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Financial Stability Report

BANCO CENTRAL DE CHILE

Financial Stability Report*

Second Half 2009

BANCO CENTRAL
DE CHILE

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

Contents[1/]

[1]/ The statistical closing date of the *Report* was 25 November 2009.

Preface

As established in its Basic Constitutional Act, the Central Bank of Chile must "safeguard the stability of the currency and the normal functioning 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 functioning 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 second half of the year continued along the trend toward better real and financial conditions that began last March. The resolute policy actions in the financial front, that provided both liquidity and guarantees, allowed for the gradual recovery of confidence. This reduction in uncertainty, together with expansionary macroeconomic policies, has resulted in signs of a recovering world economy.

Improved financial conditions, meanwhile, have translated into a decline in risk premiums, stock prices picking up and a resumption of portfolio flows to emerging economies. The Libor-OIS premium, that has served as a barometer to gauge the willingness of banks to both trust counterparties and let go of their liquidity, has returned to levels approaching those of August 2007. Risk premiums in other markets, such as U.S. corporate bonds with and without investment grade, the EMBI and the one reflected by financial institutions' CDS, have also declined to later stabilize in recent month at higher than pre-crisis levels. This is sound, considering that pre-crisis levels were abnormally low and partly reflected the conditions that incubated the crisis. Finally, stocks have recovered in both developed and emerging economies. The latter have received a significant inflow of portfolio investment.

However, in other dimensions, the situation of the international financial system still faces challenges regarding the recovery's consolidation. On one hand, international banks have yet to recognize losses originating in those assets that were directly affected by the crisis. This means that banking recapitalization of a magnitude that provides security and permits to resume credit market activity is a major challenge. On the other hand, lending is low in the countries that have been hit hardest by the financial meltdown. Credit weakness does not affect only bank loans, but also non-banking intermediation, which was severely affected by the crisis, particularly in the U.S., and has still not recovered.

The future trajectory of the financial system is not free of risks. One risk has to do with the fact that part of the relative stability achieved recently relies on specific financial system back-up programs, such as the possibility of issuing collateralized debt in the prevailing monetary policy conditions that have granted access to liquidity at a very low cost. This has permitted to generate profits that strengthen the banks' balance sheets. These policies are transitory and their withdrawal is set to occur in a gradual manner, beginning in the months to come. Meanwhile, the credit risk in certain assets—where worth singling out is the commercial mortgage portfolio—at U.S. and European banks, is still high. The recent default in Dubai is one example of such a risk materialized.

The recovery of the global financial system has been visible in improved access of the Chilean economy to international credit. Premiums charged Chilean banks above external reference interest rates, first declined and have now stabilized around 50 basis points. The dispersion of these premiums is higher than it was before the crisis, which apparently signals increased discrimination on the part of suppliers. This sets the right incentives to potential borrowers, as it rewards those with a stronger financial position. New counterparties have also emerged. However, other signs of tighter constraints remain, such as shorter lending maturities. Finally, Chilean firms have placed bonds in the international market, which, in practice, was closed for domestic firms since mid 2008.

The same as other emerging economies, Chile received significant portfolio investment inflows, which at the third quarter stood at 0.9% of GDP. **Chile stands out in portfolio investment outflows from institutional investors,** which have been particularly high, in both the second and the third quarter of 2009, getting as high as 3% of GDP.

Despite increased external borrowing seen since March, and a reduction in Chilean sovereign funds since the last Report, **different external liquidity indicators for the Chilean economy are showing improvement since the first quarter** and are at their best since December 2007. Additionally, the economy enjoys a strong position of aggregate external solvency.

In the local financial markets, it is worth noting the impact of the Central Bank of Chile's monetary policy actions, namely the reduction in the monetary policy interest rate and the establishment of the Term Liquidity Facility (FLAP) in July. After these policy measures, there was a marked flattening of the interest rate curve up to the maximum term of such facility. The spread between the prime rate and the interbank interest rate swap, both at 180 days, declined to almost zero and remained low through September, when market expectations began including a scenario of increased rates toward the end of the projection horizon. The use of the FLAP has been intense. At the closing of this Report, it had provided nearly C$2.5 trillion, of which $1.3 trillion had been drained through the deposit facility of the Central Bank. On 12 November, the Bank communicated that it would gradually reduce the term of the FLAP, until it fades completely in May 2010.

A second noteworthy development in the local financial market has been the substantial shift of portfolio of pension funds, mainly toward external assets. These assets went from 24% of the fund in February 2009 to 41.6% in October, with monthly average capital outflows of US$1.6 billion between March and September. Forward hedging contracts subscribed in foreign currencies reached, at the same time, US$1.4 billion per month. This has resulted in increases in the on-shore interest rate in dollars since September, which reflects, in turn, marginal interest rates for external funding that are higher than they were before the crisis. The prices of important domestic financial assets (e.g., stock indexes and the exchange rate) have adjusted significantly, but with moderate volatility.

In the second half of 2008, the Central Bank adopted various transitory measures to increase the flexibility of the financial market's liquidity operation in both pesos and foreign currencies, with the purpose of mitigating the effects of the global financial crisis on the local economy. Said measures permitted to opportunely prevent liquidity problems. **Due to the improved global financial scenario, the strong domestic financial system and the**

adequate access to international financial markets, the Central Bank of Chile announced last 30 October a program to withdraw the liquidity back-up measures.

During the second half, corporate bond spreads in the local market have returned to their historic averages. Meanwhile, **the strong dynamism of issued local market instruments has continued,** including bonds and commercial papers, which have become a borrowing option alternative to foreign credit. The dynamism of bond issuance is expected to continue in the coming months.

Within the group of companies with public balance sheets, those with a tighter liquidity situation at December 2008 are showing significant improvement at June 2009. Meanwhile, estimated currency mismatches are close to zero, one of the lowest figures of the decade.

At the third quarter of 2009, household debt shows a slight rebound in its y-o-y growth rates, particularly in its consumption component. However, **the ratio of total debt to disposable income (DIR) has dropped in the last two quarters, as has the ratio between the financial burden (principal and interests payable) and disposable income (FIR).** The drop in the FIR obeys to both the reduced contracted amount and lower interest rates prevailing. These adjustments are welcome from a financial stability perspective, given the higher risk faced by households of losing their jobs during the year. While the latest figures suggest that job losses have ceased, the recovery of employment normally takes one or two quarters to catch up with economic activity, so both households and lenders should continue to be particularly prudent for some time.

Despite the fiscal deficit projected for 2009, the government enjoys a solid financial position, reflected in a net creditor position of 17% of GDP.

Banking loans' y-o-y growth rates dropped to their record low in the third quarter of 2009, but are showing a slight rebound in recent months for every credit category. Growth in consumer and retail credit is close to zero, but mortgage loans continue to grow over 5%. Banks' performance has been fairly homogenous, with the exception of state-owned BancoEstado, whose commercial loans outperformed those of private banks. The banks' credit conditions survey confirms this increased dynamism, showing a growing fraction of banks responding that their credit conditions are more flexible than in the previous quarter, while sensing a stronger demand.

Late last year, the banks' portfolio risk indicators (i.e., stock and expenditure in provisions, past-due loans and write-offs) deteriorated sharply, in line with the real economy. Said deterioration proceeded until few months ago, and has been stable since. The hardest hit segments were mortgage and consumer loans.

Existing provisions for commercial and consumer loans exceed past-due loans. This is true, even using measures for past due loans that consider the totality of the bad loan and not only the expired installments. For housing loans—where collateral is greater—, provisions are the equivalent of 20% of the past-due portfolio, so that is the loss that could be faced in the average recovery value of collaterals (properties) before said past-due loans affect banks' profits

In general, banks' return on capital is high, above 15% annually for the system, driven by earnings in trading and low financing costs. One exception is consumer banking, due to its higher losses associated to the business cycle and the smaller weight of financial investment in its portfolios. In future, it is foreseeable that recent sources of gains will lose momentum because of interest rate normalization, and that the sources of losses will remain in place, as losses continue to be recognized in deteriorated portfolios. Accordingly, it can be expected that banks' profits will be smaller in the coming future.

The drop in lending and a higher proportion of liquid assets have favored the solvency of the banking system, resulting in the average capital adequacy index remaining above 13%. Other contributors to the evolution of the CAI have been additional capital contributions, the capitalization of a larger proportion of profits and the creation of higher profits in the year.

Regarding other risks, banks are holding more liquid assets and currency mismatches are almost nonexistent. However, the share of term deposits of mutual funds in banks' liabilities has increased. Accordingly, high dependence persists of some smaller banks on this type of funding. Despite their smaller relative size, it is important that the liquidity management policy of these entities account for this high dependence on large-scale sources, where renewal may be more difficult in periods of financial stress.

Finally, stress tests performed with information up to September 2009 show that, in a baseline scenario that assumes a recovery of economic activity and, therefore, of loans, the banking industry's profitability remains fairly flat, while the system's average CAI declines due to increased lending, but with no cases of banks falling below 10%. In the risk scenario, the system's average profitability and that of some specific banks is lower, while the average CAI increases because of zero growth in lending. In this scenario, some smaller size banks might require a limited reinforcement of their capital base, for its CAI to remain above 10%.

In the present context of incipient recovery, three external threats are identified facing the Chilean economy's financial stability. First, despite improved global growth expectations since the last Report, the threat remains of the world economy growing significantly less than assumed in the Monetary Policy Report's baseline scenario. Among the risk factors jeopardizing the recovery of world output, it is worth mentioning the weak spots that persist in the financial systems of developed economies, an early and disorderly withdrawal of macroeconomic stimulus and financial back-up packages, and the effects of price corrections in financial assets and commodities on the prevailing uncertainty. A second threat has to do with the effects on the domestic economy of non-banking capital flows to emerging economies being unchanged or increased, due to portfolio rebalancing or reallocation of external savings in economies with surpluses. The third threat is the Chilean economy encountering difficulties in its access to foreign lending.

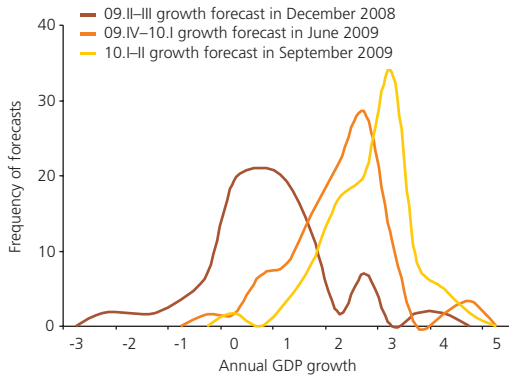
The banking industry and other financial intermediaries should consider these threats in their operations and plans for 2010. On one hand, by assessing the adequacy of their capital base facing the risk of a new world meltdown, with repercussions in domestic output and employment. On the other hand, by prudently administering their liquidity in pesos and other currencies, actively diversifying its counterparties and sources of credit.

I. Financial environment and risks

Figure I.1

U.S. GDP growth forecasts (*)

(percent)



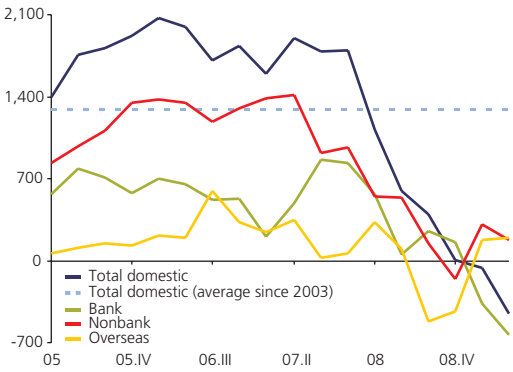
(*) For the six months beginning at the end of the quarter immediately following the month of the forecast. Forecasts by more than 55 global analysts.

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

Figure I.2

Flows of net private loans in the U.S.

(annualized flows, US$ billion)



Source: Federal Reserve.

This chapter reviews the recent conditions and developments in the international financial markets. It also describes and lays the foundation of the Central Bank of Chile's assessment of the main risk factors for national financial stability.

Development of the international financial crisis

Since the last Report, the global economy has begun to show signs of recovery, although it remains uncertain how strong the recovery will be

After the second quarter, in which the rate of contraction decreased in several countries, the world economy began to show clearer signs of recovery. In the third quarter of 2009, annualized quarterly GDP grew 2.8% in the U.S. and 1.5% in the euro area, while it contracted 1.2% in the United Kingdom. These figures compare favorably with the second quarter of 2009, when output fell an annualized 0.7% in the U.S. and the euro area and 2.3% in the United Kingdom.

In line with the improved economic data, expectations for growth in 2010 have improved. The IMF is forecasting world growth of 3.1% in 2010, which is 0.6 percentage points over its last forecast. While doubts about the strength of the recovery have grown in recent months, expectations would be converging to growth near 2.5% for 2010 and the uncertainty surrounding these forecasts would be lifting. The standard deviation of the forecasts for the subsequent half year fell from 1.15% in December 2008 to 0.83% in September 2009, although it is still higher than the average for the last decade (0.72%) (figure I.1).

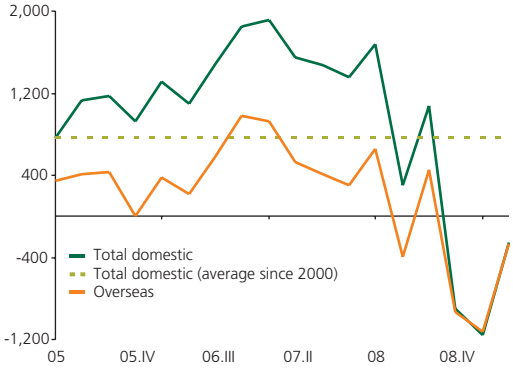
Credit continues to be weak in the advanced economies…

Private credit in the U.S. and bank credit in the euro area continued to contract. In the U.S., the annualized flow of total private credit fell for the second consecutive quarter, reaching US$454 billion in the second quarter of 2009 (figure I.2). In absolute terms, the annualized flow of bank credit contracted the most in the second quarter (–US$632 billion), although nonbank lending recorded a bigger drop relative to its historical peak. In the euro area, the annualized flow of bank credit followed a similar path, contracting for three consecutive quarters, but the drop in the second quarter of 2009 was smaller than in the previous quarters (figure I.3).

Figure I.3

Flows of private loans in the euro area (*)

(annualized flows, € billion)



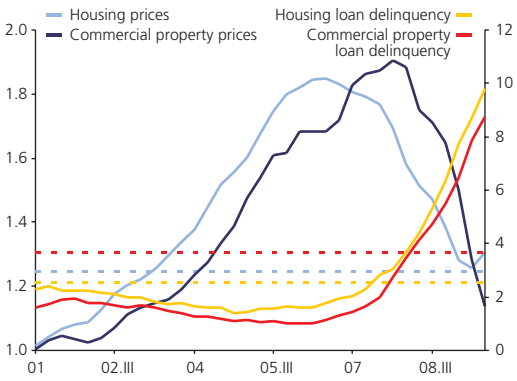
(*) Of financial monetary institutions.

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

Figure I.4

Prices and delinquency rates in the U.S. housing market (*)

(baseline index 01.I=1, percent of the total corresponding credit)



(*) The dotted lines represent the average from 1991 onward for the series of the same color.

Sources: MIT Center for Real Estate, Federal Reserve, and S&P/Case-Shiller Indices.

In the U.S., the contraction of credit flows is explained, in part, by the ongoing deleveraging process among households and the financial sector. The savings rate of U.S. households continued the upward trend that began in the third quarter of 2007, reaching 8% of disposable income as of the statistical closing date of this *Report*. There may still be room for greater savings, however, given that the average savings rate since 1953 is almost 8.6%. The magnitude and speed of household debt reduction is especially remarkable considering that average savings between 2000 and 2007 was only 1.4% of disposable income.

U.S. housing prices have recovered slightly since the last *Report*, while commercial property prices continued to fall (figure I.4). As of the third quarter of 2009, housing prices have dropped 29% from their peak in the third quarter of 2006. Commercial properties, which peaked in the fourth quarter of 2007, have fallen 40% as of the third quarter of 2009. This trend is reflected in the sector's continued weak performance, and it could have important consequences for the balance sheets of small and medium-sized banks. In the euro area, housing prices are beginning to show signs of recovery at the margin, after falling during the crisis.

…in part because the market for securitized assets has not yet been rekindled

Activity has yet to be restored in the market for securitized assets. To date, the Fed has purchased nearly 100% of the net issue of debt and mortgage-backed securities (MBS) by agencies in the U.S. The fact that private buyers are not participating in this market could create difficulties for the Fed's exit strategy. For example, if the Fed has to sell agency MBS after having been the sole buyer, and if private demand for these assets is not restored, then prices in this market could drop sharply, generating large quasi-fiscal deficits and jeopardizing the recovery. Similar problems could occur in other markets where central banks are involved (e.g., Treasury bonds).

While the Fed continues to support the market for commercial papers through two market stabilization programs, they are not being used to the same extent as in the previous period. Access to the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) has become more difficult, while the Commercial Paper Funding Facility (CPFF) is being used less and less. Even so, it has been extended through February 2010.

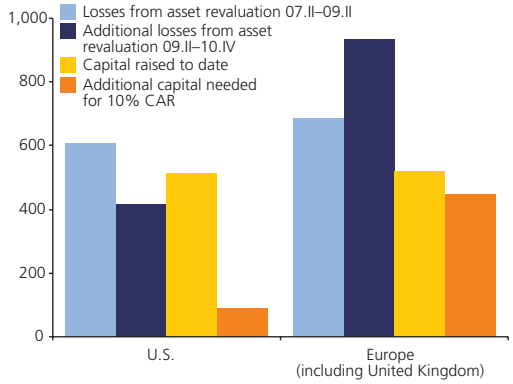
Similarly in the euro area the market for securitized assets has not recovered. Issues of this type of instrument continue to be significantly below pre-crisis levels. Notably, the only new issues have been assets eligible to be used as collateral for the European Central Bank.

This year, bond issues by nonfinancial firms have exceeded the average for the period from 2000 to date, in both the U.S. and the euro area. In the case of financial firms, bond issues were substantially below the average, despite guarantees from the Federal Deposit Insurance Corporation (FDIC). This support has been considerable: of the total bonds issued by U.S. financial institutions, which reached US$1.2 trillion in the second quarter of 2009, US$339 billion (27%) are guaranteed by the FDIC.

Figure I.5

Capital increases and losses in the banking sector

(US$ billion)



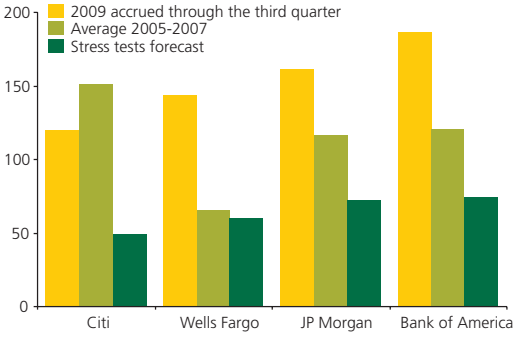
(*) CAR = Capital adequacy ratio.

Sources: Bloomberg and IMF.

Figure I.6

Earnings of the four largest U.S. banks (*)

(US$ billion)



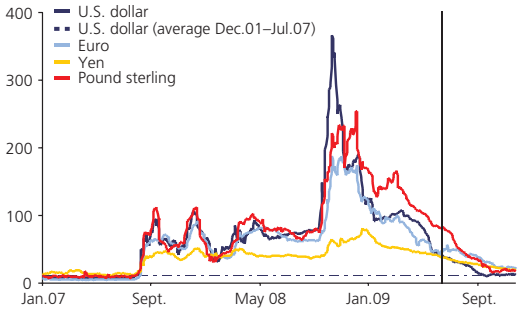
(*) Before provisions. Data equivalent to two years (biannual rate).

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

Figure I.7

Three-month liquidity conditions in the interbank market (1) (2)

(basis points)



(1) Spreads between the Libor and the Overnight Index Swap (OIS) rate for each region.
(2) The vertical line indicates the closing date of the last *Report*.

Source: Bloomberg.

The larger banks reported higher-than-expected earnings, but doubts remain about whether their capitalization is compatible with healthy credit growth

The IMF estimates that the international banking system has yet to recognize nearly 60% of its losses, or US$1.35 trillion (figure I.5). While the U.S. banking system would have already recognized around 65% of its total losses, the European banking system would have recognized less than 30%[1]/. In terms of capitalization, it is estimated that the U.S. banking system needs approximately US$90 billion to reach a capital adequacy ratio (CAR) of 10%. The figure is US$445 billion for the European banking system (including the United Kingdom).

To date, the earnings generated by the largest U.S. banks have been greater than the assumptions used in the stress tests carried out by the Fed (figure I.6). However, a share of these earnings could be transitory. Accounting changes in asset valuation, profits from trading financial instruments and transaction commissions have increased earnings at the margin. For the four main U.S. banks, these items together account for a total of US$148 billion in the first three quarters of 2009, versus just US$69 billion for all of 2008.

There have not been any new financial instability events that could have restricted credit access in emerging markets

Liquidity spreads have continued to fall since the last *Report* (figure I.7). In the U.S., the three-month Libor-OIS spread was 12 basis points at the close of this *Report*, which is close to the average between December 2001 and July 2007 (11 basis points) and far below the 38 basis points recorded at the close of the last *Report*. The six-month Libor-OIS spread recovered less, ending at 32 basis points, compared with an average of 12 basis points for the same period.

The VIX —which measures the expected stock market volatility implied in S&P500 stock options— has also fallen. It reached 20 on the statistical closing date of this *Report*, which is very close to its historical average of 22. Both the CDS spreads and stock prices of European and U.S. banks improved, on average (figure I.8).

