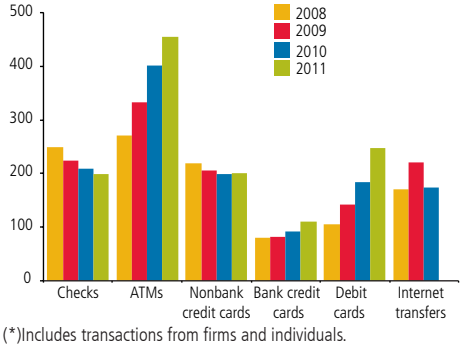
The Association of Banks and Financial Institutions (ABIF) requested that the Superintendence of Banks and Financial Institutions (SBIF) and the Central Bank modify the regulations governing the check clearing house such that deposited check funds are made available to bank clients at 9:00 a.m. on the day following the deposit, instead of at 13:30, with the exception of checks requiring some sort of clarification or consultation. This initiative is beneficial for all people and firms that receive check payments, in particular where liquidity management is an important variable in their business. From the perspective of financial stability, it is important that the issuing bank's liability to the receiving bank is established before the funds are released to the client. Otherwise, the financial strength of the receiving bank—and potentially of the financial system—could be compromised on paying out funds that are not recognized by the issuing bank.

REGULATORY DEVELOPMENTS IN THE MORTGAGE SECTOR

Since the last *Report*, several regulatory adjustments have been made that affect the mortgage sector. The Superintendence of Securities and insurance (SVS) and the SBIF issued guidelines on the bidding process for mortgage insurance contracts. In addition, under the agenda to promote competitiveness, these agencies made regulatory adjustments to facilitate the transfer of mortgage collateral. Finally, the Central Bank and the SBIF established a period of public comment on a new regulatory framework for banks that issue mortgage bonds ("bonos hipotecarios").

With regard to individual or collective mortgage insurance contracts, SBIF Regulation 3.530 and SVS Regulation 330 establish the minimum bidding requirements for these contracts and specify the information that must be provided to the insured borrowers. These regulations implement the recent changes to the Insurance Law, which aim to increase competition and reduce brokerage costs through open public bidding for mortgage insurance contracts.

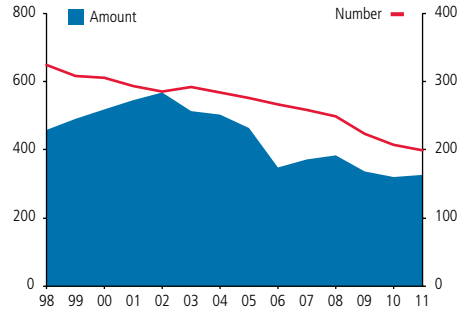
FIGURE VI.4
Retail payment means (*)
(millions of transactions)



(*)Includes transactions from firms and individuals.

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

FIGURE VI.5
Check transactions
(Ch$ trillion, millions of transactions)



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

The SBIF and the SVS also instituted regulatory changes to facilitate mortgage refinancing. These modifications aim to expedite the transfer of mortgage collateral, and they establish, among other provisions, time periods that must be met during the refinancing process and limitations on the objections that can be made with regard to the mortgage release.

Finally, mortgage bonds are a new instrument that banks can issue to fund mortgage loans. The distinctive feature of this type of instrument is that in the case of default or forced sale by the issuing bank, they are subject to special treatment established in the General Banking Law and, therefore, are a relatively less risky instrument for investors. The regulatory framework governing these instruments—and the loans financed with the resources obtained from them—was opened to a period of public comment jointly by the Central Bank and the SBIF.

COMMISSIONS ON SIGHT ACCOUNTS (WWW.SBIF.CL)

To facilitate people's access to financial services and increase competition among suppliers, the SBIF issued an Administrative Directive (3,352 for banks and 148 for cooperatives) to regulate the conditions under which banks and savings and loan cooperatives supervised by the SBIF can offer sight accounts. In particular, transaction fees were authorized, but with a maximum annual limit on the sum total of the charges. Once the limit is reached, future transactions are free of charge. Previously, these accounts could only be subject to an annual administration fee, which made it difficult to appropriately charge accounts with little movement and low balances.

LOANS ISSUED BY THE FAMILY COMPENSATION FUNDS (WWW.SUSESO.CL)

The Superintendence of Social Security issued Administrative Directive 2,824 aimed at reducing the debt of pensioners who take out loans from the family compensation funds (*Cajas de Compensación de Asignación Familiar*). Among other changes, the new guidelines set limits on the debt level, the financial burden and loan discounts and require that the funds provide financial education on their web sites.