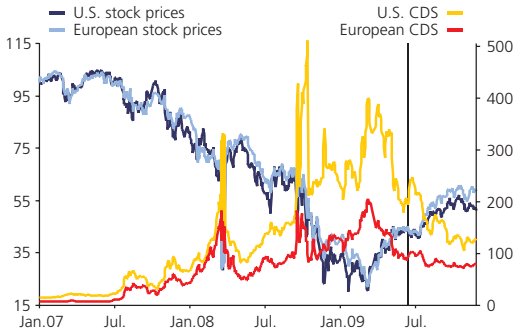
The cost of debt followed a similar trend, as reflected in the shrinking spreads on U.S. investment-grade corporate bonds, high-yield bonds, and EMBI Global bonds (figure I.9). However, while EMBI spreads are already below the average for the 2002–09 period, investment-grade corporate bonds and, to a greater extent, high-yield bonds are still above their historical averages. This could reflect the better relative position of some of the larger emerging economies after the crisis, vis-à-vis the U.S. corporate sector.

[1]/ The western European banking system is exposed to the worsening of economic conditions in emerging Europe. The consolidated loans of euro area banks to this region are equivalent to 8% of the GDP of the euro area.

Figure I.8

Bank stock prices and default spreads (1) (2) (3)

(baseline index Jan.07=100, basis points)



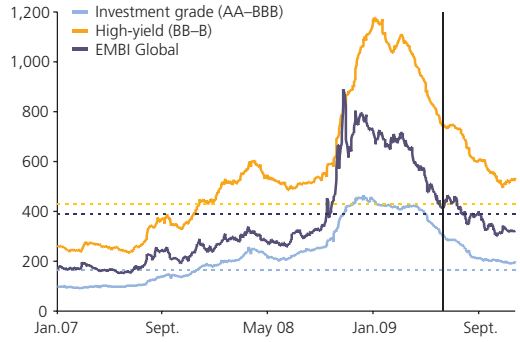
(1) U.S: Citigroup, JP Morgan, Goldman Sachs, Morgan Stanley, and Bank of America. Europe: UBS, HSBC, Deutsche Bank, Santander, BBVA, and ING.
(2) Measured through the five-year credit default swaps (CDS) spread.
(3) The vertical line indicates the closing date of the last *Report*.

Source: Bloomberg.

Figure I.9

U.S. corporate bond and EMBI spreads (1) (2) (3)

(basis points)



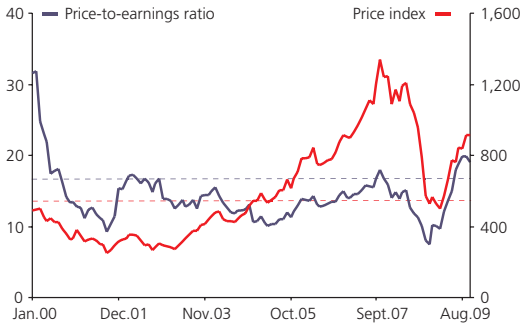
(1) Generic ten-year corporate bonds, spread over the ten-year Treasury bond rate.
(2) The dotted lines represent the average from September 2002 onward for the series of the same color.
(3) The vertical line indicates the closing date of the last *Report*.

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

Figure I.10

Emerging economies stock markets (1) (2)

(times, baseline index Dec.87=100)



(1) Prices are measured through the MSCI index in U.S. dollars for that region.
(2) The dotted lines represent the average from 1995 onward for the series of the same color.

Source: Bloomberg.

Despite the improvement in financial liquidity indicators and sovereign and corporate spreads, the occurrence of financial events such as the debt moratorium of Dubai World (a state-owned company in Dubai) could still have an effect on global financial conditions. In this case in particular, a key factor was the exposure of some systemically important European banks to this region.

The generalized improvement in financial asset prices has increased the risk of price corrections, especially in emerging economies

Since the last *Report*, stock prices have risen 20%, on average, in the main international markets, with a peak of nearly 30% in Latin America and a drop of 7% in Japan. Emerging economy stock markets, as a whole, saw increases of more than 23% in the same period. As a result of this increase, the price-to-earnings ratio for emerging markets approached 20 times, exceeding its historical average of 17 times (figure I.10 and table I.1). The increase in stock prices in emerging markets has been supported, in part, by the strong inflow of foreign capital, which is also substantially above its historical average (figure I.11). These flows have materialized as the demand for riskier assets has increased, in line with the gradual normalization of financial systems. At the same time, the disappearance of the market for securitized assets has reduced the supply of financial instruments. Countries that have experienced a greater inflow of international capital into variable-income instruments have seen bigger increases in their stock price indices (figure I.12).

Table I.1

Stock markets in selected regions

Region	Price level, October 2009 (July 2007=100)	P/E ratio, October 2009		
		Historic median (*)	July 2007=100	Level
Latin America	101.2	13.4	121.6	18.3
Emerging Asia	86.5	15.0	112.4	20.0
Eastern Europe	55.0	11.1	133.8	16.0

(*) Median for the period from January 2000 to October 2009.

Source: Bloomberg.

Strong and sustained capital inflows present challenges for macroeconomic policy. In countries with a floating exchange rate regime, it generates pressure for currency appreciation. In countries with a less flexible exchange rate regime, an excessive capital inflow could generate an overexpansion of credit in the economy and create incentives for the formation of financial asset price bubbles.

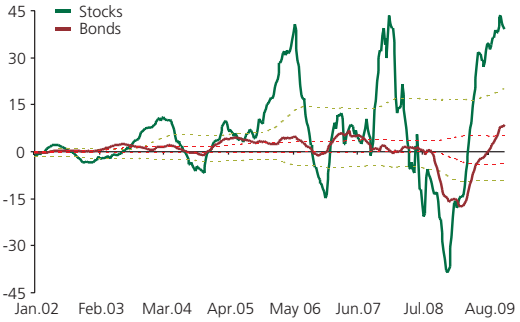
There is the risk that a sharp correction in the price of these assets could have a negative impact on market expectations, with adverse consequences for financial stability.

The timing of the withdrawal of fiscal and monetary stimulus policies and financial sector support programs carries risks for the international economy

Figure I.11

Capital flows to emerging economies (1) (2)

(US$ billion)



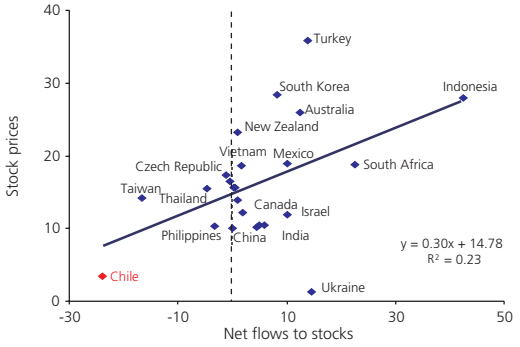
(1) Six-month moving average.
(2) The dotted lines are +/– one standard deviation relative to the average from July 2001 to date.

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

Figure I.12

Net flows to equity and stock market prices (*)

(percent change in U.S. dollars, percent of stock)



(*) In the third quarter of 2009.

Sources: Bloomberg and Emerging Market Portfolio Research.

In an attempt to facilitate the recovery of credit, central banks around the world have implemented a series of measures to support the financial system and have injected an unprecedented amount of liquidity (table I.2). Several of the support programs are still in effect.

Table I.2

Financial system support programs: amount committed and actual costs (1)

(percent of 2008 GDP)

	Guarantees		Recapitalization		
	Committed	Used	Committed	Used	Deposit insurance
					(Limit in US$)
U.S.	10.9	...	5.2	2.2	250,000
Japan	7.3	2.0	2.4	0.0	104,203
Germany	16.2	...	3.4	...	unlimited
United Kingdom	49.7	38.6	3.9	3.9	78,588

	Asset purchases and swaps		Direct loans and liquidity facilities (2)	
	Committed	Used	Committed	Used
U.S.	0.6	0.4	25.9	4.2
Japan	13.8	0.0	8.4	0.9
Germany	0.4	...	n.a.	n.a.
United Kingdom	0.0	n.a.	26.6	16.2

n.a.: Not applicable.
(1) Based on announcements made between January 2008 and June 2009. Actual use is based on the latest available data as of May–June 2009.
(2) Direct loans and liquidity provisions from a variety of state-owned agencies, including central banks, treasuries, corporations, and state-owned banks.

Source: IMF (2009).

According to the latest available data, total bank reserves deposited at the Fed grew from almost US$42 billion in January 2007 to around US$1.056 trillion in October 2009. Before the crisis, bank reserves held in excess of legal reserve requirements represented approximately 4% of total reserves. This figure is currently over 90%, such that excess reserves total US$995 billion. These reserves would cause an increase in the money supply only if the banks decide to extend private credit. Thus, when the money multiplier returns to normal values, the money mass in the U.S. could increase more than US$6 trillion[2]/. The Fed —like other central banks— is confident that it will be able to withdraw the excess liquidity on time and thus avoid not only inflationary pressures, but also a weakening of the recovery. Both the Fed and the European Central Bank have the ability, in addition to other tools, to pay interest on the bank reserves. This should help them control the withdrawal of the reserves independently of their interest rate policy.

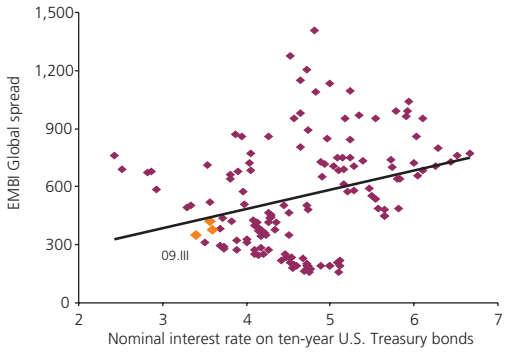
Both a too-early withdrawal and a too-late withdrawal of the stimulus packages present risks for the international economy. The premature withdrawal of the stimulus packages could affect the recovery, risking the possibility of a second output contraction. A late withdrawal could overheat the world economy, triggering the emergence of financial asset price bubbles and generating inflationary pressures.

[2]/ Assuming a multiplier of seven times.

Figure I.13

Sovereign spread in emerging countries and long-term interest rates in the U.S. (*)

(basis points, percent)



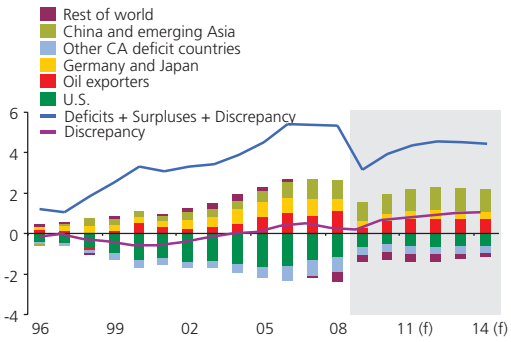
(*) Monthly averages. Data for the period from December 1997 to September 2009.

Source: Bloomberg.

Figure I.14

Global imbalances

(percent of world GDP)



(f) Forecast.
(1) Hong Kong, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand.
(2) Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, and United Kingdom.

Source: IMF.

With regard to fiscal policy, the deficits forecast for the advanced economies from 2009 onward could match the peaks of the postwar period. These deficits imply an increase in public debt issues, which in the case of the U.S. could reach almost 100% of GDP in 2014, according to estimates by the Congressional Budget Office (CBO). This could create the risk that the rising interest rates on these instruments would displace the debt of emerging countries like Chile, increasing the cost of external credit. Historically, increases in long-term interest rates in the U.S. have been associated with bigger sovereign spreads in emerging countries in the medium term (figure I.13).

It is not certain whether the reduction of global imbalances will be permanent

Global imbalances shrank in 2009 (figure I.14). However, international organizations estimate that there could be a resurgence of these imbalances in the coming years, which could affect both the shape and magnitude of world growth in the medium term. The persistence of an export-based growth model in some countries with a current account surplus (excess savings) is countered by the desire of some deficit countries to increase their savings and reduce their debt.

There are three alternative scenarios for the future. In the first, the countries that have thus far recorded surpluses increase their domestic consumption, decreasing their savings and, therefore, reducing their surplus. This process of balancing the world economy will probably require an appreciation and flexibilization of their exchange rates. In addition, given the small domestic demand in surplus countries, this scenario would be consistent with slower world growth. In the second scenario, the excess world savings is absorbed by countries that are currently in deficit. This alternative could involve risks for financial stability, by recreating some of the economic conditions that led to the crisis. Finally, in the third scenario, the excess savings of surplus countries is absorbed by emerging countries that, to date, have not been at the center of the discussion of global imbalances. This could produce abundant capital inflows into these countries. In particular, countries that, at the close of this *Report*, have received more capital inflows in relative terms have experienced stronger currency appreciation. In response to the exchange rate pressure, some countries could opt for measures to discourage capital inflows. Brazil and Taiwan have already taken the first steps in this direction.

Main external threats to the financial stability of the Chilean economy

Despite the improvement in expectations for world growth in the medium term, there is still a threat that growth will be slower than expected, although the probability has fallen since the last *Report* (table I.3). This threat is made up of four risk factors. First, the financial systems in the advanced economies still have a long road ahead in terms of recognizing losses and recapitalizing their balance sheets, which suggests that credit will continue to be weak for the next six months. Second, the ongoing deleveraging of households, together with a slow recovery of employment, translates into lower aggregate demand. These two factors are believed to have become less important since the last *Report*. Third, the current recovery is strictly tied to

fiscal and monetary stimulus plans in many economies. There is a risk that these programs could be withdrawn before activity picks up again. Fourth, sharp corrections in the valuation of financial assets, which have posted high growth rates in recent months, could generate new episodes of financial market stress and have a negative impact on market expectations for future growth. These two risk factors have gained relevance in recent months.

A second threat comes from the continuation and increase of capital flows into emerging economies. Two risk factors lie behind this new threat. First, the disappearance of the market for securitized assets has reduced the supply of risk-free assets in international financial centers like New York and London. Consequently, investors in search of better risk-return ratios could continue to redirect their portfolios toward emerging economies that are perceived as being relatively safer. Second, there could be a resurgence of global imbalances, generated by excess savings in current account surplus countries. This excess savings could end up being absorbed by emerging countries through external capital flows. In the past few months, the rebalancing of the international portfolio has become more important, while the resurgence of global imbalances has become less important.

Finally, a third threat is that the Chilean economy faces difficulties in its access to external financing. The probability of this threat occurring has dropped in recent months. It is made up of two main risk factors. First, a too-early withdrawal of the financial system support programs could generate tension in specific markets. Second, given the current fragility of the financial system, disruptive events could arise as a result of weaknesses in a systemically important financial institution. In recent months, the risk of the withdrawal of financial system support programs is considered to have increased, while the probability of events caused by financial system fragility has fallen. Finally, as discussed in the following chapters of this *Report*, Chile is well prepared to face adverse changes in external financing conditions. Over the course of this year, national debtors have been able to access new sources of external financing and the bond markets have been rekindled.

Table I.3

Main external threats to the financial stability of the Chilean economy (1)

Threats	Risk factors	Probability
Lower-than-expected world GDP growth		↓
	Financial system fragility: low bank capitalization, weak credit, inactive secutized assets market	↓
	Withdrawal of fiscal and monetary stimuli (2)	n.a.
	Household and business deleveraging	↓
	Sharp correction in financial assets prices (2)	n.a.
Maintenance of strong capital flows to emerging economies		↑
	Portfolio rebalancing (2)	n.a.
	Global imbalances	↓
Reduction in the supply of external bank financing		↓
	International banking system fragility	↓
	Withdrawal of market support programs (2)	n.a.

n.a.: Not applicable.
(1) Arrows indicate the change since the *Report* for the first half of 2009.
(2) Risk factors not considered in the *Report* for the first half of 2009.

Source: Central Bank of Chile.

Box I.1: **Bank credit in Chile during the current financial crisis: An international comparison**

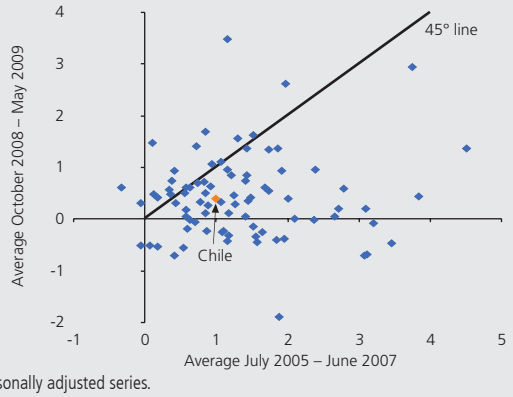
During the current economic crisis, the international banking system experienced unprecedented losses and liquidity restrictions, which affected banks' balance sheets and contributed to a significant slowdown of credit in many countries around the world.

This box compares the evolution of bank credit in Chile with that of other countries —especially emerging economies— in the context of the current international financial crisis.

In the vast majority of the 83 countries in the sample, bank lending slowed in the period following the Lehman Brothers bankruptcy (September 2008), relative to the period from July 2005 to July 2007, before the subprime crisis. Chile also witnessed a slowdown of bank credit in the same period (figure I.15).

Figure I.15

Real growth of bank credit (*)
(monthly averages, percent)



(*) Seasonally adjusted series.

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

Specifically, bank lending in Chile grew 1% a month, on average, in the two years prior to the start of the subprime crisis (July 2007). In subsequent months, credit growth slowed, especially after the Lehman Brothers bankruptcy (table I.4).

In the period following the Lehman Brothers bankruptcy, bank lending grew more in Chile than in other regions, with the exception of some of the Oecd countries and emerging Asia. Moreover, the drop in credit growth in Chile relative to the pre-crisis period is similar to the trend in emerging Asia and Latin America and less steep than in emerging Europe (table I.4 and figure I.15).

Table I.4

Real growth of bank credit (1)
(monthly averages, percent)

	July 2005-June 2007	July 2007–September 2008	October 2008–May 2009
Oecd without capital injection (2) (3)	1.00	0.77	0.80
Oecd with capital injection (2) (4)	0.89	0.69	0.18
Emerging Asia (5)	1.68	0.38	0.86
Emerging Europe (5)	2.14	1.42	0.11
Latin America (5)	1.22	0.95	0.27
Chile	0.99	0.67	0.39

(1) Seasonally adjusted series. The values for the groups of countries are averages of the member countries, excluding those for which data are not available.
(2) Capital injections from the state to the banking system.
(3) Czech Republic, Finland, Japan, Poland, Portugal, and Spain.
(4) Austria, Belgium, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Luxemburg, Netherlands, Sweden, Switzerland, and United Kingdom. Excludes Mexico and Turkey.
(5) Made up of emerging and developing economies, as defined by the IMF, in that region of the world.

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

Aisen and Franken (2009) estimate an econometric model to identify the main determinants of the evolution of bank credit in the current international financial crisis. The results suggest that the main variables associated with credit trends include the following (the sign is in brackets, [ ]): (i) credit growth in the two years prior to September 2008 [–]; (ii) the drop in the monetary policy rate (approximated by the money market interest rate) relative to its initial level [+]; (iii) GDP growth of trading partners [+]; and (iv) a lower degree of financial integration with the rest of the world (measured through a dummy variable that captures countries with very little opening of the capital account) [+].

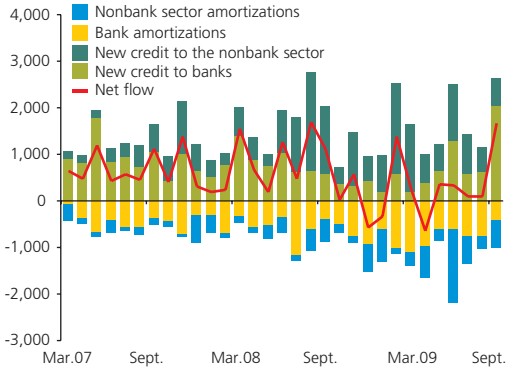
The first two variables partially explain the relatively moderate slowdown of credit in Chile. Credit in Chile expanded relatively less in the pre-crisis period, and the monetary policy response was more aggressive than the world average. With regard to the last two variables, the low GDP growth of Chile's trading partners and the economy's level of financial integration (which is higher than the world average), were detrimental to the evolution of bank lending in Chile.

II. External financing

Figure II.1

Flows of external loans to residents

(US$ million)

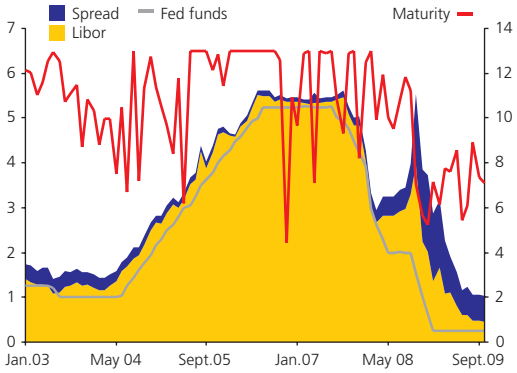


Source: Central Bank of Chile.

Figure II.2

Cost of short-term external financing for resident banks (*)

(monthly average, percent)



(*) Floating-rate bank loans. Weighted average maturity, in months.

Sources: Central Bank of Chile and Bloomberg.

This chapter examines recent trends and the outlook for the Chilean economy's external financing and international liquidity, in the context of the threats described in chapter I.

Conditions for access to external financing

Since the last Report, external financing conditions have improved for the Chilean economy

In the last six months, the improvement in credit conditions in the international markets has allowed banks and Chilean firms to maintain their access to new loans from abroad. For the nonbank sector, the amount of new loans has remained close to the average from January 2006 to August 2008 (around US$490 million a month). New loans to the banking sector, in turn, have recovered in the last four months, reaching levels more similar to the period before September 2008 (US$1.13 billion, on average) (figure II.1).

Short-term financing spreads continued to fall for both firms and resident banks. In the case of the former, the spreads averaged 132 basis points between August and October 2009[1]/. Maturities have lengthened (3.9 months, on average, in the same period), but they are still shorter than the average from 2007 to October 2009 (4.4 months).

In the case of resident banks, the average spreads on new external loans reached 59 basis points in October. This remains above the levels recorded before September 2008. The average maturity on short-term external financing is still below the historical average. This shortening of average maturities explains, in part, the need to obtain new loans more frequently to maintain the required stock of financing (as evidenced by the increased loans applications in the period) (figure II.2).

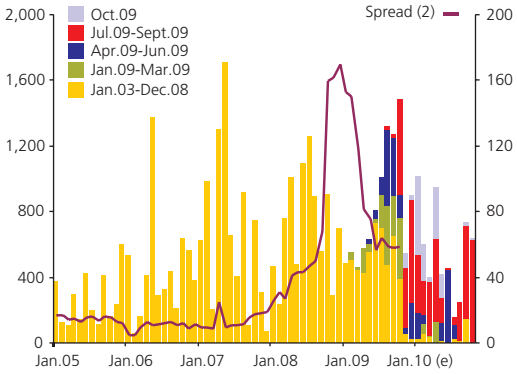
Thus far, the greater need for new loans has not presented difficulties for the banking sector. Some measures of the external creditor concentration of this sector show a reduction when the total amount loaned increases. This is positive, because it suggests that when the need for new financing rises, new sources of supply emerge and substitution occurs. In third quarter of 2009, creditor concentration (measured through the Herfindahl index) was close to its historical average.

[1]/ Corporate spreads do not change significantly if the calculation excludes loans from related companies and fixed-rate loans.

Figure II.3

Expiration of external bank credit (1)

(US$ million, basis points)



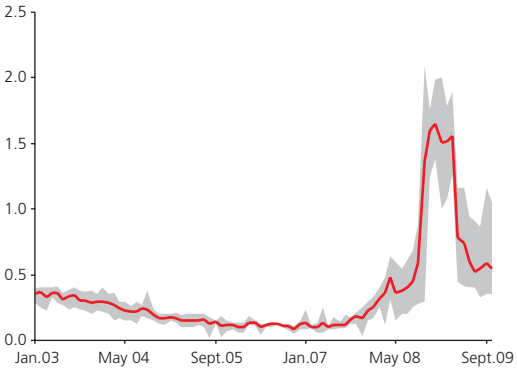
(e) Estimate.
(1) Includes short- and long-term, fixed- and floating-rate credit. The bar color indicates when the loan expiring in the identified month (horizontal axis) was originated.
(2) Spread on short-term floating-rate external financing for resident banks.

Source: Central Bank of Chile.

Figure II.4

Spread on short-term external financing for resident banks (*)

(monthly average, percent)



(*) Floating-rate loans from unrelated banks. The gray area represents the interval between the 5th and 95th percentiles of the sample each month.

Source: Central Bank of Chile.

Risks remain despite the improvement in the external financing conditions of banks and firms

The first risk is that the increase in loans at the shortest durations will generate a wave of loans coming due beginning in October 2009, which will, in turn, increase rollover risk (figure II.3).

Second, the short-term spreads charged to resident banks have not only fallen steadily as discussed above, but also become more dispersed, which could be an indication that the supply of external financing to this sector has become less elastic. An alternative —and more benign— explanation is that the external creditor banks are being more selective in their credit approval practices (figure II.4).

Finally, while long-term external loans to banks and firms have recovered, the recovery of syndicated loans has been more modest, and they remain below their past levels. This is similar to the trend in other economies.

Since the last Report, the financial account of the Chilean economy recorded a net outflow, led by the portfolio flows of the institutional investors

The recent net capital outflow registered by the Chilean economy is the result of large portfolio investment outflows, which have been amply offset by net inflows of foreign direct investment and other investment. Between April and September 2009, capital outflows totaled US$9.0 billion, while inflows were US$7.4 billion, resulting in a net outflow of approximately US$1.6 billion.

The greater outflows have been driven by institutional investors, which increased their overseas investment significantly, accumulating external assets of around US$10.8 billion in the same period. Banks and firms, in contrast, increased their external debt, while the consolidated public sector reduced its external assets by US$4.9 billion in the period (figure II.5)[2]/.

Chile's substantial portfolio investment outflows contrast with the inflows in other regions, beginning in the second quarter 2009

Risk aversion increased as of September 2008, causing sharp portfolio investment outflows in the emerging countries in the two subsequent quarters. These outflows have begun to turn, however, consistent with the lower degree of uncertainty in the international markets. Capital outflows have slowed in emerging Asia, and countries like Australia, New Zealand, Canada, and, to a lesser extent, emerging Europe have recorded strong inflows.

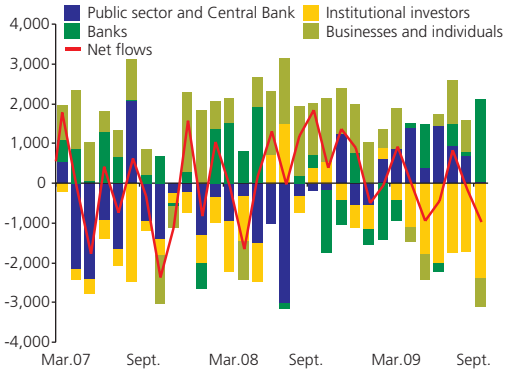
Latin America, on average, also received substantial portfolio investment inflows in the third quarter of 2009. In this context, the net outflows recorded in Chile constitute an exception. As a percentage of GDP, Chile's outflow is among the largest at the international level (figure II.6).

[2]/ Institutional investors include pension funds, mutual funds, and insurance companies.

Figure II.5

Financial account flows by institutional sector (*)

(US$ million)



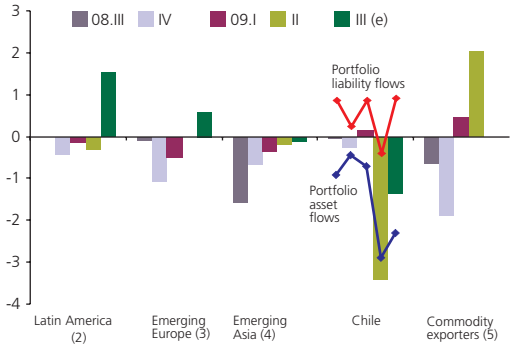
(*) Total net flows.

Source: Central Bank of Chile.

Figure II.6

Net portfolio flows (1)

(percent of GDP)



(e) Estimate based on preliminary data from Brazil, Czech Republic, Indonesia, Pakistan, Poland, Taiwan, and Turkey.
(1) Calculated as the quarterly flow divided by twelve-month GDP.
(2) Simple average of Brazil, Colombia, Mexico, and Peru.
(3) Simple average of Bulgaria, Czech Republic, Hungary, Poland, Russia, Turkey, and Ukraine.
(4) Simple average of Philippines, India, Indonesia, Malaysia, Pakistan, Taiwan, Thailand, and Vietnam.
(5) Simple average of Australia, Canada, and New Zealand. Data are not available for 09.III.

Source: Central Bank of Chile based on CEIC Data.

Liquidity and solvency

Total external debt grew in the last few months, mainly because of an increase in short-term debt

Since March 2009, total debt has increased by around US$4.2 billion, due to the expansion of the short-term debt of banks and the long-term debt of businesses and individuals. Commercial loans, in particular, grew on the order of US$328 million between March and September of this year (table II.1).

Table II.1

External debt of the Chilean economy

(US$ million)

	2007	2008	2009		
	Dec.	Dec.	Mar.	Aug.	Sept.
Total external debt	55,671	64,768	64,552	67,252	68,873
Short-term external debt (*)	11,056	14,910	12,905	14,622	14,894
Banks	974	3,054	3,455	5,002	6,052
Businesses and individuals	10,066	11,841	9,443	9,613	8,837
Commercial loans	8,455	8,253	6,395	7,088	6,723
Consolidated government	16	15	7	7	5
Long-term external debt (*)	44,615	49,858	51,647	52,630	53,979
Banks	9,434	10,117	7,772	6,327	6,931
Businesses and individuals	31,399	36,752	40,692	42,545	43,177
Consolidated government	3,766	2,989	3,183	3,758	3,871
Residual short-term external debt	22,477	29,070	24,074	24,455	24,785
Banks	7,001	10,105	8,433	8,416	9,598
Businesses and individuals	14,574	18,348	15,072	15,913	15,064
Commercial loans	8,456	8,339	6,468	7,088	6,723
Consolidated government	902	616	570	126	123

(*) Contractual maturity.

Source: Central Bank of Chile.

The Chilean economy's liquidity and solvency position continues to be favorable

Some indicators of the Chilean economy's solvency have deteriorated slightly since the last *Report*, but they continue to lie below the levels registered between 2001 and 2004 (table II.2).

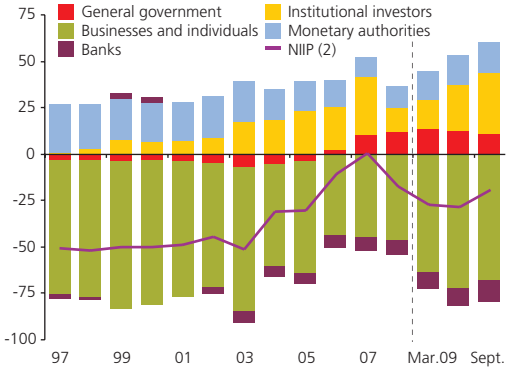
The net international investment position has increased since the last *Report*. This is mainly due to the recovery of external asset prices in the third quarter of 2009. Businesses and individuals have reduced their net liabilities slightly, while the institutional investors have expanded their net assets (figure II.7).

Since the last *Report*, liquidity indicators have improved considerably at the margin, exceeding the levels of the past few years. Residual short-term external financial debt can be covered by 70% of net unrestricted international reserves. The assets held by the consolidated public sector more than cover total residual short-term external debt (figure II.8).

Figure II.7

Net international investment position

(percent of GDP) (1)



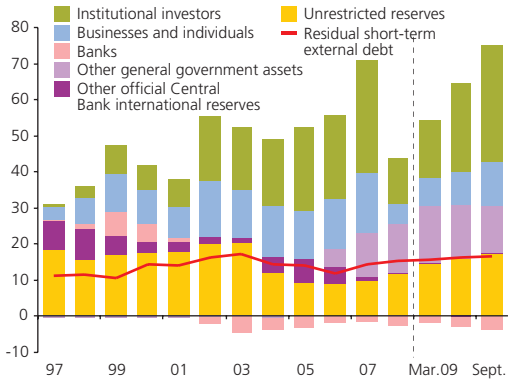
(1) GDP at the constant real exchange rate (baseline index September 2009 = 100).
(2) Net international investment position.

Source: Central Bank of Chile.

Figure II.8

Net availability of external financial liquidity

(percent of GDP) (1)



(1) GDP at the constant real exchange rate (baseline index September 2009 = 100). External liquidity includes short-term loans, currency, and deposits, and portfolio investment; it does not include positions in derivative instruments.
(2) Official reserves less short-term commitments in foreign currency (maturing BCX, BCD, swaps).
(3) Residual short-term external debt.

Source: Central Bank of Chile.

Table II.2

External liquidity and solvency indicators

(percent)

	Ave.	2005	2006	2007	2008	2009		
	01–04	Dec.	Dec.	Dec.	Dec.	Mar.	Jun.	Sept.
Solvency (1)								
External debt/GDP	55	39	34	34	38	41	43	46
Current account balance (moving year)/GDP	–0.3	1.2	4.9	4.4	–2.0	–2.5	–1.8	0.5
Current account balance (annualized)/GDP	—	3.5	5.3	3.1	–5.0	2.3	3.8	1.5
External debt/exports	156	95	74	73	84	94	102	116
Net international investment position/GDP (2)	–43.9	–30.5	–10.7	0.4	–17.5	–27.4	–28.4	–19.5
Liquidity (3)(4)								
RSTED / external debt	29	35	35	41	45	37	37	36
RSTED / official international reserves	78	95	90	133	126	103	101	95
RSTED /unrestricted NIR	91	163	134	146	129	107	100	96
Financial RSTED/ unrestricted NIR	63	110	83	91	92	78	74	70
RSTED /(unrestricted NIR + external accounts receivable)	71	98	83	87	93	76	70	67
Other								
Long-term external debt/ external debt	84	82	77	80	77	80	79	78
Current fixed-rate external debt (net of swaps)/ external debt	59	56	59	59	60	59	61	58
Note:								
Residual short-term external debt /(NIR + FEES) (5)				73	67	56	60	62
DECPR/(unrestricted NIR+FEES) (6)				77	68	57	60	63

(1) March, June, and September 2009 use four-quarter GDP.
(2) GDP at the constant real exchange rate, baseline index September 2009 = 100.
(3) RSTED: Residual short-term external debt.
(4) Unrestricted net international reserves: official reserves less short-term commitments in foreign currency (maturing BCX, BCD, and swaps), Treasury deposits at the Central Bank, etc.
(5) Quarterly values estimated on the basis of external debt service forecasts.
(6) FEES: Social and Economic Stabilization Fund.

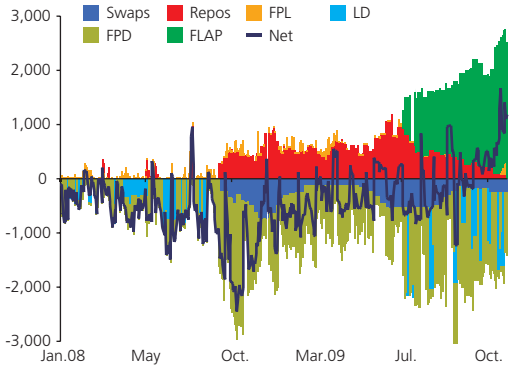
Source: Central Bank of Chile.

III. Domestic financial markets

Figure III.1

Monetary operations of the Central Bank (*)

(stock in Ch$ billion)



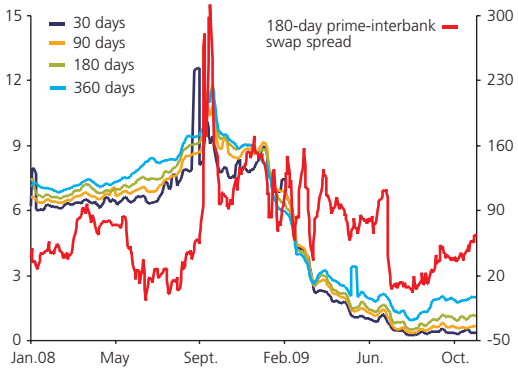
(*) FPL: standing liquidity facility; LD: liquidity deposits; FPD: standing deposit facility; and FLAP: term liquidity facility.

Source: Central Bank of Chile.

Figure III.2

Rates on time deposits traded in secondary markets and the prime-interbank swap spread (*)

(percent, basis points)



(*) Five-day moving average.

Sources: Central Bank of Chile and Santiago Stock Exchange.

This chapter analyzes the principal local financial markets, taking into account recent developments in activity, returns, and volatility.

In recent months, the money market has been characterized by an extensive use of the Central Bank's liquidity facilities…

Since the beginning of the second half of 2009, the Chilean peso money market has been characterized by extensive use of the Central Bank's liquidity facilities and low interest rates, as a result of the monetary policy decisions adopted by the Bank. At the Monetary Policy Meeting held on 9 July, the Bank cut the monetary policy rate to a historical low of 0.5% in annual terms. It also introduced complementary policy measures aimed at aligning financial asset prices with the monetary policy rate path and thus improving the pass-through of interest rates to businesses and individuals. These measures included the establishment of the Term Liquidity Facility (FLAP) for banking institutions, through which the Bank provides liquidity at 90 and 180 days at the prevailing monetary policy rate. This facility largely replaced the banking system's use of repos as a source of funding. The Central Bank extended the terms on repos to 28 days in October 2008, and then in December 2008 it authorized the use of time deposits as collateral for such operations. At the July meeting, the Bank further decided to suspend the issue of nominal securities with maturities of over one year for the remainder of 2009 and to shorten the terms on new issues of discount promissory notes (PDBC) to less than a year, consistent with the introduction of the FLAP.

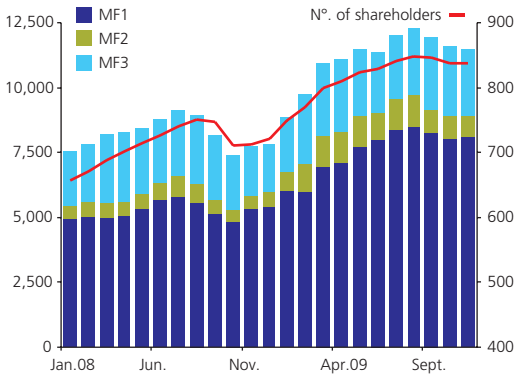
As of the close of this *Report*, the Central Bank had provided liquidity of around $2.5 trillion, mainly through the FLAP ($2.48 trillion) (figure III.1). This injection of liquidity was drained through the deposit facilities ($1.3 trillion) and the issue of monetary instruments by the Bank.

Following the introduction of the FLAP, the interest rate curve flattened markedly towards the maximum maturity considered in this facility, with the spread between the prime deposit rate and the average interbank swap rate (an alternative measure of bank funding costs) falling almost to zero and volatility leveling off drastically. This spread stayed in a range below 20 basis points through mid-September 2009, when interest rates began to rise on peso time deposits traded in secondary markets and on prime deposits (figure III.2). On 12 November, the Central Bank announced that it will gradually reduce the terms on the FLAP, until it closes in May 2010.

Figure III.3

Net worth of short- and medium-term mutual funds (*)

(Ch$ billion, thousands of shareholders)



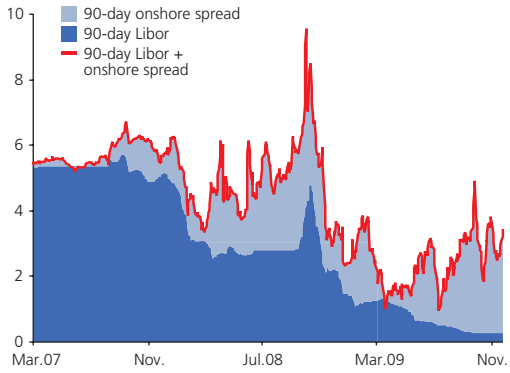
(*) See Glossary for definition.

Source: SVS.

Figure III.4

Dollar interest rates in the local market

(percent)

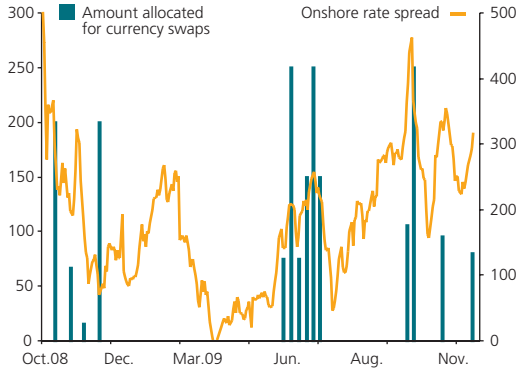


Sources: Central Bank of Chile and Bloomberg.

Figure III.5

Onshore rate spread and foreign currency swap auctions (*)

(US$ million, basis points)



(*) At 90 days.

Source: Central Bank of Chile.

Funds managed by the short-term mutual funds have increased since the last *Report*. This is consistent with the greater liquidity seen in large firms, which are important investors in these funds (figure IV.6). In particular, type 1 mutual funds (MF1) peaked at an asset value of nearly $8.5 trillion at the end of August, despite the low returns on bank time deposits; their main investment assets (figure III.3). The profitability of the MF1 is expected to rise, given that some of their underlying financial assets are beginning to incorporate expectations of a monetary policy rate hike in the second quarter of 2010. This can be seen in 180- and 360-day time deposits traded in secondary markets, which show differences of 40 and 120 basis points, respectively, relative to the rate on their 90-day counterpart at the close of this *Report*.

Other financial intermediation markets have not changed significantly since the last *Report*. Commercial paper issues are in the upper ranges of the amounts recorded in the past few years (figure IV.3). Given the introduction of new issuers, this market is gradually becoming an important alternative source of short-term financing. Although the spreads remain stable, investors still separate real sector firms from financial issuers, as highlighted in the last *Report*.

… and by continued pressures on foreign currency liquidity

In the last six months, the financial conditions in local short-term dollar markets have fluctuated greatly. The onshore rate spread implied in 90-day foreign currency hedging operations hit a low of 46 basis points over Libor in early July, and then rose to over 460 basis points in late September (figure III.4). During this period, commercial banks fell back on the dollar funding facility via peso-dollar swap operations carried out by the Central Bank in late 2008 and repeated whenever the spread spiked to very high levels (figure III.5).

In recent months, the onshore spread has remained above the average of the last two years and, given the steady drop in the Libor, represents more than 90% of the onshore rate.

Since August 2009, the level of the onshore rate has persistently remained above the arbitrage band ceiling based on the CDS for Chile (figure III.6).[1]/ This is explained, in part, by the fact that some local banks have financed lines of credit with external banks at a higher spread (over Libor) than the CDS (figures II.3 and II.4). This rise is consistent with the increase in the 90-day dollar deposit rate in the local market.