ACQUISITION AND DISPOSAL OF INSTRUMENTS FOR THE PENSION FUNDS (WWW.SPENSIONES.CL)

Through Administrative Directive 39, the Superintendence of Pensions (SP) modified its *Compendium of Pension System Regulations* with regard to the acquisition and disposal of assets for the pension funds. While the regulatory guidelines establish a series of safeguards for the pension funds, in practice these mechanisms impede the settlement of the pension funds' local securities market transactions through the securities clearing house (CCLV), which inhibits

a greater development of this infrastructure. As discussed in previous *Reports*, this type of infrastructure incorporates a series of safeguards that contribute to financial stability.

INSTRUCTIONS FOR FINANCIAL AND NONFINANCIAL INSTITUTIONS THAT CONDUCT BUSINESS WITH POLITICALLY EXPOSED PERSONS (WWW.UAF.CL)

Following the recommendations of GAFISUD, the Financial Analysis Unit (UAF), in conjunction with the SVS, the SBIF and the SP, drew up a list politically exposed persons (PEPs). These agencies also issued simultaneous Administrative Directives (UAF Directive 48, SBIF Directive 3,534, SVS Directive 2,070 and SP Letter 8,869) specifying the procedures that supervised entities must follow when conducting business with PEPs. These include more exhaustive due diligence and client identification processes. PEPs are defined as "Chileans or foreigners who hold or have held high public office in a country, up to at least one year from the termination of that office." The guidelines include a non exhaustive list of high public offices.

HIGHLIGHTS IN INTERNATIONAL REGULATIONS

In 2009, the G20 came to the agreement that all OTC derivatives contracts should be reported to trade repositories, that the more standardized contracts be cleared through central counterparties and that capital requirements be strengthened for contracts still cleared bilaterally. This mandate has been incorporated into the global initiatives of the BIS and the reforms in the United States and the European Union.

The reforms introduced by the Basel Committee in 2009 on the treatment of market risk in the trading book ("Basel 2.5") translate, in particular, into higher capital requirements for credit derivatives associated with securitization and resecuritization. Additionally, under the framework of Basel III, strong incentives are given for clearing OTC derivatives through central counterparties, via a lower capital charge than for bilateral settlements. At the same time, the Committee has raised the standards for payment system infrastructure, including central counterparties and trade repositories. The new standards retain a central concern for security and efficiency, emphasizing corporate governance, risk management and competition, among other aspects.

Title VII of the Dodd-Frank Law establishes the U.S. regulatory framework for OTC derivatives, in line with the G20 objectives. The specific regulation, which was to be implemented by July 2011, is the responsibility of the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC). As of May 2012, almost 50% of the regulation related to this act has been finalized[2]/.In particular, the CFTC has finalized two crucial pieces of the

[2]/ Davis Polk (2012).

regulation: first, the requirement of detailed reporting on transactions to trade repositories; and second, the definition of a swap dealer and a major swap participant, which will be subject to higher capital and margin requirements in relation to their OTC derivative operations.

In the EU, the G20 commitment was implemented through the European Market Infrastructure Regulation (EMIR), which requires centralized clearing, reporting to repositories and higher capital requirements for bilateral clearing. The EMIR was approved by the European Parliament in March 2012. Similar to the Dodd-Frank Law, the EMIR delegates the specific regulation to the European Commission. In particular, the European Securities and Markets Authority (ESMA) must define the types of derivatives to be cleared through central counterparties, the capital requirements for bilateral clearing, the treatment of intra-group operations and exemptions for nonfinancial entities. The specific regulation must be finalized by 30 September 2012, to enter into effect toward the end of the year.

DOCUMENTS OF INTEREST PUBLISHED BY NATIONAL AND INTERNATIONAL ORGANIZATIONS

In the first half of 2012, the international discussion on financial regulation has centered on issues related to capital and/or liquidity requirements, infrastructure, transparency, risk management and governance (table VI.3).