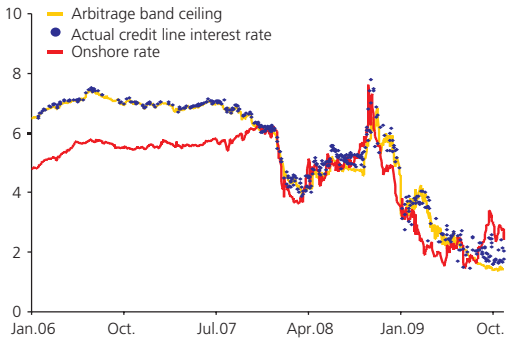
One of the factors behind the increase in the onshore rate is the pension funds' currency hedging operations, which are associated with an expansion of their investment abroad (figure III.7). Between the second and third quarters of 2009, the pension funds are estimated to have invested abroad nearly US$1.5 billion a month, on average, compared with an average of US$300 million in the first quarter of 2009. Net sales of dollar forwards averaged US$1.3 billion a month.

[1]/ For details on the construction of the band, see Opazo and Ulloa (2008).

Figure III.6

Dollar funding rates: actual and theoretical (*)

(percent)



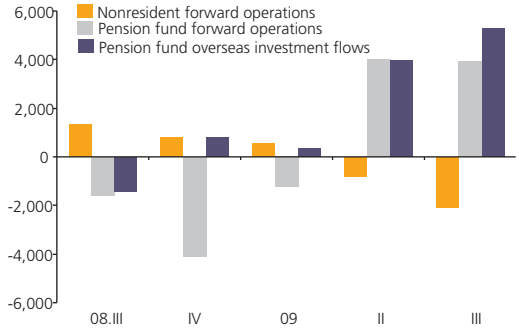
(*) At one year. The dots correspond to the maximum daily rates observed in the funding of local banks that use overseas credit lines.

Sources: Central Bank of Chile and Bloomberg.

Figure III.7

Pension fund operations and forward positions in the exchange market (1) (2)

(US$ million)



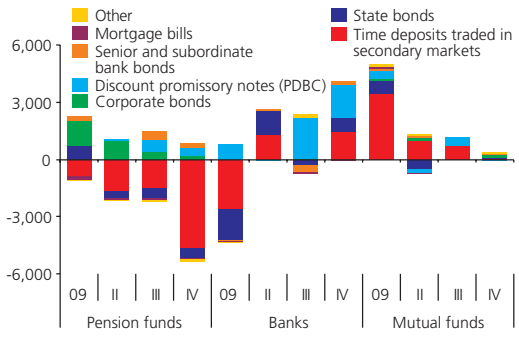
(1) Overseas investment flows correspond to the pension funds' net currency remittances.
(2) Positive values reflect net sales transactions; negative values reflect net purchase transactions.

Sources: Central Bank of Chile and SP.

Figure III.8

Fixed-income investments and financial intermediation (*)

(changes in stock, US$ million)



(*) Data through 20 November 2009.

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

Another factor that could have influenced the recent development of the onshore rate is the reduction, relative to the third quarter of 2009, of long dollar positions with nonresidents (nondeliverable forwards, NDF), especially at less than 30 days. Market agents attribute this reduction in the NDF position to the unwinding of currency carry trade.

Other institutional agents, such as mutual funds and insurance companies, have also increased their overseas investment. The two sectors together carried out US$2.6 billion in dollar transactions in the third quarter of 2009, down from US$4.3 billion in the first quarter. These institutional agents are not required to comply with hedging regulations, and the forward market thus does not show an increase in positions comparable to the transaction volume in the spot market.

On 30 October, the Central Bank announced the elimination of 182-day currency swaps and that the currency swap facility would be closed on 30 June 2010. At the same time, the Bank announced the retirement of 28-day repos, which could be guaranteed not only with Central Bank debt instruments, but also with mortgage bonds and bank time deposits.

The pension funds' portfolio of foreign investments grew, due to both an increase in actual purchases and better returns on investments abroad

In the third and fourth quarters of 2009, the pension funds continued to reduce their exposure to time deposits, in search of higher yields. The reduction in peso time deposits reached US$6.0 billion in this period (figure III.8). As of the close of this *Report*, the pension funds have liquidated a total of US$8.6 billion in time deposits in 2009. The pension funds' sharp reduction in time deposits in the last two quarters has been absorbed by the purchase of deposits by the banking system, possibly through the use of the FLAP (figure III.1).

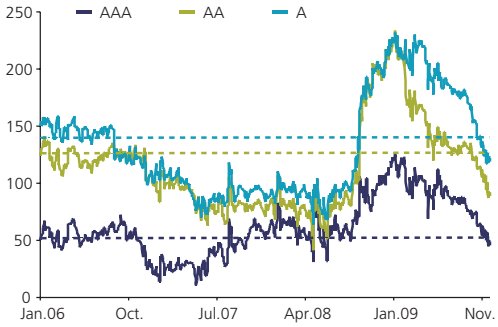
As a counterpart to this trend, the pension funds increased their positions in foreign instruments by nearly US$14 billion between June and October 2009, which is equivalent to 44% of the amount held in June. This increase reflects both actual purchases of foreign instruments and earnings from returns. As mentioned earlier, the increase in the foreign investment position has been accompanied by significant net forward dollar sales. The rate of currency hedging fell in the third quarter, however. Combined with the increased returns, this caused the share of assets exposed to currency risk to rise from 14% in July of this year to 18% in October, which is similar to the level recorded before September 2007.

In October 2009, the additional amount available for investing abroad exceeded US$21 billion (20% of the total value of the pension funds). This takes into account the regulatory change implemented in August, which increased the aggregate limit on overseas investment from 40% of total assets to 60%. However, the availability of funds for investing abroad is not uniform across pension fund categories. Type C funds have the most room for additional overseas investment, accounting for 58% of the total.

Figure III.9

Long-term bond spread (*)

(basis points)



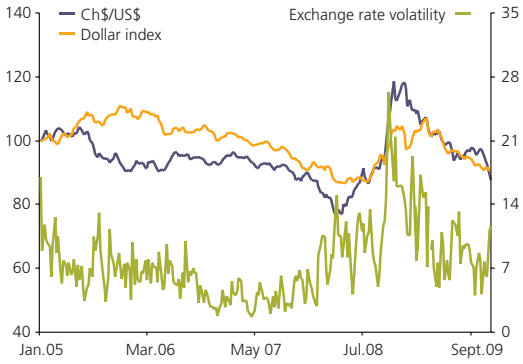
(*) Bank and corporate bonds with a duration of over 9 years (over 11 years to maturity). The dashed lines show the historic averages for the 2001–2007 period.

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

Figure III.10

Level and volatility of the exchange rate (*)

(baseline index Jan.05 = 100, percent)



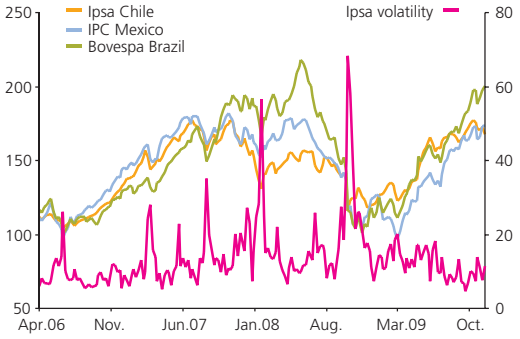
(*) Weekly averages. Volatility calculated using Alfaro and Silva's (2008) methodology. Data are through the third week of November.

Sources: Central Bank of Chile and Bloomberg.

Figure III.11

Level and volatility of stock indices (*)

(baseline indices Jan.06=100, percent)



(*) Weekly averages. Volatility calculated using Alfaro and Silva's (2008) methodology. Data are through the third week of November.

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

Type D and E funds each account for 5% of the available amount, and type A and B funds represent 10% and 20%, respectively. As has been the case through the close of this *Report*, additional outflows would be concentrated in fixed-income investments (namely, high-yield bond funds), given that the share of variable-income investment is very close to the upper limit (box III.1)[2]/.

The downward trend of corporate spreads has been consolidated, and the total value of bonds issued continued to rise in 2009

Spreads are normalizing in the long-term fixed-income market. They fell systematically from March through the close of this *Report*: the spreads on instruments rated AAA, AA, and A fell approximately 70, 90, and 110 basis points, respectively, on average. In all three ratings categories, spreads are below their averages for 2001–2007 (figure III.9). This trend has occurred in the context of record bond placements in 2009, which exceeded US$4.5 billion in September (figure IV.2).

Market volatility has been moderate

Market volatility continued to trend downward and has returned to the levels of before September 2007. In the fourth quarter of 2009, the volatility of the peso-dollar parity stayed around 8%, much lower than the peak recorded in the same period last year. The exchange rate has recorded a downward trend since March 2009, dropping a total of 14%, or 78 pesos to the dollar, as of the close of this *Report* (figure III.10). The two most important factors in the downward trend of the local parity are the strengthening of global demand (which has put pressure on commodities prices, especially copper) and the generalized depreciation of the U.S. dollar against a group of international currencies. The dollar index has fallen significantly since March, equivalent to a 10% depreciation of the U.S. currency.

The stock market continued to follow an upward trend, with a 40% return in the year (measured through the *Ipsa*) and moderate volatility levels close to 10% in annual terms (figure III.11). The rise in the local market is very much related to the performance of international stock markets, such as Brazil and Mexico, which reflects a greater appetite for risk among international investors. This recovery is also evident in traded volumes, which averaged $80 billion a day between April 2009 and the close of this *Report*. That is almost double the volume traded in the first quarter of this year.

[2]/ This box provides greater detail on the portfolio adjustments of the pension funds during the crisis.

Box III.1: The impact of member transfers on pension fund portfolio changes

The turbulence caused by the financial crisis had an impact on the value and composition of the investment portfolios of the institutional investors. The pension funds, which managed US$106.496 billion in September 2009, carried out important portfolio adjustments, notably changes in overseas investment. A question that arises is whether the adjustment in the balances managed in each type of fund stems from autonomous decisions by the Pension Fund Administrators (AFPs) or whether it was driven by members' decisions to switch funds in order to avoid losses in wealth.

This question is relevant from a systemic perspective. If the adjustment in the funds was driven by the AFPs themselves, it should have little effect on asset prices, given that the administrators would have incorporated the impact of changes in their own portfolio on the value of different asset classes. Thus, the portfolio adjustments would be oriented toward more liquid markets or would be implemented gradually without losing sight of the profitability objective. If, on the other hand, the adjustment in the funds was induced by a massive reorientation of members toward less risky funds, the AFPs would have to adjust their portfolios without much consideration for market timing[3]/.

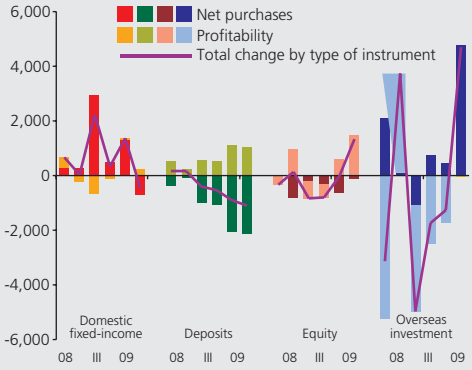
The above analysis is particularly relevant for the 2008–2009 period, when the system's members switched funds at a significant rate. This box summarizes the main portfolio adjustments and the reallocation of resources among the different types of funds in this period; identifies the number of members that switched funds; and, finally, estimates the importance of these transfers for the pension funds' portfolio adjustments.

First, the change in the pension funds' portfolio in 2008–09 was dominated, on aggregate, by adjustments in the share of investment abroad (figure III.12). One possible explanation for this behavior is the greater liquidity and depth of the international markets, where the AFPs do not affect the prices of the assets in which they invest. Second, a large degree of the change in the investment portfolio, in terms of both stocks and foreign investment, is explained by changes in asset valuation, which is reasonable given that these asset classes were the most strongly affected by the crisis.

Figure III.12

Source of changes in portfolio value

(US$ million)



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

Third, in the period of greatest turbulence, the pension funds reallocated their portfolios toward local fixed-income instruments, at the expense of overseas investment and domestic equity. Finally, throughout the period, the pension funds steadily reduced the share of bank time deposits in their portfolios, possibly due to the greater liquidity of this market and the sharp drop in interest rates starting in the first quarter of 2009.

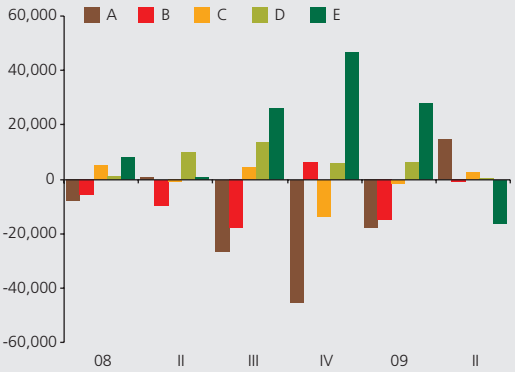
[3]/ The AFPs have a period of four to seven business days in which to change a member's fund type once they receive the order to do so (*General Guidelines*, SP). The movement of members among the funds of a single administrator can be carried out through the transfer of instruments among the administrator's own funds or through trading in formal markets. The final decision depends on the investment strategy of the AFP and on investment limits, among other factors.

A substantial redistribution of members among the different types of funds began in the third quarter of 2008. In that period, a significant number of members began to leave type A funds, with most switching to type D and E funds (figure III.13). Approximately 90,000 members left their type A funds between July 2008 and March 2009[4]/. The largest number of exits from type A funds took place in October 2008, when 29,680 members switched to type B and E funds.

Figure III.13

Transfer of members between types of pension funds (*)

(number of members)



(*) Within the same fund administrator.

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

In general, member transfers are relevant for explaining the pension funds' financial instrument transactions. On average, 33% of quarterly transactions (net purchases) are explained by the transfer of members (figure III.14).

That percentage varies by asset class, however. In the case of variable-income instruments, member transfers explain, on average, 40% of total fund transactions, while the average for fixed-income instruments and overseas investment is 24% and 35%, respectively.

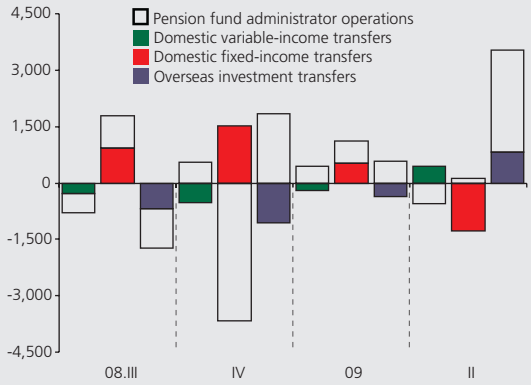
In the periods of greatest financial turbulence, the exit of members from the riskiest funds triggered net sales of domestic variable-income instruments, which were largely offset by opposite transactions by the pension funds. The largest investment portfolio adjustment occurred through transactions with foreign instruments. This was particularly the case in the second quarter of 2009, when members returned to the riskier funds.

In conclusion, during times of crisis, members' decisions to change funds do have an impact on the pension funds' portfolio adjustment. However, the total portfolio adjustment continues to be determined by the decisions of the administrators themselves.

Figure III.14

Pension fund operations

(US$ million)



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

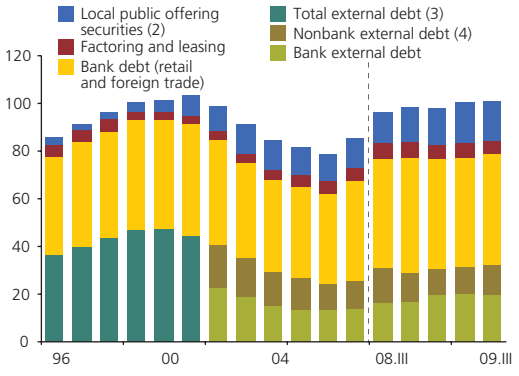
[4]/ Equivalent to 5% of total type A fund members, as of June 2008. The system has approximately 4.5 million members.

IV. Credit users

Figure IV.1

Total debt of nonfinancial firms

(percent of GDP) (1)



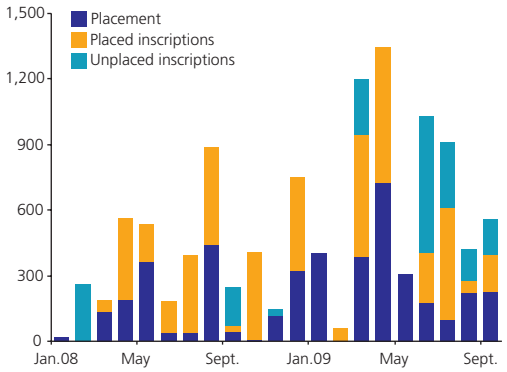
(1) Quarterly GDP in 2008 and 2009 correspond to the moving year ending in each quarter.
(2) Corporate bonds (except Codelco), securitized bonds with nonbank underlying assets, and commercial papers.
(3) Converted to pesos using the average exchange rate for the period from March 2002 to September 2009. Includes loans associated with FDI.
(4) Loans associated with FDI, commercial loans, and bonds.

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

Figure IV.2

Corporate bond inscriptions and placements (*)

(billions of September 2009 pesos)



(*) Includes bonds from financial firms registered with the SVS.

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

This chapter examines the financial situation of credit users and evaluates the credit risk trend in the Chilean economy and its sensitivity to the risks described in chapter I.

Firms

In the third quarter of 2009, national firms increased their debt financing, which has occurred under looser conditions

In September 2009, the total debt of nonfinancial firms grew 2.6% in real annual terms. The corporate bond market was particularly dynamic, with 29% growth. The twelve-month growth of external debt was lower than in the preceding quarter (1.5% versus 4.9%), while bank loans contracted more in the same period (–2.8% versus –1.7%). Relative to GDP, business debt has stabilized at around 100% of GDP (figure IV.1)[1]/.

Bank financing conditions have improved since the last *Report*. Between December 2008 and September 2009, the average monthly spread on 30- to 89-day commercial loans in pesos fell approximately 400 basis points, with most of the correction (300 basis points) occurring between March and June (chapter V). The reference rates for foreign trade operations (the average 90- and 180-day dollar Libor) dropped nearly 150 basis points in September relative to one year earlier, hitting historical lows.

The public securities market continued to be quite active. In September 2009, corporate bond placements and listings were almost double the level recorded in September of last year (figure IV.2). The amounts listed and placed fell in the last quarter, which could partly reflect more flexible lending conditions, an increase in the institutional investors' demand for foreign financial instruments, and improved conditions in external financing markets[2]/. Nevertheless, the amount listed in the last four months but not yet placed is similar to placements in an average year, which suggests that there is a strong latent demand for this type of financing.

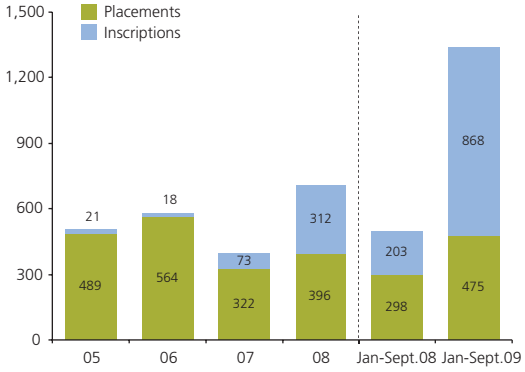
[1]/ / The calculation considers commercial and foreign trade loans and bank factoring and leasing. The 0.9% real annual growth rate of commercial loans cited in Chapter V only considers commercial loans.

[2]/ Private national nonfinancial firms carried out three overseas bond placements in 2009 (US$500 million in July, US$100 million in August, and US$500 million in October), for the first time since August 2008.

Figure IV.3

Commercial paper inscriptions and placements (*)

(billions of September 2009 pesos)



(*) Includes commercial papers from financial firms registered with the SVS.

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

In 2009, commercial paper placements and listings exceeded 2008 levels (figure IV.3). From September 2008 to September 2009, nonfinancial firms accounted for 60% of placements, and in the third quarter of 2009, placements recorded their highest level since 2005, for the same quarter. At the same time, the existence of papers that have been listed but not placed constitutes an alternative source of financing that will be available for facing possible episodes of tight liquidity.

Changes in the financing of a group of large firms with access to overseas financing sources provide a basis for identifying trends in the substitution between local and external financing and its impact on firms that only have access to local sources. An analysis of changes in the composition of debt in this sample indicates that between December 2008 and June 2009, the share of local bonds increased by six percentage points (US$1.0 billion), mainly at the expense of external financing. Despite the increase in the share of local bank debt, the drop in total debt implied the release of around US$700 million from this source (table IV.1).

Table IV.1

Domestic and external debt of national firms (*)

(percent of total financial debt)

	2007	2008	2009	
	December	December	March	June
Domestic debt	**34.4**	**42.5**	**48.3**	**49.4**
Bank	21.1	26.9	29.8	27.9
Bonds	13.2	15.6	18.4	21.5
External debt	**65.6**	**57.5**	**51.7**	**50.6**
Bank	48.8	43.7	40.5	40.4
Bonds	16.8	13.8	11.2	10.2
Total	**100.0**	**100.0**	**100.0**	**100.0**
	(Amount of the total debt, in trillions of June 2009 pesos)			
Total	**15.108**	**17.515**	**15.982**	**15.448**

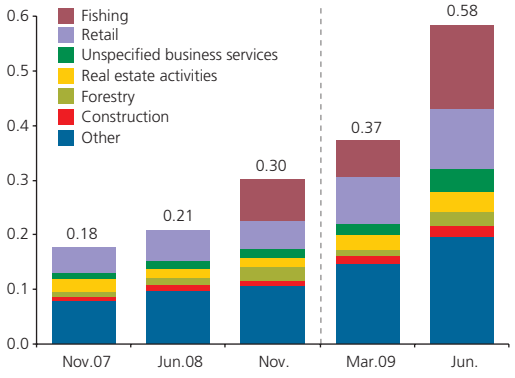
(*) Sample of 461 firms with current external debt in December 2008. Does not include financial firms.

Sources: Central Bank of Chile, based on SBIF data.

Figure IV.4

Commercial loan delinquency (1) (2)

(percent of the sample's commercial portfolio)



(1) Between 30 and 89 days. The individual sectors are those with the highest absolute delinquency rates as of June 2009. Sample of approximately 500,000 firms.

(2) Starting in 2009, the base data for this indicator change, owing to the banking sector's adoption of IFRS, so the two series may not be strictly comparable.

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

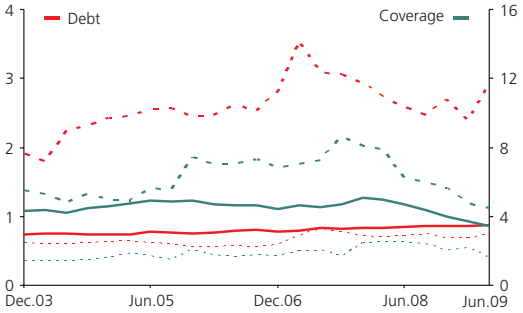
Business credit risk has increased since 2008

In a sample of firms that represents nearly 80% of the commercial and foreign trade loans in the local banking system, the nonperforming loan portfolio with a delinquency of 30 to 89 days grew from 0.18% of the total portfolio in 2007 to 0.58% in June 2009 (figure IV.4). An important share of this expansion is related to idiosyncratic factors, particularly in the fishing sector. When this sector is excluded, delinquency was 0.43% in June. These figures compare favorably with trends from the last crisis, when the same indicator reached 0.51 and 0.68% in December 1998 and 1999, respectively. Another important point is that the increase is concentrated in "other" sectors; that is, the deterioration is spread among numerous subsectors. At the sectoral level, excluding the fishing sector, the sectors with the highest delinquency in June were forestry (0.76%), business services (0.63%), and retail (0.51%).

Figure IV.5

Firms' debt and payment capacity (1) (2)

(times)



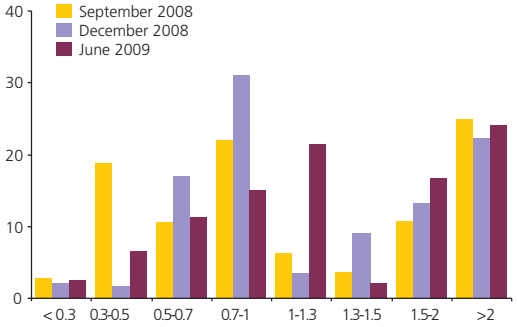
(1) Firms registered with the SVS, consolidated financial statements based on Chilean accounting standards. Excludes mining.
(2) The dotted lines represent the 25th and 75th percentiles for each indicator.
(3) Financial debt/(Equity+minority interest).
(4) Interest coverage, moving year.

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

Figure IV.6

Financial debt and liquidity ratio (*)

(percent, times)



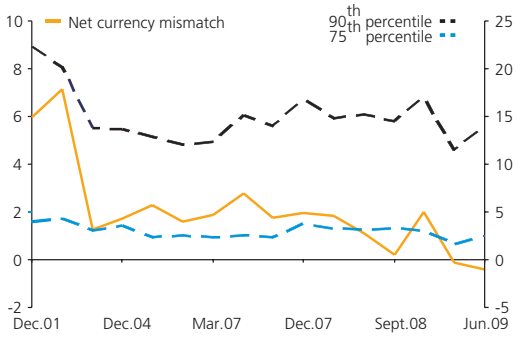
(*) Percent of financial debt in firms by acid test range (current assets less inventories, divided by current liabilities).

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

Figure IV.7

Currency mismatch (*)

(percent of total assets)



(*) Dollar liabilities less dollar assets, less the net derivatives position.

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

Although the repayment capacity of SVS-registered firms has deteriorated, this trend is localized in firms that previously recorded an exceptionally high indicator

In June 2009, the average annualized EBITDA-to-sales ratio was 11.2%, down from 13.5% at the same time last year. The lower operating income, together with the increase in financing costs, affected the companies' interest coverage ratio, which fell from 4.7 times to 3.5 times in the same period (figure IV.5). The sectors with the worst deterioration in June were construction (2.8 times), the consumer sector (3.8 times), and rail and highway transport (0.9 times), while the electric companies posted a favorable performance.

In the same period, firms that report under international financial reporting standards (IFRS)—which represent nearly 44% of the total financial debt of entities registered with the Superintendence of Securities and Insurance (SVS)—displayed better margins and repayment capacity. Between June 2008 and June 2009, the EBITDA-to-sales ratio rose from 12.2 to 16.8%, while the interest coverage ratio increased from 4.3 to 4.8 times[3]/. The debt level has deteriorated slightly since December 2008, from 0.48 to 0.51 times, but still ended the period in acceptable ranges. While the adoption of IFRS is an important step for firms in terms of moving closer to international practices, it presents challenges for monitoring financial stability. Specifically, the aggregation of data is more difficult when firms have multiple reporting options.

As of June 2009, firms have protected their liquidity position. The share of financial debt held by firms whose acid test ratio is less than one time fell from 54% in September 2008 to 35% in June 2009 (figure IV.6). This improvement in the indicator is explained by a recomposition of current assets, stemming from a reduction in accounts receivable and an increase in current assets. Current liabilities are characterized by a drop in bank debt and in accounts payable. The drop in accounts receivable, accounts payable, and bank debt reflects the lower level of activity in the last two quarters.

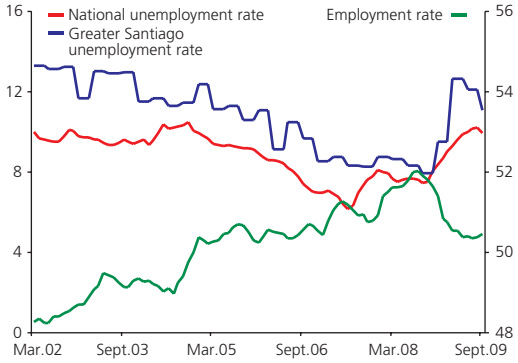
Firms have kept their currency mismatch at a low level of –0.42% of total assets, which is much lower than at the start of the decade (it peaked at 7.15% in late 2002) (figure IV.7). In the case of businesses whose functional currency is the dollar and which have issued debt in UF or pesos since 2008, the mismatch approached 4% of total assets in June 2009 (versus 7% in December 2007). While the mismatch has decreased, its level reflects the existence of difficulties

[3]/ Accrued figures as of June of each year.

Figure IV.8

Labor market indicators (1)

(percent)



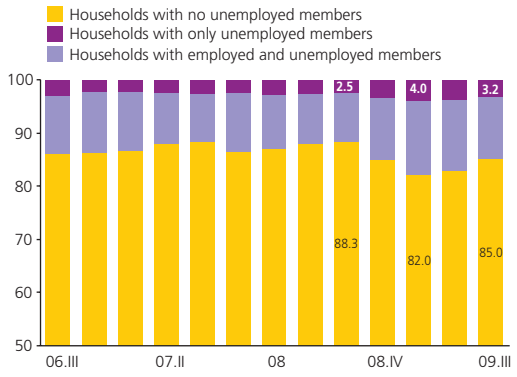
(1) Seasonally adjusted series, moving quarters ending in the indicated month.
(2) Number of employed workers over the total working-aged population.

Sources: INE and Universidad de Chile.

Figure IV.9

Employment situation of households

(percent of total households)

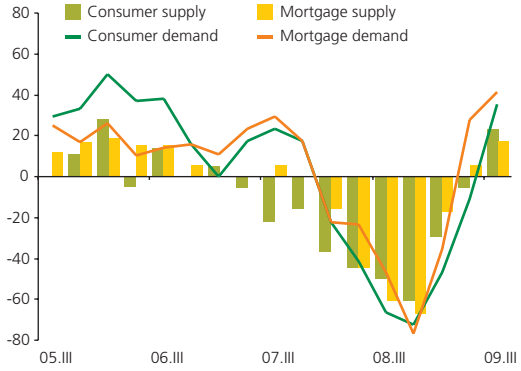


Source: Greater Santiago Employment Survey, Universidad de Chile.

Figure IV.10

Perception of demand and flexibility in the credit supply (*)

(net percent of survey responses)



(*) Negative values indicate a weaker perception of demand and less flexible supply conditions.

Source: Central Bank of Chile, based on the Bank Lending Survey.

in carrying out long-term hedging in the past year[4]/. The analysis carried out in June of this year suggests that the use of currency derivatives in small export firms was not affected more strongly than large firms in this period in terms of access, coverage, terms, amounts, or prices.

Households

Employment figures deteriorated less in the last quarter and even shows signs of recovery, suggesting that the probability of a more adverse scenario than at the beginning of the year has diminished significantly

Unemployment figures for September are similar to or lower than the figures for last March, signaling that the deterioration that characterized early 2009 has not continued to deepen and, at the margin, there is some evidence of recovery (figure IV.8). The trend for the employment rate—which has not been affected by changes in the participation rate—indicates a similar situation. Evidence at the macroeconomic level show that unemployment lags GDP by two to three quarters, so these figures could show robust improvement toward the second quarter of 2010, given the change in trend for real sector data in September 2009[5]/.

The relationship between unemployment and households' repayment capacity is better captured by measures of household unemployment. Household unemployment has increased since September 2008, but the trend has reversed in the last two quarters. Thus the share of households in which all members are unemployed was 3.2% in September 2009 (0.6 percentage points above the average for 2006–2008), while households in which no members are unemployed represented 85% (1.7 percentage points below the average for 2006–2008) (figure IV.9). This is consistent with the estimation that household financial vulnerability did not worsen between March and September 2009.

Household debt grew, but at a slower rate, and bank consumer loans contracted in the first half of 2009

In 2009, aggregate household debt registered real annual growth rates on the order 5–6%, or approximately six percentage points below the average growth rate for 2008. This slowdown was seen in all sources of financing, although bank consumer loans fell in the first and second quarters of 2009, by 2.1% and 1.7%, respectively (table IV.2).

Bank mortgage debt continued to grow at a slower rate than in the last three years. The annual growth rate in September 2009 was 7.9%, six percentage points less than the average growth rate for 2008. Nevertheless, in the second and third quarters of 2009, the perception of both bank mortgage supply and demand strengthened for the first time since December 2007 (figure IV.10).

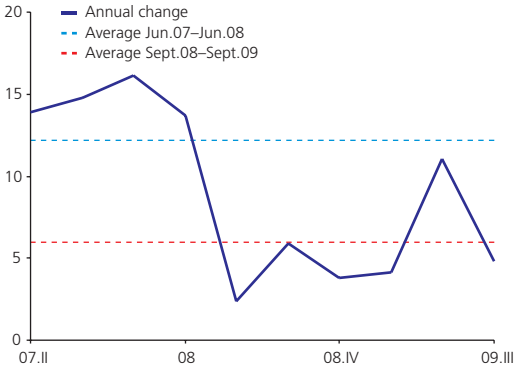
[4]/ This same sample of firms hedged nearly 50% of its UF-denominated debt with currency derivatives in December 2007, versus just 31% in June 2009.

[5]/ See Restrepo and Soto (2006).

Figure IV.11

Retail sales

(annual nominal change, percent)

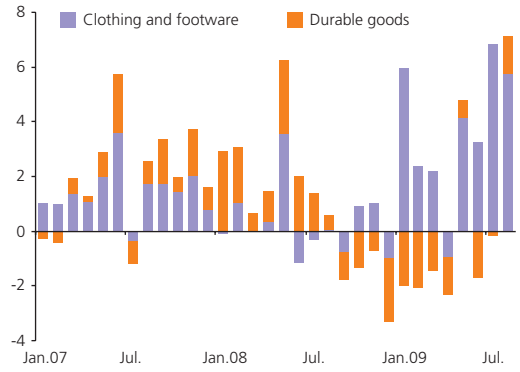


Source: Central Bank of Chile, based on SVS data.

Figure IV.12

Contribution to retail sales growth (*)

(percent)



(*) Excludes supermarket sales.

Source: Central Bank of Chile, based on CNC data.

Table IV.2

Household debt

(real annual change, percent)

	2006	2007	2008	2009		
	IV	IV	IV	I	II	III
Mortgage	**24.1**	**16.1**	**12.9**	**8.9**	**7.4**	**6.3**
Bank	13.9	15.3	13.1	9.6	8.7	7.9
Nonbank (1)	28.3	20.7	11.7	4.7	–0.5	–3.3
Consumer	**22.1**	**11.0**	**4.4**	**2.0**	**1.7**	**3.0**
Bank	21.0	7.0	–0.3	–2.1	–1.7	0.2
Nonbank	23.7	16.3	10.2	7.1	5.8	6.2
Retailers	26.6	19.1	12.0	7.8	4.5	1.0
CCAF (2)	41.9	12.5	9.6	5.8	6.6	10.9
Cooperatives	22.1	20.0	11.6	12.1	6.9	13.4
Other (3)	11.3	13.8	7.6	4.9	6.2	6.7
Total	**17.3**	**13.6**	**8.9**	**5.6**	**4.7**	**4.8**

(1) Includes securitized mortgage debt.
(2) Family Compensation Funds.
(3) Includes car financing, university loans, and insurance company loans.

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

Consumer debt from the Family Compensation Funds (*Cajas de Compensación de Asignación Familiar*, or *CCAF*), cooperatives, and insurance companies grew faster than the average, although together they represent less than 8% of total household debt. In the case of the CCAF, both the stock of loans and the number of members taking out loans increased, which implies a reduction in the average loan amounts. The CCAF have experienced a substantial increase in the number of members, that is, in the universe of consumers eligible for their loan programs.

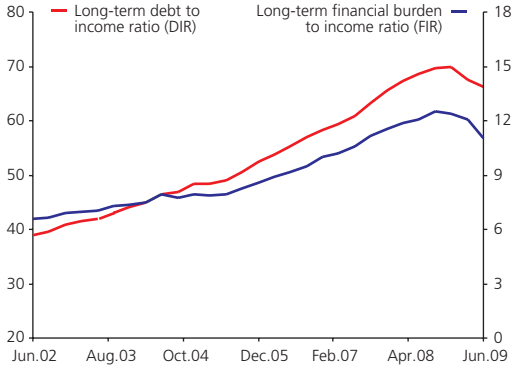
Loans from retailers stagnated in the last quarter, due to a reduction in the demand for credit

Loans from retailers grew only 1% in annual terms in the third quarter, which can be explained by a real drop in the demand for credit and a portfolio transfer from two retailers to the personal banking system during the year. After correcting for the latter effect, growth was approximately 4%, which is significantly lower than from 2006 to 2008.

The growth rate of retail sales in the past year was more than six percentage points below the average from June 2007 to June 2008 (figure IV.11). The use of credit in these sales also fell, dropping four percentage points, on average, relative to the period from January 2007 to June 2008 (from 62.6 to 58.6%). This could be related to a change in consumer behavior, with slower sales of durable goods and growth in clothing and footware sales (figure IV.12).

Figure IV.13

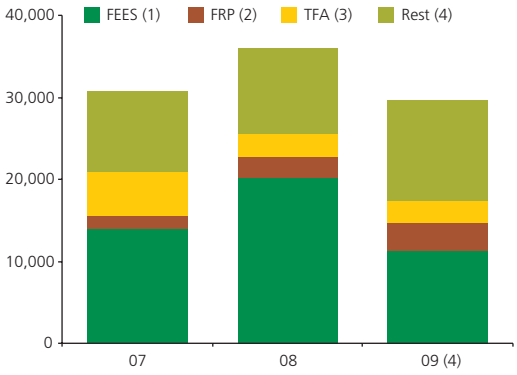
Long-term debt and financial burden
(percent of available income)



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

Figure IV.14

Financial assets of the central government
(US$ million)



(1) FEES: Social and Economic Stabilization Fund.
(2) FRP: Pension Fund Reserve.
(3) TFA: Other Treasury financial assets.
(4) FEES, FRP, and TFA as of December 2009; Rest as of June.

Source: Budget Division, Ministry of Finance.

At the same time, the maturity on retail loans shortened from approximately nine months in September 2008, to eight and a half months in June 2009, reversing the upward trend recorded since June 2005. Projecting the trend line further, using data for the last three years, indicates that the terms have fallen by approximately one month.

Household debt indicators continue to follow a downward trend, led by a contraction in consumer debt

The household debt indicator (debt to income ratios, or DIR) fell 3.2 percentage points in 2009, as a result of both the slower growth of debt and the drop in inflation. In the same period, the long-term financial burden fell 1.3 percentage points, in part because of the drop in interest rates. This reduction indicates that, on average, households adjusted their debt level to the new income and employment conditions in 2009 (figure IV.13).

Credit risk indicators stabilized in the last two quarters of 2009, reversing the hike recorded early in the year

Loan loss provisions on bank consumer loans remain high at around 7% in September, although they have not grown since the first quarter of 2009. In the case of bank mortgage loans, loan loss provisions increased in 2009 as a result of greater provisions on mortgages with a state guarantee. When this effect is isolated, the indicator has not changed significantly relative to past years.

The loan loss provisions ratio of retailers continued to rise in 2009, ending at around three percentage points over the average for 2006 to 2008. It tended to stabilize, however, in the second and third quarters of 2009.

Consolidated government

Since the close of the last *Report*, government assets and liabilities have been close to earlier forecasts.

The fiscal authority predicts a smaller deficit in 2009 than the midyear forecasts

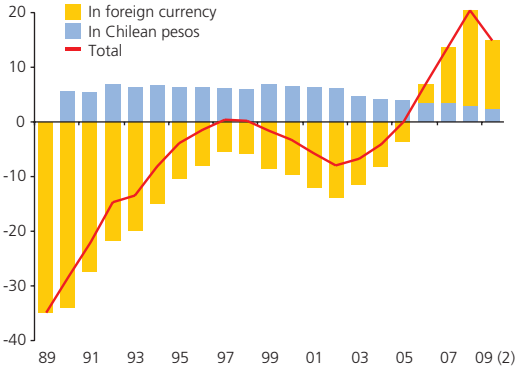
The fiscal authority predicts that the central government will end 2009 with an overall balance of approximately –3.6% of GDP[6]/. This scenario takes into account the higher expenses and lower income stemming from the countercyclical measures adopted to address the unfavorable economic scenario. The deficit is lower than the 4.1% of GDP projected in the June *Report,* mainly due to additional income generated by a higher copper price than was forecast in July of this year. The actual overall deficit has been financed through the use of resources from the Social and Economic Stabilization Fund (FEES) and bond issues authorized in the 2009 Budget Law.

[6]/ For more detail, see Dipres (2009), (Budget Division, Ministry of Finance).

Figure IV.15

Net positions of the central government (1)

(percent of GDP)



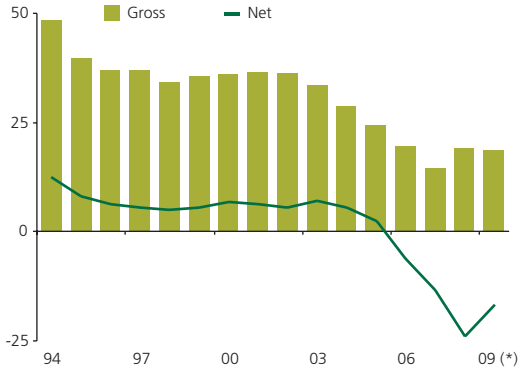
(1) A positive (negative) number implies a net asset (liability) position.
(2) As of June 2009.

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

Figure IV.16

Total debt of the consolidated government

(percent of GDP)



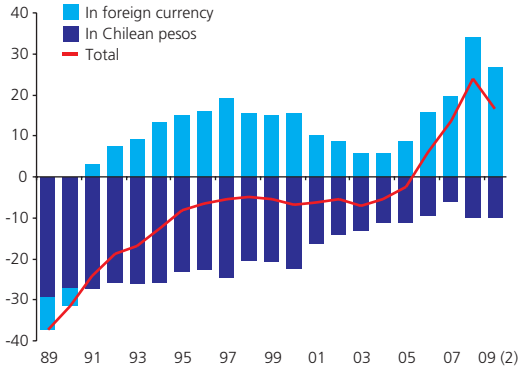
(*) As of June 2009.

Source: Budget Division, Ministry of Finance.

Figure IV.17

Net positions of the consolidated government (1)

(percent of GDP)



(1) A positive (negative) number implies a net asset (liability) position.
(2) As of June 2009.

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

Forecasts show a reduction in the government's financial assets, mainly FEES, used to finance part of the Fiscal Stimulus Plan

Forecasts for 2009 include a reduction in the level of financial assets, some of which have been used to finance the Fiscal Stimulus Plan and the fiscal deficit (figure IV.14). Between December 2008 and June 2009, the central government's total financial assets declined from 25.6% of GDP (US$36 billion) to 19.9% of GDP (US$32.6 billion). Relative to the previous half, assets denominated in both pesos and foreign currency fell, although the biggest drop was in foreign-currency-denominated assets, which represented 70.4% of total assets in June 2009[7]/. These assets include the FEES and the Pension Reserve Fund[8]/. Estimates indicate that total FEES assets shrank by approximately US$9.0 billion in 2009 (5.4% of GDP), ending the year with a balance of US$11.274 billion.

Considering the Treasury bond auction calendar for 2009, the balance of bonds issued in national currency will be approximately US$7.5 billion at year-end (around 4.9% of GDP), of which 82% would be denominated in UF and the rest in Chilean pesos.