TABLE VI.3
List of documents reviewed

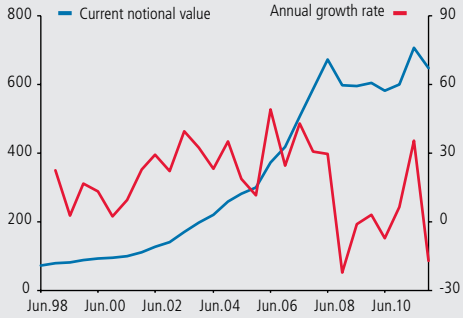
Document	Title	Organization	Capital / Liquidity	Infrastructure / Transparency	SIFI	Resolution	Macropru-dencial regulation	Risk mana-gement / Governance
1/	Thematic Review on Deposit Insurance Systems- Peer Review Report	FSB				x		x
2/	Securities Lending and Repos: Market Overview and Financial Stability Issues	FSB	x	x				
3/	FSB Principles for Sound Residential Mortgage Underwriting Practices	FSB					x	x
4/	Instruments of macroprudential policy	BoE	x	x			x	x
5/	A new approach to financial regulation: securing stability, protecting consumers	HM treasury (UK)	x	x		x	x	x
6/	Core principles for effective banking supervision - consultative document	BIS	x	x		x		x
7/	Definition of capital disclosure requirements - consultative document	BIS	x	x				
8/	Principles for the supervision of financial conglomerates - consultative document	BIS	x		x			x
11/	The internal audit function in banks - consultative document	BIS						x
12/	Report on intra-group support measures	BIS			x			x
13/	Peer review of supervisory authorities' implementation of stress testing principles	BIS		x				x
14/	Principles for financial market infrastructures	BIS		x				x
15/	Fundamental review of the trading book - consultative document	BIS	x					x

Source: Web sites of each institution.

BOX VI.1
OTC DERIVATIVES INFRASTRUCTURE IN CHILE

Before the subprime crisis, the use of derivative instruments traded directly between parties, known as over-the-counter (OTC) derivatives, recorded high growth rates at the international level and also in Chile (figure VI.6)[3]/. The participants in these markets increased their risk exposure significantly, turning this type of instrument, especially credit default swaps (CDSs), into amplifiers of the financial crisis (BIS, 2008). While the problems associated with opacity in the OTC markets, as well as the risks these instruments pose for financial stability (including counterparty, legal and operational risk) were known, they materialized with particular severity during the financial crisis. In 2008, the near collapse of Bear Sterns, the fall of Lehman Brothers and the rescue of AIG had a relevant impact on the OTC derivatives markets, especially CDSs.

FIGURE VI.6
OTC derivatives market
(US$ billion, percent)



Source: BIS (2012).

The role of central counterparties during the crisis

The magnitude of the effects was different according to the financial infrastructure of each market, specifically depending on the existence (or not) of central counterparties (CCP). CCPs act as the buyer for every seller and the seller for every buyer, bearing the payment responsibility for each transaction and diminishing the direct bilateral interconnection between the financial institutions involved. In comparison with bilateral clearing schemes, the presence of a CCP that operates with high risk management standards limits the risk of contagion, reduces liquidity requirements, improves operating efficiency and can increase the availability of information (Cecchetti et al., 2009).

The case of Lehman Brothers exemplifies the contribution of the financial infrastructure, in particular the existence of central counterparties (CCPs), for mitigating the systemic effects of the failure of an important market participant. In the CDS market, there were no precise data on the volume of transactions in which Lehman Brothers was one of the counterparties. As a result of this lack of information, combined with complex settlement procedures, there is still no clear idea of the exact magnitude of the total losses in the Lehman Brothers bankruptcy. In contrast, in the foreign currency forward and repo markets, where Lehman Brothers was also an important actor, the existence of CCPs allowed the positions to be transferred and cleared practically without losses (CCP12, 2009).

International regulatory response

Following the crisis, the regulatory response at the international level, led by the G20 and the FSB, mainly sought to move toward the development of greater organization of derivatives transactions. This includes increasing the available data for market agents and supervisors, through the establishment of trade repositories, as well as the centralized processing of OTC contracts through CCPs. The G20 has also pushed for the stock market transaction of sufficiently standardized contracts. The G20 agreed to implement this mandate in its member countries toward the end of 2012, which is being carried out independently in each country through legal modifications[4]/.

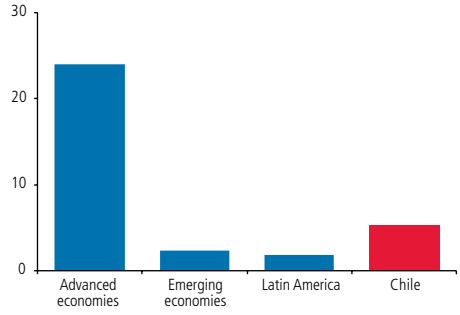
[3]/ See BIS (2012a).

[4]/ For information on the status of this initiative, see FSB (2011).