The government's net credit position is expected to decrease in 2009, as a result of lower revenues and the Fiscal Stimulus Plan

Spending decisions and the effect of the cycle on income caused the net credit position of the central government to decrease (figure IV.15). Given that the Central Bank's position also declined, the net debt of the consolidated government went from –23.9% of GDP at year-end 2008 to –16.7% in June 2009, while gross debt decreased from 19.2% to 18.7% of GDP in the same period (figure IV.16). There was also a reduction in the government's credit exposure in foreign currency (figures IV.15 and IV.17). External debt, in turn, reached US$2.486 billion (1.5% of GDP) in June 2009. Forecasts for year-end 2009 put the gross debt of the central government at 6.8% of GDP.

The Central Bank's net worth, based on the usual accounting practices, fell from $618 billion on 31 December 2008 to –$1.739 trillion on 15 November 2009. In other words, net worth shrank by around 2.7% of GDP, steepening the drop described in the last *Report*. The decrease is explained by the sharp appreciation of the peso in 2009. As is well known, the Central Bank is in a net

[7]/ Based on data available in the *Informe de Estadísticas de la Deuda Pública* (Public sector debt statistics report) and the Ministry of Finance's quarterly reports for each of the funds.

[8]/ The currency composition of both funds was 10% yen, 40% euros, and 50% dollars, with an average duration of 2.3 years. This is very similar to the levels described in previous *Reports*.

debit position in national currency and a net credit position in foreign currency, so its accounting earnings are sensitive to exchange rate fluctuations[9]/.

The Central Bank has maintained its liquidity support programs

The Central Bank has continued to supply liquidity to banks, in both national and foreign currency. At the July Monetary Policy Meeting, a Term Liquidity Facility (FLAP) was created, through which loans are granted at maturities of 90 and 180 days and at a fixed rate for the full period of the operation[10]/. The creation of this instrument has affected the composition of the banking system's preferred instruments, with the FLAP replacing repos (chapter III).

At the November Monetary Policy Meeting, the decision was made to shorten the maximum terms of the FLAP from 180 to 150 days starting on 14 December and to continue reducing them by 30 days each month. The facility will then be closed in May 2010.

Tax revenues are expected to increase in 2010

The fiscal authority estimates that fiscal income and the level of expenditures will increase in 2010 by 16.0% and 4.3%, respectively, in real terms. The increase in income is due to the recovery of non-copper tax revenues as a result of greater economic activity—in particular, domestic demand—and the higher copper price forecast for 2010. The reversal of the temporary tax measures implemented in 2009, which end in 2010, will increase tax revenues by Ch$700 billion next year. The actual deficit is thus projected to be 1.1% of GDP, with a structural balance of 0%.

Debt issues totaling US$7.8 billion are authorized in the 2010 budget, of which US$1.8 billion will finance recognition bonds. The authority will announce the issue schedule in due time.

[9]/ The foreign currency position of the Central Bank is around 15% of GDP, so a 10% appreciation generates losses of 1.5% of output.

[10]/ The guarantees required for these operations are similar to those for overnight loans.

Box IV.1: **Changes in corporate balance sheets due to the application of IFRS**

In the first quarter of 2009, some corporations listed with the SVS began to publish their financial statements under International Financial Reporting Standards (IFRS). In June, 80 nonfinancial firms reported under these standards, including companies in the following sectors: electricity (25), telecommunications (12), food (11), and forestry (6), among others. Together, they account for nearly 44% of financial debt, 49% of total assets, and 46% of sales of all nonfinancial firms that report their statements to the SVS, as of June.

In the new reports, firms quantify the impact of the transition from Generally Accepted Accounting Principles (GAAP) to IFRS through the reconciliation of net worth and net earnings in December 2008. The change varies substantially among firms and industries, in terms of both net worth and earnings (figure IV.18).

The main factor affecting net worth was the switch to using fair value for reporting investments. The median absolute value of the change in net worth due to this factor was 7.5%. Other factors included deferred taxes (1.8%) and monetary adjustments (1.4%). The median real change in net worth among the firms considered was –4.7%, with a standard deviation of 26%.

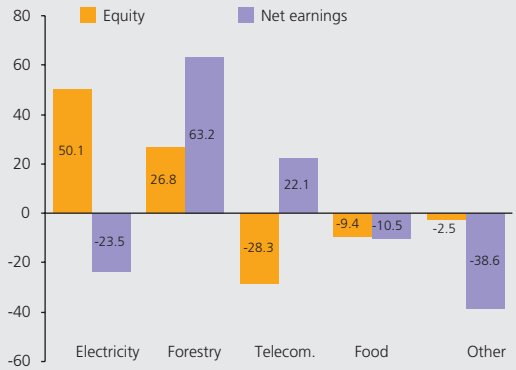
In the six firms with the biggest drop in net worth, the reduction averaged 22%. These firms are in the telecommunications and food sectors, and the main factor in the drop (12 percentage points) was the elimination of the monetary adjustment. The six firms with the largest increase in net worth recorded a change of 39%, on average. The main factor was the change in asset and investment valuation in electric and forestry companies (33 percentage points)[11]/.

With regard to the reconciliation of earnings, the change from GAAP to IFRS caused a median change of –10% in the sample. As in the case of net worth, there is substantial variation among firms. For the six firms at the bottom of the distribution, earnings contracted 219%, on average, based on the monetary adjustment and the valuation of investments, mainly among firms in the electricity and consumer sectors. For the six firms at the top, earnings increased 65%, on average, as a result of differences in the calculation of deferred taxes and the adjustment to investments (fair value) in firms in telecommunications, transport, and forestry, among others.

Figure IV.18

Effects of the change in accounting principles on equity and earnings (1) (2)

(sectoral aggregates, percent change)



(1) Change from Chilean accounting standards (PCGA) to IFRS; reconciliation as of December 2008.
(2) Sample of 80 nonfinancial firms that reported under IFRS in June 2009.

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

Finally, the changes in the presentation of financial statements stemming from the adoption of IFRS have led creditors and debt issuers to adjust their methodology for computing some of the indicators used in calculating compliance with certain conditions imposed in their debt covenants. The modification or maintenance of these contracts will depend, in each case, on the approval of the debt holders.

[11]/ In one electric company, the recognition of minority shareholders' shares or minority interest—which is not considered part of net worth under GAAP—increased net worth by 100%.

Box IV.2: **Revolving securitized bonds**

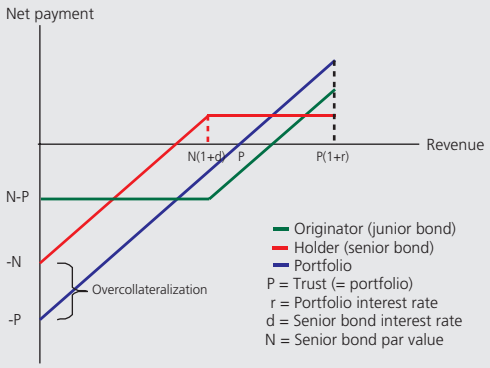
A securitized bond is a debt instrument that pays coupons, where the cash flow necessary for these payments is generated by a specific asset held by the originating firm. This asset is transferred to a separate trust, to ensure that it will not be used to guarantee other liabilities by the originator.

Securitization allows the originator to obtain liquidity through the sale of assets. This form of financing can have a lower cost than a corporate bond, because the risk rating of a securitized bond, while not totally independent of the originator, is related more to the quality of the assets that generate the flows. Consequently, the bond can be structured to achieve a better risk rating than a corporate bond, thereby lowering the cost of financing.

Moreover, in the sale of a securitized bond, the originator transfers the risk to the holder, despite the existence of collateral. This is evidenced by the fact that the originator receives a certain payment in exchange for handing over the assets, whose flows are collected in the future and are thus uncertain (figure IV.19).

Figure IV.19

Revenue from the securitized portfolio and net bond payments



Source: Central Bank of Chile.

To hedge this risk, investors generally demand overcollateralization, that is, that the value of the assets transferred to the trust exceeds the revenues from the bond placement. This difference reduces the probability of default on the placed bond.

In the case of revolving bonds, the duration of the underlying assets is shorter than that of the bonds. Therefore, the originator and the trust must establish and maintain an ongoing relationship, through which the originator provides new assets to replace the expired assets as collateral. A second implication is that as the assets come due, they generate liquidity for the trust over the life of the bond. This allows the investors to have exit clauses in case the portfolio deteriorates.

This is managed through the constant monitoring of indicators of the quality of the securitized portfolio. If the indicators rise above a specified level, it triggers either corrective action (substitution of the portfolio with one of better quality) or early repayment of the bond. These clauses constitute a safeguard for the investor, and they eliminate the originator's incentives to transfer a low-quality portfolio to the trust.

The securitized assets used for these instruments are usually accounts receivable, that is, flows from credit card payments, invoices, or personal loans (in the case of the Family Compensation Funds). The stock of revolving securitized debt exceeded US$1.0 billion in October 2009, which represents 25% of the total portfolio of retailers that issue this type of instrument and 12% of the total portfolio of the Family Compensation Funds.

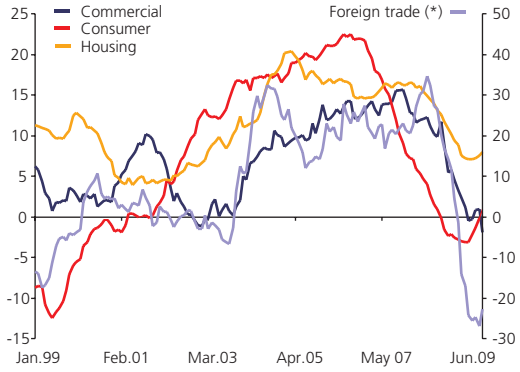
The investor exit clauses make revolving securitized bonds less risky than normal securitized bonds, holding all else constant. However, this lower risk requires the constant monitoring of portfolio quality over the life of the bond.

V. Banking system

Figure V.1

Growth of loans

(real annual change, percent)



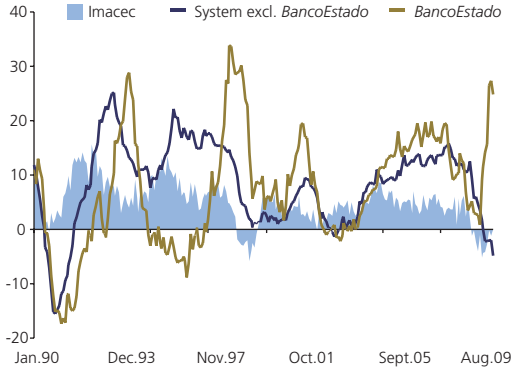
(*) Loans measured in dollars.

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

Figure V.2

Commercial loans

(real annual change, percent)



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

This chapter analyzes the financial strength of the local banking system, which is directly related to its degree of exposure to credit, market, and liquidity risks and its capacity to absorb adverse shocks.

The downward trend in bank lending of the last few months has been reversed in most segments…

After posting a real annual contraction in June and July 2009—a situation that has not occurred since mid-1999 (box V.1)—commercial loans stabilized in August and September, growing 0.9% in real annual terms (figure V.1). They contracted again in October, however, which mainly reflects the high basis for comparison from October 2008. This is due to the accumulation of liquidity by nonfinancial firms, which used their lines of credit with banking institutions in Chile in response to the uncertainty generated by the international financial crisis.

Loans to finance foreign trade operations have been contracting since March 2009. In the last few months, they registered a drop of over 20% in annual terms. The reduction in these loans is essentially explained by the behavior of loans to finance Chilean exports, which represent nearly 70% of the total.

Lending to the business segment has developed unevenly within the banking industry. The majority of institutions reduced their commercial and foreign trade loans through mid-2009, while the state-owned bank has recorded an expansive, countercyclical behavior starting in the second quarter of this year (figure V.2)[1]/.

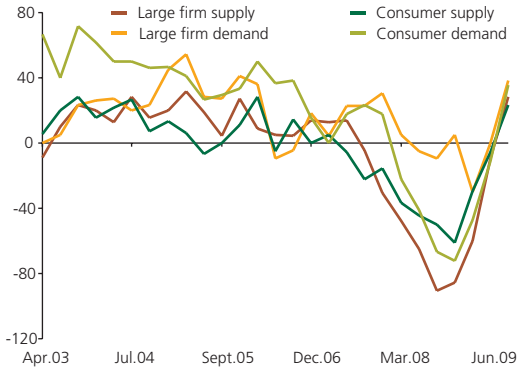
Consumer loans show a change in trend since June. The contraction has tended to stabilize in recent months, and growth was recorded in October (figure V.1). Household loans to finance housing purchases continued to grow in relative terms, with real annual rates of over 7%. This level is moderate, however, in comparison with previous years.

[1]/ The market share of *BancoEstado* in the commercial loan segment increased from 10% in March 2009 to12.5% in October.

Figure V.3

Bank lending conditions survey

(net percent of survey responses) (*)



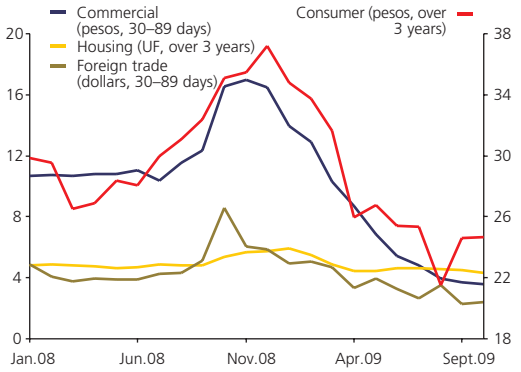
(*) Negative values indicate a weaker perception of demand and less flexible supply conditions.

Source: Central Bank of Chile.

Figure V.4

Bank lending rates (*)

(annual percent)



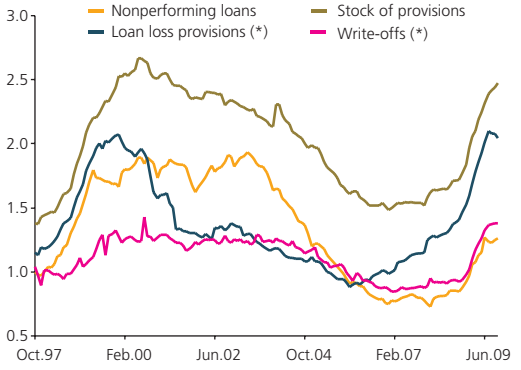
(*) Terms and currencies are representative of each loan segment. See Matus et al. (2008).

Source: Central Bank of Chile.

Figure V.5

Credit risk indicators

(percent of total loans)



(*) Moving years ending in each month.

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

…which is consistent with the banks' own assessment that both supply and demand conditions have loosened

According to the Bank Lending Survey carried out by the Central Bank of Chile, demand factors and supply conditions were tight in the majority of banks and in all loan segments through the second quarter of 2009. This reflects a more cautious approach to lending on the part of banks, in a more uncertain economic context.

In the third quarter, however, a larger number of banks stated that the demand for credit has picked up and lending conditions have loosened (figure V.3). These trends are founded on a better macroeconomic environment, the reduction of the portfolio risk of bank clients, and an improvement in banks' financing conditions. The materialization of more flexible lending policies, combined with the greater need for financing on the part of households and businesses, should be a driver of more dynamic bank lending in the coming months.

Bank lending rates and spreads have contracted

Bank lending rates contracted sharply in 2009, after rising steeply toward the end of 2008, especially in the case of commercial loans (figure V.4). In general, the spreads over deposit rates, for the most representative maturities in each segment, have normalized at levels similar to those of mid-2008 (box V.1).

Credit risk indicators have stabilized since the last Report

In October 2009, the ratio of the system's loan loss provisions to the total loan portfolio peaked at the highest level of the last eight years (2.5%). Nevertheless, the growth of this indicator has slowed since the beginning of the first half (figure V.5).

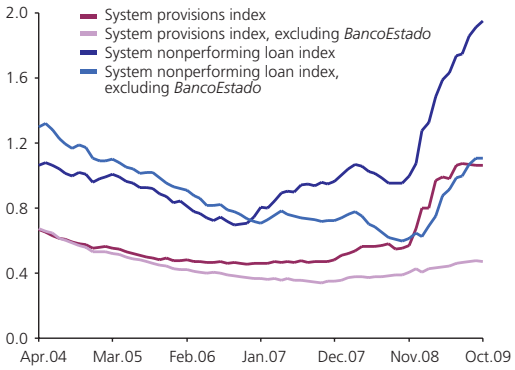
In contrast to earlier periods of high credit risk, the quality of the housing loan portfolio has deteriorated in the past year (figure V.6). Both the loan loss provisions ratio and the nonperforming loan index increased in this period by 40 and 90 basis points, respectively, on average. An important share of the increase in the loan loss provisions ratio reflects the deterioration of the mortgage portfolio of the state bank, which is guaranteed by the State. With regard to nonperforming housing loans, over 75% of the increase corresponds to nonendorsable mortgage loans[2]/.

[2]/ This trend is mainly explained by the behavior of the large multibanks, which represent 75% of the total of this loan segment.

Figure V.6

Credit risk indicators on housing loans

(percent of loans)

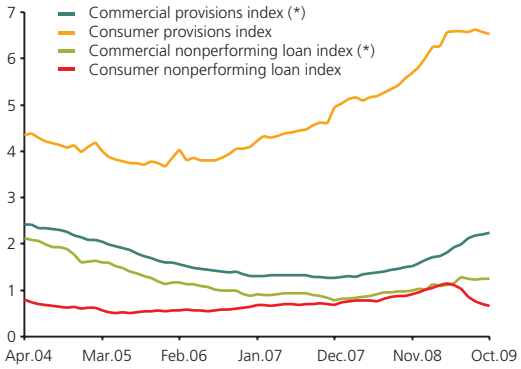


Source: Central Bank of Chile, based on SBIF data.

Figure V.7

Credit risk indicators

(percent of loans in each category)



(*) Excludes foreign trade operations.

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

Loan loss provisions for the consumer loan portfolio remain high. Since April 2009, the loan loss provisions ratio for the consumer portfolio has been around 7%, on average. In the same period, the nonperforming loan (NPL) index fell steadily by approximately 40 basis points, reaching 0.7% in October 2009 (figure V.7)[3]/.

Part of the drop in the consumer NPL index is explained by an increase in restructured or refinanced loans, as well as greater write-offs in the year. Between September 2008 and September 2009, the share of refinanced consumer loans rose from 7% to almost 10% for the system and from 12% to 19% for the group of consumer divisions[4]/. Between January and October, the system's write-offs grew almost 40% relative to the same period in 2008, while the figure for retail banks was nearly 70% in the same period.

In the case of the commercial loan portfolio, the NPL index has stabilized in recent months, although loan loss provisions continue to increase as a result of specific problems in some sectors of the economy, such as the salmon industry. The system's loan loss provisions ratio for the commercial portfolio has increased more than 60 basis points over the course of 2009, to nearly 2.3% in October.

Starting in January 2010, the SBIF's modifications to the regulatory framework on credit risk provisions will gradually come into effect. These modifications establish adjustments to the banks' evaluation of firms whose size, complexity, or level of exposure with the entity require an individual analysis[5]/. In this regard, the SBIF has indicated that some banks have already adjusted their provisions to reflect the new methodology, but others will have to increase their provisions to conform with the new regulatory framework. The modifications were published by the SBIF in November 2007, and their application was programmed for January 2009. Implementation was postponed until January 2010, however, because of the complex economic environment, among other factors.

The profitability of the banking system remains high, with the exception of retail banking, which recorded negative profits

The annualized return on equity of the banking system has stayed over 15% in recent months, despite the fact that loan loss provisions increased 40% between January and October 2009, relative to the same period last year. These portfolio expenses grew from 1.1% of total bank assets in 2008 to 1.5% in October 2009. The increase in provisions has been offset by net brokerage income and high brokerage margins.

[3]/ The index would be 2.7%, if the whole loan was considered delinquent instead of just the late payments (box V.2).

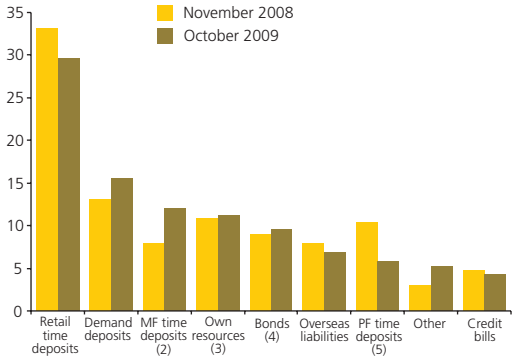
[4]/ Loan loss provisions for the refinanced consumer portfolio are over 20%, which explains why the loan loss provisions ratio for this loan segment remains high.

[5]/ See chapter B-1 of the SBIF *Compendium of Accounting Standards*.

Figure V.8

Sources of bank financing

(percent of total liabilities) (1)



(1) Total liabilities, net of contingent liabilities and fair value of derivative instruments.
(2) Mutual fund time deposits.
(3) Includes Tier 1 capital, provisions, net fair value of derivative instruments, and earnings.
(4) Includes senior and subordinate bonds.
(5) Pension fund time deposits.

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

The monetary stimulus this year benefited the valuation of the financial instrument portfolio, and net income from this line of business was around 0.7% of assets in the past year (table V.1). The brokerage margin remained high, despite the drop in net income from indexation adjustments due to low inflation. One factor in this trend is the reduction in the cost of bank funding stemming from the low deposit interest rates and the greater share of demand deposits in total bank funding (figure V.8)[6]/.