Relevance of the international discussion for Chile

In Chile, the derivatives market is significant both in terms of the local financial market and compared with other emerging economies (figure VI.7). It is essentially OTC, and the trading mainly involves standardized instruments such as swaps and currency forwards[5]/.In terms of infrastructure, there are shortages in the available information, and there are no multilateral clearing mechanisms. There is thus substantial room for improvement, in line with its development at the international level.

FIGURE VI.7
Derivatives market activity
(percent of GDP) (*)



(*) Includes annual forwards, forex swaps, currency swaps and options, for 2010.
Source: Acharán and Villena (2011).

Although there are no CCPs in operation, the legal framework of Law 20,345 on securities settlement and clearing provides the foundation for their development[6]. This Law incorporates a large share of the financial safeguards recommended by international organizations, which is particularly important given that CCPs are systemically important entities and thus require strong regulation and supervision. This situation raises challenges for regulators and market participants. Not only does Chile need to develop infrastructure such as trade repositories, central counterparties and eventually a larger fraction of exchange traded transactions, but the regulatory guidelines need to provide incentives for this development and to include international recommendations in this area.

The main challenges are twofold: (i) in the absence of other considerations, market agents will tend to use the infrastructure that represents the lowest cost, which is not necessarily optimal from the perspective of financial stability, so it is necessary to address the current scheme of available regulatory incentives, such as the capital requirements charged to banks for this type of transaction; and (ii) the direct participation of the pension funds in the CCPs would provide a strong incentive for the development of these entities, but it is limited for regulatory reasons.

An additional challenge arises from the interaction of the local regulations and infrastructure with global regulatory initiatives, which are currently under development. For example, transactions with foreign counterparties that must be processed through CCPs could cause an increase in the transaction costs of local entities, putting pressure on the volume of derivatives trading.

Some of the concerns identified herein cannot necessarily be solved within the context of the legal faculties of the Central Bank, but have dimensions that are related, one way or another, with all the financial system regulators.

Finally, there are currently two private sector initiatives that point in the direction indicated in this box. It is important that these initiatives take into account the most current principles on financial infrastructure being developed by IOSCO and the CPSS (BIS, 2012b).

[5]/ For a comparison of the Chilean derivatives and foreign exchange spot markets at the international level, see Acharán and Villena (2011).

[6]/ See the *Financial Stability Report* for the first half of 2009.

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GLOSSARY

Available-for-sale instruments: Financial instruments that are not included in either the trading instruments category or the held-to-maturity investment category.

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

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

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%).

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

CCAV: Large-Value Payment Clearing House (*Cámara de Compensación de Pagos de Alto Valor*). Electronic system of interbank payments that operates as a netting engine, with procedures to ensure the final clearing of the net results of each settlement cycle in the RTGS system.

CDS: Credit default swap. 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.

CEMBI Chile spread: Measures the differential return on corporate bonds in dollars issued by a Chilean firms in international markets, relative to U.S. Treasury bonds.

Central government: Institutions associated with the three branches of the state (executive, legislative, and judicial), as well as Law N° 13,196, the interest earned from recognition bonds, and the oil price stabilization fund.

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).

Consolidated government: Total central government and the Central Bank of Chile.

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.

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

Currency hedge: Derivatives position that allows the investor to partially or totally offset, vis-á-vis the local currency, the fluctuations in a foreign currency in which investment instruments are denominated.

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

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

Default: The nonpayment of the interest or principal on a legally contracted debt.

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.

Delivery versus payment (DVP): According to the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements (BIS), any DVP model must comply with three basic requirements: the valid delivery of the securities, the irrevocable payment of the funds and the transfer of the securities solely conditional on the simultaneous transfer of the funds.

Dodd-Frank Law: Law signed in the United States in July 2010, whose objectives are to strengthen the stability and transparency of the financial system, reduce the risk implicit in systemically important institutions (too big to fail) and taxpayer-funded financial institution rescues, and improve consumer protection mechanisms.

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

EBA: European Banking Authority. Established by the European Parliament on 24 November 2010 to replace the Committee of European Banking Supervisors (CEBS). This regulatory agency arose from the need to monitor, evaluate and advise on the behavior of the European banking systems.

EMBI Global spread: The most commonly used measure of emerging market risk. The difference between the return on emerging economies' sovereign debt in dollars issued in international markets and U.S. Treasury bonds.