Table V.1

Composition of the banking system's return on assets

	2006	2007	2008	2009 (1)
			(Percent of total assets)	
Interest and adjustments earned	6.4	7.9	8.5	4.7
Interest and adjustments paid	–3.3	–4.5	–5.2	–1.5
Net commissions	0.8	0.6	0.6	0.7
Net trading	0.2	0.1	0.2	0.7
Provisions	–0.8	–0.9	–1.1	–1.5
Support costs	–2.1	–2.0	–2.0	–2.1
Other	–0.1	–0.1	–0.1	0.2
ROA (2)	1.3	1.1	0.9	1.2
			(Times)	
Leverage (3)	14.4	14.5	16.4	14.0
			(Percent)	
ROE (4)	18.5	16.2	15.2	17.1
Pillar I (5)	9.3	9.4	8.4	11.1(6)
CAR	12.5	12.2	12.5	14.2(6)

(1) Annualized data as of October 2009.
(2) Return on assets.
(3) Asset-equity ratio.
(4) Return on equity.
(5) Ratio of Tier 1 capital to risk-weighted assets.
(6) Data as of August 2009.

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

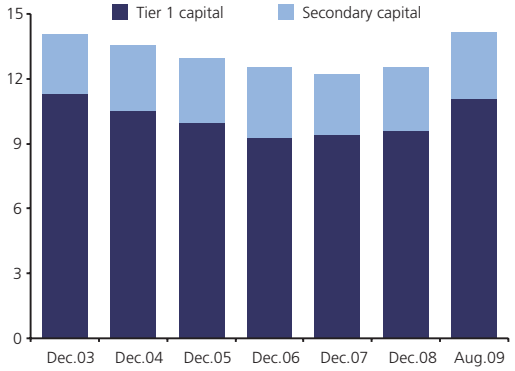
However, profitability varies widely within the banking industry (box V.3). The large private multibanks had the highest profitability levels, thanks to their capacity to borrow funds at a lower cost (they account for over 60% of demand deposits in the system). In contrast, retail banking recorded negative profitability throughout most of the year, even though they have the highest margins in the system. These high margins have not been able to offset the increase in their loan loss provisions, which reflects the greater portfolio risk stemming from their specialization in the consumer segment (table V.2).

[6]/ These cost-free deposits grew from 14% of liabilities in December 2008 to 16% in October 2009.

Figure V.9

Capital adequacy ratio

(percent of risk-weighted assets)

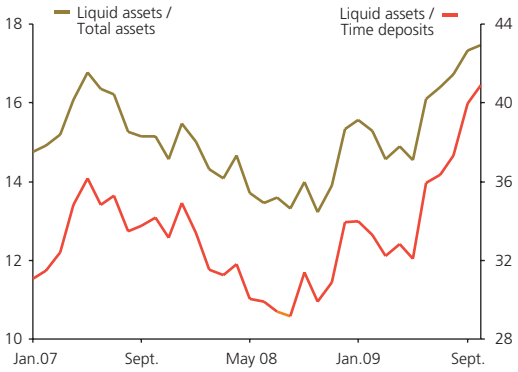


Source: Central Bank of Chile, based on SBIF data.

Figure V.10

Banking system liquidity indicators

(percent)

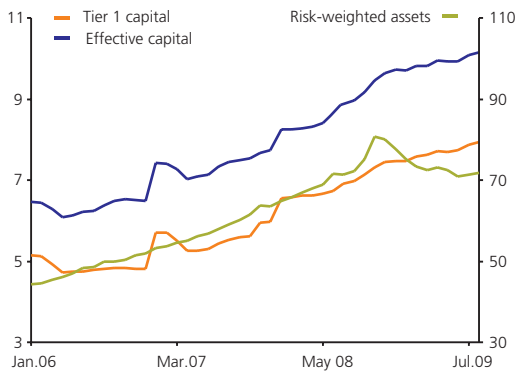


Source: Central Bank of Chile, based on SBIF data.

Figure V.11

Composition of the capital adequacy ratio

(Ch$ trillion)



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

Table V.2

Composition of the retail banking system's return on assets

	2006	2007	2008	2009 (1)
			(Percent of total assets)	
Interest and adjustments earned	13.7	14.4	14.6	13.2
Interest and adjustments paid	–4.1	–5.0	–6.2	–3.8
Net commissions	2.3	1.9	0.7	1.6
Net trading	0.1	0.2	0.7	0.5
Provisions	–4.2	–5.0	–4.5	–7.0
Support costs	–5.5	–5.3	–5.6	–5.8
Other	0.1	0.0	0.3	1.6
ROA (2)	2.5	1.1	0.0	0.2
			(Times)	
Leverage (3)	10.4	8.9	9.4	9.0
			(Percent)	
ROE (4)	25.7	10.1	0.3	1.9

(1) Annualized data as of October 2009.
(2) Return on assets.
(3) Asset-equity ratio.
(4) Return on equity.

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

The drop in loans and the higher share of liquid assets in total assets have been good for the banking system's solvency

The system's capital adequacy ratio (CAR) has stayed above 13%, with a slight upward trend in the past few months (figure V.9). This improvement largely reflects the contraction of the loan portfolio and increased holdings of liquid assets with a lower risk profile (figure V.10). Consequently, the system's credit-risk-weighted assets declined more than 7% between December 2008 and August 2009 (figure V.11).

In the same period, the system's Tier 1 or primary capital grew approximately 5%, thanks to the materialization of additional capital infusions, the capitalization of a larger share of earnings, and the generation of higher earnings in the year[7]/. Tier 2 or secondary capital has been relatively stable over the course of the year, and its effect on the CAR is somewhat lower than in the past (figure V.9).

Smaller banks continue to be highly dependent on mutual funds for funding

The banking system's time deposits contracted in real terms in the last few months, which is consistent with the sharp reduction in bank deposit interest rates in 2009[8]/. The composition of time deposits by creditor developed unevenly over the course of this year. The share of deposits by the mutual

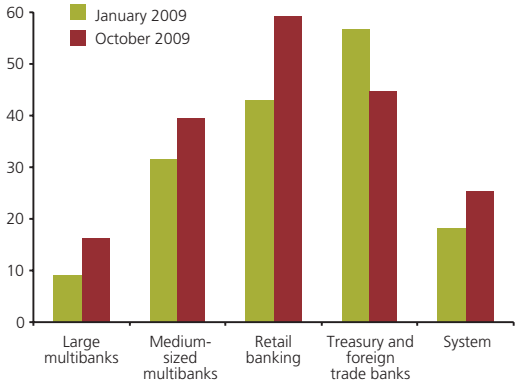
[7]/ As of January 2008, statement earnings are part of Tier 1 or primary capital.

[8]/ Time deposits fell more than 10% in real annual terms in October, partly because of the high basis for comparison from October 2008. This stems from the Ministry of Finance's deposits of US$1.05 billion that month.

Figure V.12

Mutual fund time deposits

(percent of total time deposits)

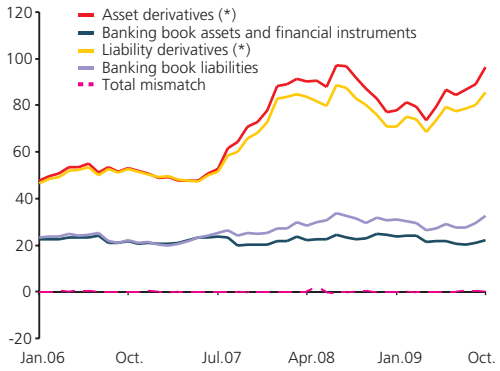


Source: Central Bank of Chile, based on SBIF data.

Figure V.13

Foreign exchange balance of the banking system

(US$ billion)



(*) Includes notional value of foreign currency forwards and swaps.

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

funds rose from 16% in December 2008 to more than 25% in October 2009. The pension funds (FP), in turn, reduced their share in the same period, at the same time that they increased their investment in corporate bonds and, in the third quarter, their overseas investment (chapter III).

The expansion of mutual fund deposits has been proportionally more significant in the large multibanks, which are relatively less dependent on this source of institutional funding (figure V.12). For this group of banks, retail deposits continue to be the main source of funding, representing nearly 70% of time deposits and 30% of total liabilities in October 2009. Banks that are highly dependent on institutional funding include treasury banks and retail banks, which, because of their relatively small size, are less able to obtain retail funding. In these banks, the share of mutual fund deposits is over 40% of their time deposits, but individually they have a market share of less than 1% of total system assets. Despite their relatively small size, these institutions need to take into account their strong dependence on institutional funding in determining their liquidity management policy.

Exposure to currency risk continues to be manageable

Exposure to currency risk in the banking book has increased in the last few months, mainly as a result of the sharp increase in external liabilities and, to a lesser extent, the reduction in loans to finance foreign trade operations. Consequently, the liability position in the system's banking book rose to over US$10 billion in October 2009.

However, between April and October of this year, the increase in currency hedging operations with the pension funds, of over US$8.0 billion, contributed to increasing the asset position in foreign currency derivative instruments. This has allowed the banking system to keep its currency risk exposure at a manageable level, equivalent to 2% to Tier 1 capital in October 2009 (figure V.13).

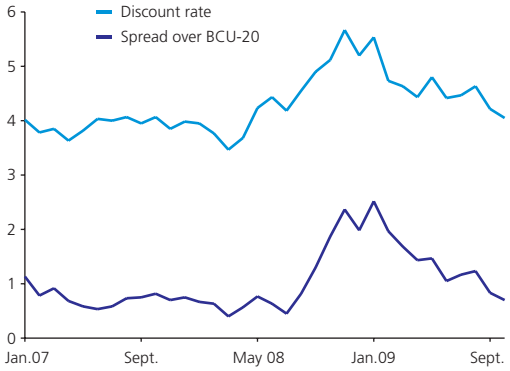
External financing conditions continue to normalize, while various market indicators reflect the strength shown by the Chilean banking system in the past several years

The average cost of overseas liabilities continued to drop for the banking system as a whole, while credit lines continued to expand (chapter II). The local banking system's external liabilities thus grew steadily between April and October 2009, by more US$3.5 billion. This reflects not only a recovery of international liquidity, but also a positive assessment of the Chilean banking system by external agents.

Figure V.14

Banking system's subordinate bond discount rate

(annual percent)



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

Since the last *Report*, the national banking system has retained the strengths shown over the past several years. This is evident in the favorable trend of its stock indices, the credit ratings on its debt securities (on average, AA+ for long-term local currency deposits), and the reduction in the discount rates on their long-term debt securities (figure V.14).

Stress tests

Stress tests are an analytical tool that contributes to identifying weaknesses and sizing up financial strengths in a given moment of time. Given their static and partial nature, they do not necessarily uncover all the effects of specific risk scenarios. Consequently, they should not be interpreted as projection exercises. The focal point of the analysis is the system as a whole, which is constructed based on data for individual institutions[9]/.

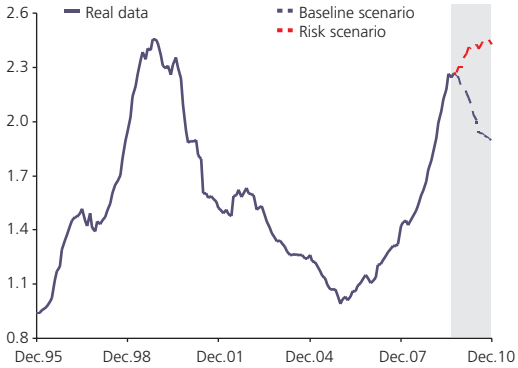
Tests carried out with data for September 2009 show that the banking system is in a good financial position to operate normally in the baseline scenario and that it can absorb the materialization of a severe risk scenario. The baseline scenario used in these tests is consistent with the economic forecasts in the Central Bank's last *Monetary Policy Report* (September). The risk scenario, in turn, considers a 20% increase in the exchange rate over a period of 15 days, a 250 basis point hike in the short-term interest rate, and a 4.5% contraction in output in the last quarter of 2009. For 2010, it includes 2% growth, which translates into unemployment rates of around 11%.

The stress tests show limited effects in the baseline scenario, and the banking system is able to sustain the losses associated with the more severe risk scenario

Figure V.15

Loan loss provisions under alternative scenarios

(percent of loans)



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

Credit risk is the most important risk for the local banking system. In this test, credit risk is measured through the ratio of loan loss provisions to loans. This indicator increased from 1.8% of loans in January 2009 to 2.2% in September 2009[10]/. In the baseline scenario, this indicator remains at 2.0% over the course of one year, while under the risk scenario it rises 2.5% (figure V.15)[11]/. Consumer portfolio quality is the most sensitive to a worsening in the economic environment: in the risk scenario, loan loss provisions grow from 9.2% in September 2009 to 11.5 % after one year.

The growth of bank lending recovers in the baseline scenario, versus an annual rate of 1% in 2010 in the risk scenario (figure V.16). Again, consumer loans are the most sensitive to the evolution of the economy, growing around 5% in annual terms in 2010 in the baseline scenario, but contracting 4.4% annually in the risk scenario. The contraction of lending also affects the system's profitability, because it reduces earnings capacity.

The tests show that for the system as a whole, the losses associated with

9/ This analysis is based on the methodology described in Jara, Luna, and Oda (2007) and Alfaro, Calvo, and Oda (2008). Both the analysis and the results are regularly published by the SBIF.

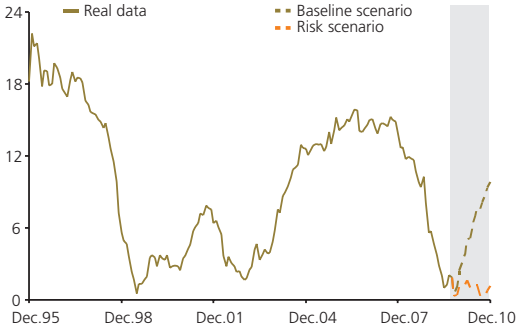
10/ Loans exclude foreign trade loans.

11/ For details on the methodology used to calculate credit risk, see Alfaro, Calvo, and Oda (2008).

Figure V.16

Growth of lending under alternative scenarios

(real annual change, percent)

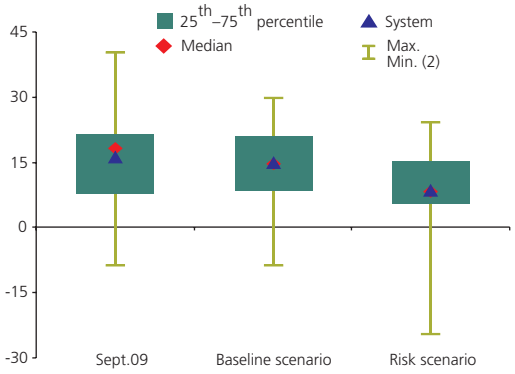


Source: Central Bank of Chile, based on SBIF data.

Figure V.17

Impact of different scenarios on return on equity (ROE) (1)

(percent)



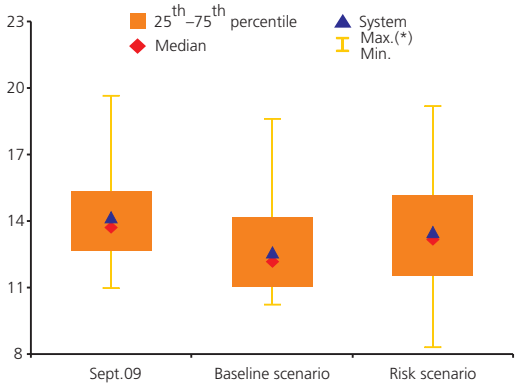
(1) Figures are weighted by the Tier 1 capital of each institution in September 2009.
(2) Minimums correspond to the 1st percentile.

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

Figure V.18

Impact of different scenarios on the capital adequacy ratio (CAR) (1)

(percent)



(1) Figures are weighted by the Tier 1 capital of each institution in September 2009.
(2) Maximums correspond to the 90th percentile.

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

credit risk would reach 0.7% of system capital in the baseline scenario and almost 4.3% in the risk scenario. The loan expansion in the baseline scenario increases return on equity by one percentage point, while the loan contraction in the risk scenario reduces ROE by 2.2 points.

Market risk remains at manageable levels. Losses in the valuation of financial instruments due to changes in the yield curve are on the order of 0.5% of system capital in the risk scenario. In the same scenario, losses from asset and liability repricing are under 0.9% of capital.

Finally, exposure to currency risk remains low for the system as a whole. The majority of banking institutions have a relatively matched foreign currency position, so an increase in the exchange rate has almost no effect on system profitability. Thus, a drop in the exchange rate of the same magnitude does not significantly change the bottom line.

In September 2009, the banking system reported a 16% ROE, although some banks, which together represent 5.5% of system capital, reported losses. The stress tests take that month as a point of reference and assume a normalization of net brokerage income. The test results show that the losses generated from credit and market risk reduce the system's profitability to around 15% in the baseline scenario and 8.5% in the risk scenario. In the latter case, the institutions that record losses represent around 7.2% of system capital (figure V.17).

The system's CAR remains around 12.6% in the baseline scenario and rises to 13.5% in the risk scenario (figure V.18). The higher level of this indicator in the risk scenario reflects the contraction in lending and, therefore, in risk-weighted assets.

In the baseline scenario, no participant in the banking system has a CAR below 10%. In the risk scenario, some smaller banks might need to reinforce their Tier 1 capital to keep their CAR over 10%, but the amounts are manageable.

Box V.1: Comparison of bank spreads and loans (1998–1999 versus 2008–2009)

The recent international financial crisis has had repercussions on the activity level of the Chilean economy, which has contracted 2% in annual terms as of the third quarter of 2009. This crisis is often compared with the Asian crisis at the end of the last decade, which also had a strong impact on economic activity and lending. This box assesses bank lending conditions in both crises. For this exercise, the starting point (time zero) of the two episodes is defined as the second quarter of 1998 and the third quarter of 2008, respectively, with windows of eight quarters around each starting point.

The output contraction was similar in the two episodes, although the slowdown would have been deeper in the Asian crisis (figure V.19).

Figure V.19

GDP growth of the Chilean economy (*)

(annual percent)

(*) Seasonally adjusted series. Time zero corresponds to 98.II (Asian crisis) and 08.III (financial crisis).

Source: Central Bank of Chile.

As of third quarter of 2009, the slowdown in commercial loans has been very similar to the Asian crisis (figure V.20, panel a). In contrast, the recent slowdown and later contraction of consumer loans has been much less severe than in the earlier crisis (panel b). Comparatively speaking, housing loans were the most strongly affected segment in the recent international financial crisis, although they recorded annual growth rates of around 6% as of the third quarter of 2009 (panel c).

Figure V.20

Growth of bank loans (1)

(annual percent)

(1) Nominal loans. Time zero corresponds to 98.II (Asian crisis) and 08.III (financial crisis).
(2) Only loans in domestic currency.
(3) Adjusted by the year's CPI change.

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

Another interesting variable for comparison is the trend in bank loan-deposit spreads. Although there are no data on bank lending rates by loan segment prior to 2001, they can be approximated based on the system's average interest rate for the most representative maturities and currencies. Thus, the lending rate on commercial loans in pesos at less

than 90 days, which represent almost half of the loan flows in this segment,[1]/ can be approximated with a high degree of precision by the average interest rate on 30- to 89-day peso-denominated loans. Consumer loan flows, in turn, are strongly concentrated in maturities of over three years, and they are mostly in Chilean pesos. The rate that best approximates these loans in trend (but not in level) is the average interest rate on one- to three-year nominal loans. Finally, in the case of housing loans, until 2000, 67% were financed through the issue of mortgage bonds, for which the banks charged a placement commission. This rate is compared with the average lending rate for this segment in the most recent episode[2]/.

In the past two years, lending rates have been at least 30% lower than in the 1998–1999 period (figure V.21)[3]/. To a large degree, this is probably related to the evolution of monetary policy in each episode, which has been much more expansive in the latest crisis.

Figure V.21

Lending rates on bank loans (*)

(annual percent)

(*) Time zero corresponds to 98.II (Asian crisis) and 08.III (financial crisis).

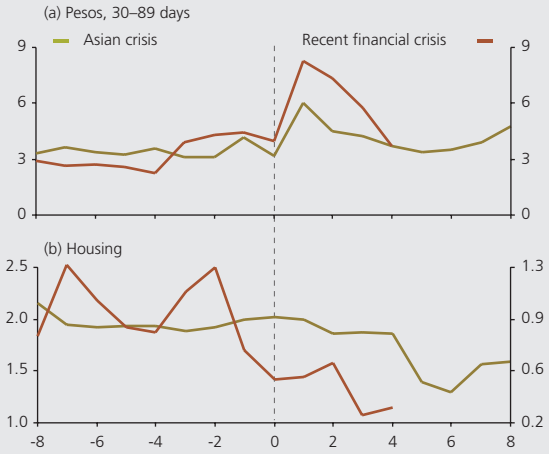
Source: Central Bank of Chile.

The loan-deposit spread on commercial loans (approximated by the average interest rate spread on 30- to 89-day peso-denominated loans) is larger in the current episode than in 1998–1999, although the average level of the two quarters before impact was already reestablished in the third quarter of 2009 (figure V.22, panel a). For the Asian crisis, the mortgage spread can be approximated by the commission on mortgage bills. Currently, these bills have given way to endorsable and nonendorsable mortgage loans (70% of loans in this segment), which are primarily financed through the issue of senior and subordinate bonds[4]/. Thus, in the later period, the spread is approximated by the difference between the average lending rate and the discount rate on bank bonds.

Figure V.22

Lending and deposit rate spread (*)

(percent)



(*) Time zero corresponds to 98.II (Asian crisis) and 08.III (financial crisis).

Source: Central Bank of Chile.

The spreads behaved very differently in the two episodes. In particular, they were substantially lower and contracted significantly in the current crisis (panel b)[5]/.