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

European periphery: Term for countries in the euro area that have had fiscal difficulties since the subprime crisis and that signed fiscal deficit agreements with the European Commission in 2010, effective through 2020. In particular, the peripheral countries are Portugal, Ireland, Italy, Greece, and Spain.

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 drafts. 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 disposable income.

FLI: Intraday liquidity facility (*Facilidad de Liquidez Intradía*). Financing granted by the Central Bank of Chile to banking entities through the RTGS system. This facility operates daily through the purchase of financial instruments with a repurchase agreement. The terms and conditions of these operations are contained in the Central Bank's financial regulations.

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.

FPD: Standing deposit facility (*Facilidad Permanente de Depósito o Depósito de Liquidez*). Operations through which the Central Bank contributes to banks' liquidity management by accepting deposits. The deposits collect interest on the agreed maturity date, as established in the Central Bank's financial regulations.

FPL: Standing liquidity facility (*Facilidad Permanente de Liquidez*). Financing instrument loaned by the Central Bank of Chile to banks via the purchase of securities with a repurchase agreement. This window is contracted at an interest rate and maturity established in the Central Bank's financial regulations.

FSB: Financial Stability Board. An international forum operating under the auspices of the G20, comprising national financial authorities and international agencies. The Board's objective is to coordinate the work of its members in the development and promotion of effective regulation and supervision, as well as other financial policies.

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

G7: An economic and political group made up of the seven largest industrialized countries (namely, Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

GAFISUD: South American Financial Action Group. An regionally based intergovernmental organization to promote the implementation and continuous improvement of policies to fight asset laundering and terrorist financing.

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: 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.

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

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

Listed instruments: Instruments issued by firms and traded in the capital market.

Local governments (Spain): Regional governments of the Autonomous Communities and provinces of Spain.

LVPS: Large-value payment systems. Comprises the RTGS and CCAV systems.

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: Morgan Stanley Capital International, a company that provides stock, bond and hedge fund indices. The MSCI indices are used as benchmarks because they provide a basis for comparing the value of companies or stock market indices from different economies, since they are calculated using a single methodology.

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.

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 flow: Cash movements including all transactions and events that are not defined as investment or financing, which are mainly related to the entity's business, that is, the production and supply of goods and services in a given period.

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

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 (offered by local banks to their prime clients, namely institutional investors and large firms) and the average interbank swap rate.

Repos: Repurchase (reverse repurchase) agreements. A sale (purchase) collateralized with an agreement or commitment to repurchase (sell back) the security.

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.

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.

RTGS: Real-time gross settlements system. Electronic interbank payment system managed by the Central Bank of Chile, in which the processing and clearing of transactions is carried out continuously, individually, and in real time.

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

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.

Swap: Derivatives contract between two parties, who carry out an exchange of flows at future dates. One of the most common swap contracts is the interest rate swap, in which the parties exchange predetermined flows at a fixed rate, set when the contract is written, for predetermined flows at a variable rate.

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.

Trading instruments: Easily transferable instruments acquired with the objective of reselling them in the short term in order to make gains from arbitrage or fluctuations in the market rate or price.

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

Transaction repository: A central registry of transactions, with information at the individual contract level, whether cleared through bilateral or centralized settlement.

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

Type 1 mutual fund: Mutual funds that invest in short-term debt instruments, with a duration of 90 days or less. Also called a money market fund or a short-term mutual fund.

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.

Volatile funding ratio: The fraction of liquid assets that are financed with volatile liabilities, measured as liquid assets over volatile liabilities net of liquid assets.

ABBREVIATIONS

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

BIS: Bank for International Settlements.

CDS: Credit Default Swap.

CEMBI: Corporate Emerging Market Bond Index.

CSD: Central Securities Depository.

ECB: European Central Bank.

EMBI: Emerging Market Bond Index.

EU: European Union.

GDP: Gross domestic product.

IMF: International Monetary Fund.

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

IRS: Internal Revenue Service.

Libor: London Inter-Bank Offered Rate.

PDBC: Central Bank discountable promissory notes denominated in pesos (Ch$).

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

SMEs: Small and medium-sized enterprises.

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

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

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

U.S.: United States of America.

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

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Alejandro Zurbuchen S.
LEGAL REPRESENTATIVE

CENTRAL BANK OF CHILE
Institutional Affairs Division
Publications Department
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ISSN: 0716-2219
Santiago, Chile
Agustinas 1180, Santiago, Chile
P.O. Box 967, Santiago, Chile
Tel.: 56-2-670 2000
Fax: 56-2-670 2231
www.bcentral.cl
bcch@bcentral.cl

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DE CHILE

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