While more information is needed for an evaluation of the impact of the recent international financial crisis on bank lending in Chile, the data available to date show a relatively less severe scenario in terms of bank lending spreads and growth. Mortgage loans slowed more sharply in the current episode, but they continue to record positive growth rates and substantially lower spreads than in the Asian crisis.

[1]/ Almost 90% of commercial loan flows are in pesos and of these, more than a half have terms up to 90 days (Matus et al., 2009).

[2]/ Both flows have a similar duration of over eight years.

[3]/ Deposit rates for the same maturities were between 40% and 80% lower in 2009 than in 1999.

[4]/ With an average duration of seven to eleven years.

[5]/ For consumer loans, it is more complex to construct a comparable approximation of loan spreads over time. At the most representative maturity, the volume of deposits is low, so the cost of bank funding in this segment is not easily identified.

Box V.2: A new credit risk indicator for the Chilean banking system

Beginning in 2009, Chilean banks must report a new credit risk indicator: nonperforming loans that are 90 days or more past due. This new definition of delinquency incorporates the full amount of the loan that is 90 days or more past due.

This modification represents an important advance in the disclosure of financial information by the Chilean banking sector. Until December 2008, the delinquency indicator published by the SBIF was the nonperforming loan (NPL) index, which only takes into account the part of the loan that is at least 90 days past due, with the rest of the loan remaining active[1,2]/.

The new indicator is greater in magnitude than the traditional NPL index. The discrepancies between the two indicators, for the different types of loans, are mainly explained by differences in loan maturities and in the amortization system (table V.3). For example, both consumer and housing loans, which are paid in installments and are mostly long term, present a 90-day delinquency indicator that is three times higher than the traditional NPL index. The difference is smaller for commercial loans, which are mostly short term.

The coverage ratio, which measures the ratio of loan loss provisions to nonperforming loans, has hovered around two times in the past few years. This ratio obviously drops for each loan category when the 90-day delinquency portfolio is used instead of the traditional NPL index. The biggest drop in the coverage ratio is seen in the consumer segment, but as with commercial loans, the new definition of nonperforming loans is still covered by provisions. In the case of mortgage loans, the coverage ratio remains below one time. This is due to the fact that banks can deduct the mortgage collateral from their provisions.

Table V.3

Delinquency indicators (*)

(percent of loans)

	Commercial	Consumer	Mortgage	Total
Delinquency of 90 days or more	1.9	3.4	5.2	2.9
Traditional NPL index	1.1	1.0	1.6	1.2
Coverage index				
Delinquency of 90 days or more	1.0	1.9	0.2	0.8
Traditional NPL index	1.6	6.8	0.6	2.0

(*) January–September 2009 average.

Source: SBIF.

International comparison

The percentage of the delinquent loans that was transferred to the nonperforming loan portfolio constituted one of the main differences with the portfolio rating criteria used by banking systems in other countries. The banking system's convergence to international standards facilitates the international comparison of the quality of the loan portfolio.

Despite the deterioration of the loan portfolio in 2009, the level of delinquency in the Chilean banking system is lower than in the banking systems in other emerging economies, but higher than in some countries with a greater level of economic development (table V.4).

[1]/ In the case of loans contracted in installment payments and with an acceleration clause, the full amount of the loan can only be considered past due 90 days after the judicial complaint has been entered for the loan.

[2]/ Between May 2005 and December 2007, the SBIF published the "risk subject to stress" indicator, which consisted in adding up all nonperforming loans that were between 30 and 89 days past due. While this indicator was more acid, it also considered only the fraction of the loan that had had one or more past-due payments.

Table V.4

Nonperforming loan index (1)

(percent of loans)

Latin America		Emerging Europe		Emerging Asia		Oecd	
Colombia	4.7	Russia	7.6	Philippines	4.7	Italy	5.5
Brazil	4.3	Croatia	6.0	Malaysia	4.6	Spain	4.6
Mexico	3.8	Poland	5.7	Indonesia	4.1	United States	3.8
Argentina	3.4	Turkey	5.3	India	2.3	United Kingdom	1.6
Chile	2.9	Hungary	4.8	China	1.8	Australia	1.0
Uruguay	1.0	Czech Republic	4.4	South Korea	1.5	Canada	0.9
Regional average	2.2	Regional average	5.0	Regional average	3.3	Regional average (2)	3.4

(1) Data are for June 2009, except for the United Kingdom (December 2008), India (March 2008), and Chile (September 2009).
(2) The average only considers countries with data for 2009. Excludes South Korea and Mexico.

Source: IMF (2009).

Box V.3: **The profitability of the domestic banking system**

Despite low economic growth and the slowdown in lending activity, the Chilean banking system has maintained high levels of profitability. Return on equity (ROE) was 15.2% in 2008, and it exceeded 16% in September 2009 (annualized).

One of the main characteristics of the profitability of the Chilean banking sector is its heterogeneity, which reflects both the size of banking institutions and the degree of diversity in their business lines and funding sources. The high, stable profitability of the large private banks is explained by their better standards of operating efficiency, their ability to borrow funds at a lower cost, and the diversification of their sources of ear wnings (table V.5). In contrast, treasury banks have recorded much more volatile profits in the past year, fluctuating between –4% and 35%[1]/. The profits of banks specializing in the consumer loan segment, in turn, are highly procyclical: some retail banks registered a ROE of 40% between 2003 and 2006, but have posted negative profits in recent months.

Table V.5

Share by line of business (1) (2)

(percent of total assets)

Assets	Large multibanks	Medium-sized multibanks	Retail banking	Treasury banks	Foreign trade banks
Instruments					
Derivatives	4.7	3.8	2.1	37.7	0.8
Nonderivatives	11.2	9.3	8.3	22.3	1.5
Loans					
Commercial	39.9	50.0	1.9	12.4	13.9
Foreign trade	6.3	7.8	0.0	4.7	41.1
Consumer	9.1	5.9	56.3	0.0	0.1
Housing	18.0	13.7	17.7	0.0	0.0
ROE (3)	21.5	11.5	0.2	9.1	2.2

(1) Grouped by cluster, as described in box IV.2 of the *Report* for the second half of 2007.
(2) 2008–2009 average.
(3) Annualized as of September 2009.

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

The industry's profitability is concentrated in the two largest private banks, which together account for 40% of the system's assets and nearly 60% of total earnings. While these banks are fundamentally oriented toward lending, they also participate in the treasury business.

For these two banks, in particular, it is possible to analyze the contribution to earnings of the different lines of business, based on information reported to the Securities and Exchange Commission (SEC), as required of companies that issue debt and equity instruments in the U.S.[2]/

In 2008, lending in the retail segment, which includes loans to households and to small- and medium-sized enterprises, contributed the most to the banks' earnings (table V.6). The wholesale segment, which is centered on large firms (defined by sales), contributes proportionally less. The treasury business also contributes a high share in the earnings of both banks, despite the fact that investment in this business unit represents a smaller share of total assets (tables V.1 and V.2).

Table V.6

Contribution to profitability by line of business (1)

(percent of assets of each segment)

	Chile		Santander	
	ROA (2)	Percent	Margin (3)	Percent
Retail (4)	2.7	30.5	6.8	42.9
Wholesale (5)	1.7	40.5	1.9	23.1
Treasury	4.7	12.1	3.9	20.0

(1) Data as of 31 December 2008.
(2) Ratio of net earnings to the respective assets.
(3) Ratio of earnings before support costs to the respective assets.
(4) Loans to households and SMEs. For *Banco Santander*, also includes loans to governmental organizations and universities.
(5) For *Banco de Chile*, firms with annual sales of over $1.4 billion. For *Banco Santander*, firms with annual sales of over $1.2 billion and companies in the real estate sector.

Source: SBIF and SEC.

[1]/ While some of these entities have recorded negative profits, they have high solvency ratios.

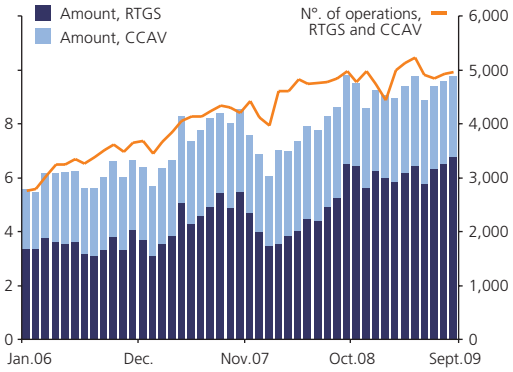
[2]/ Source: 20F form. Disclosure of information on earnings by business segment will begin in Chile in 2010, in the process of convergence to International Financial Reporting Standards (IFRS).

VI. Financial regulations and infrastructure

Figure VI.1

Payments settled in the large-value payment systems (*)

(Ch$ trillion, thousands of operations)



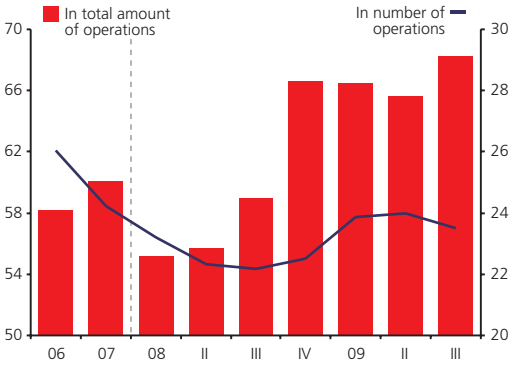
(*) Monthly daily averages.

Sources: Central Bank of Chile and Combanc.

Figure VI.2

Share of the RTGS system in the large-value payment systems

(percent)



Source: Central Bank of Chile.

This chapter reviews recent initiatives in the area of the financial regulatory framework and prudential regulation, both in Chile and abroad, as well as factors related to the functioning and development of the payment systems and the infrastructure that supports the operation of the local financial markets.

Payment systems and financial infrastructure

The payment systems have a fundamental role in the performance of the economy, the effectiveness of monetary policy, and financial stability. The Central Bank of Chile has the responsibility of regulating and supervising the safe and efficient functioning of these systems.

Large-value payment systems

The large-value payment systems are made up of the real-time gross settlements (RTGS) system and the Large-Value Payment Clearing House (CCAV). Both systems process interbank, client account, and delivery versus payment (DVP) operations.

The number of operations settled in the large-value payment systems in the third quarter of 2009 averaged $9.6 billion per day, distributed over 4,900 payments. The amount settled thus grew 16.6% and the number of operations 2.4% (figure VI.1).

The proportionally larger growth of the amount versus the number of operations reflects a greater use of the RTGS system by banking institutions. The share of the amount settled in the RTGS system grew from traditional levels around 60% to nearly 70% in the last year (figure VI.2). As mentioned in the last *Report*, this trend appears to be related to a precautionary strategy adopted by the banks in the face of heightened uncertainty, especially toward the end of 2008. At the same time, it is also related to a greater accumulation of liquid assets, due in part to less dynamic bank lending.

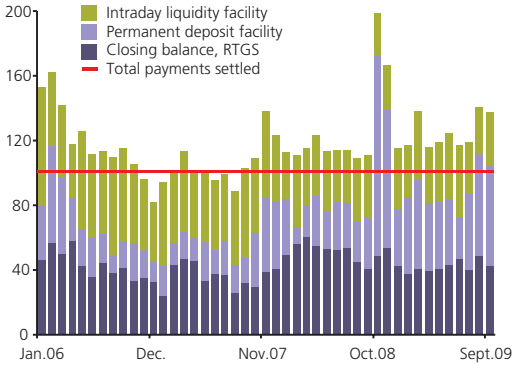
The banks' propensity to hoard liquidity can be illustrated through the performance of the standing deposit facility. While the use of this facility has declined, reflecting a normalization of the financial markets, it is still above optimal levels from the perspective of efficient liquidity management on the part of the institutions (figure VI.3).

With regard to liquidity management tools, the Central Bank gave banks access to a temporary Term Liquidity Facility (FLAP), through which it

Figure VI.3

Liquidity in the RTGS system (*)

(percent of total payments settled)



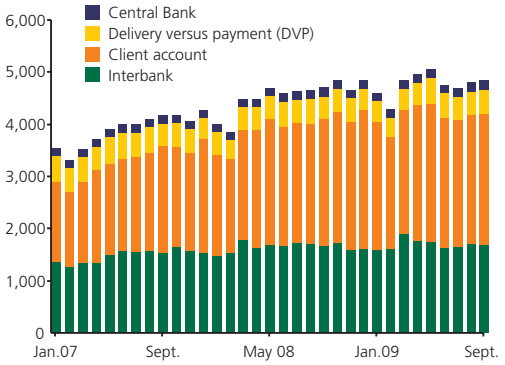
(*) Monthly daily averages.

Source: Central Bank of Chile.

Figure VI.4

Type of payments settled in the large-value payment systems (*)

(thousands of operations)



(*) Monthly daily averages.

Source: Central Bank of Chile and Combanc.

Table VI.1

Main retail means of payment

	2008	2009 (*)
	(value in Ch$ trillion)	
Checks	383,734	337,285
ATMs	9,916	11,984
Nonbank credit cards	5,040	4,077
Bank credit cards	3,400	3,405
Debit cards	1,961	2,378
Internet transfers	n.a.	n.a.
	(millions of transactions)	
Checks	248,840	223,166
ATMs	246,656	295,755
Nonbank credit cards	221,816	205,268
Bank credit cards	79,866	77,953
Debit cards	106,159	129,765
Internet transfers	170,577	172,647

n.a.: Not available.
(*) Latest available data, annualized.

Source: SBIF.

provides liquidity at 90 and 180 days at the prevailing monetary policy rate. Use of the FLAP totaled almost Ch$3 billion between 9 July 2009 and the statistical closing date of this *Report* (chapter III).

The number of operations channeled through the large-value payment systems (not the liquidity management operations conducted by the Central Bank) registered low growth rates, in part because of the economic slowdown that occurred in the period under analysis (figure VI.4). Thus, for example, total own-account and client-account interbank payments (which represent a large share of the operations processed in the large-value payment systems) posted annual growth rates below 3%, with a daily average of 4.2 million payments in September 2009. DVP transactions also slowed, with an annual growth rate of less than 1%.

Retail payment systems

The retail payment systems are used to make payments and transfer funds between individuals and/or firms. They process a large number of low-value operations, normally tied to the sale and purchase of goods and services.

Through the first half of 2009, the performance of the retail payment systems mainly reflects the less dynamic economy and the rapid move away from check payments to electronic debit operations (table VI.1).

The effects of slower economic activity are especially striking in the case of nonbank credit card transactions, although bank credit card transactions and Internet transfers were also considerably less dynamic. Nonbank credit card transactions fell to rates around 20% in the last year, in terms of both the amount and volume of transactions. The effects on bank cards are also significant, but they are much more moderate than nonbank cards, with zero growth in the same period. Finally, Internet transactions, which typically post substantial growth rates, rose slightly more than 1%.

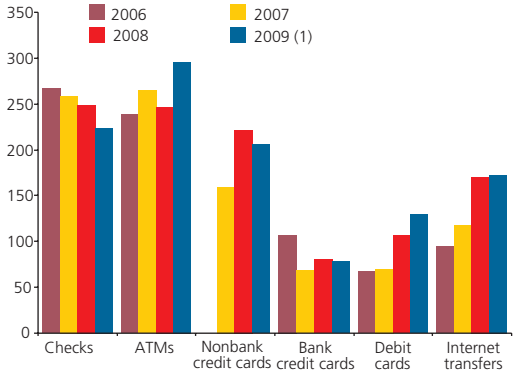
The move from traditional to electronic means of payment was solidified, with around a 20% growth rate for electronic transfers. At the same time, the downward trend in check payments steepened, falling more than 10% at the end of the first half of 2009 (figure VI.5). This boom in electronic debits is tied to the elimination of the stamp tax in October 2008. While this measure applies to both checks and electronic means of payment, as mentioned in the last *Report*, in practice it should favor the use of the latter.

Despite the rapid contraction of check payments, checks still hold an important position in the retail payment systems, with a share of over 90% of the total amount transferred in these systems. The number of transactions, however, represents a share of only 20%.

Figure VI.5

Main retail means of payment

(thousands of transactions)



(1) Latest available data, annualized.
(2) Available since 2007.

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

Financial regulation

Regulatory framework issued by the Central Bank of Chile

Modernization of the regulations on mortgage loans financed through the issue of mortgage bills (August 2009, www.bcentral.cl)

The Board of the Central Bank of Chile made the decision to modernize, adjust, and integrate its regulations on mortgage loans financed through the issue of mortgage bills, while preserving the framework of prudential safeguards that has historically been applied to these operations. At the same time, this measure will allow these instruments to be offered under terms that are more competitive with other types of mortgage financing.

These regulations incorporate the possibility of funding mortgage operations through the issue of a new category of mortgage bill, which can finance loans representing more than 75% of the value of the mortgage collateral, up to a limit of 100%. Mortgage bills in this new category can only be issued by banks with the highest solvency rating from the SBIF and can only be granted to clients to whom the issuing bank has assigned the highest grade on the applicable credit rating scale. This modification should promote a reduction in the costs of financing assumed by bank clients, stemming from a reduction in the use of complementary loans to supplement mortgage loans.

Additional modifications were introduced and are applicable to all mortgage bills without distinction. The objectives of these changes include the following: to allow banks to offer their clients more flexibility in their loan payments; to facilitate a greater degree of consistency between the loan payment simulations of mortgage bills and other mortgage financing arrangements; and to specify that this type of loan can be contracted with more than one fixed interest rate over the life of the loan.

As part of this modernization process, the regulatory provisions were reinforced to improve the level of transparency in the use of mortgage bills to finance mortgage loans, thereby maximizing the available information on the terms offered and contracted, such as real interest rates, commissions charged, interest rates on endorsable mortgage loans, development tables, and the expenses paid by the mortgage debtor, among others. This is aimed at improving the conditions that protect the rights of both the mortgage loan clients and the investors that acquire the respective mortgage bills in the capital market.

In October 2009, the SBIF issued the necessary adjustments to its guidelines for the implementation of the new regulations.

Interpretation of the meaning and scope of the regulatory provisions on the issue and operation of credit cards (July 2009, www.bcentral.cl)

The Central Bank interpreted the meaning and scope of the regulatory requirements for firms that issue credit cards. The main objective was to clarify that the phrase "banking firms" used in the regulatory framework also covers subsidiary companies involved in the delivery of financial services, as described in the General Banking Law.

Finally, box VI.1 presents an analysis of the foundations and implications of the Central Bank's regulatory provisions on derivatives compensation (cited in this section of the December 2008 and June 2009 *Financial Stability Report*).

Other developments in the country's financial regulation

Enactment of a law to improve the regulation of corporate governance (October 2009, Law 20,382)

The objective of this new legislation is to raise the standards and efficiency of corporate governance. This is also one of the commitments that Chile is required to make to join the OECD.

By modifying the laws on the Securities Market and on Corporations, this law aims to promote transparency, the disclosure of information to the market, and the boards' adoption of best practices in the use of privileged information; to strengthen the rights of minority shareholders; to avoid conflicts of interest with related parties; and to guarantee better security and technical qualifications of external auditors.

Thus, shareholders who own more than 10% of an open corporation's subscribed capital, such as the directors, trustees, principals, managing directors, and officers, must report any acquisition or disposal of the company's stocks.

The board must also adopt measures to prevent the disclosure of privileged information to anyone who does not need to know it by virtue of their position or activity within the corporation, before it is announced to the shareholders and the public. In addition, it is prohibited to use privileged information in relation to the disposal of shares, a restriction that previously applied only to the purchase of shares.

With regard to minority shareholder rights, the law establishes the obligation to incorporate at least one independent director when the corporation has stock equity in excess of UF1.5 million. This director must serve on the board of directors. The law further improves the regulation of takeover bids, primarily for bids that aim to close the corporation's net worth.

Finally, the law incorporates requirements on the independence and grounds for disqualification of external auditors, in order to guarantee their technical qualification. It also establishes that transactions with related parties can only be carried out when their objective is to contribute to the corporate

interest, they are adjusted to reflect prevailing market prices, terms, and conditions, and they comply with the requirements and procedures specified in the law.

SBIF and SVS establish minimum standards and requirements for participants in the financial instrument settlement and clearing systems (August 2009, www.sbif.cl)

Net worth, financial, technological, and human resources requirements were established for participants in settlement and clearing systems, in accordance with the law on the settlement and clearing of financial instruments (Law 20,345, May 2009).

The minimum liquidity and solvency requirements will be established in the system's operating regulations, based on the risks assumed by the participants and on the type and volume of clearing orders. Regardless, reported net worth must be greater than UF10,000.

The managing corporation must request the information necessary for verifying these requirements from the system participants. This information must be established in the membership contracts and in the system's operating regulations.

With regard to the technological and human resources requirements, participants must ensure their professional, technical, and operative capabilities. They must also develop processes and policies for managing operating risk.

The SBIF modified and expanded its instructions on the calculation of credit risk provisions (July 2009, www.sbif.cl)

The SBIF modified and expanded the instructions contained in the *Compendium of Accounting Standards*, with the goal of facilitating the calculation of provisions in the case of banking firms that opt to apply their own default probabilities. The modified instructions include a more precise definition of the risk categories used.

The new risk categories and weights to be used in the calculation of provisions were largely incorporated by the SBIF with the first publication of the *Compendium of Accounting Standards*, in November 2007 (*Financial Stability Report*, Second Half 2007). Their application was initially planned for January 2009, but in response to the development of the adverse economic environment, it was decided that the new standards would be applied gradually beginning in January 2010 (chapter V).

Documents of interest published by national and international organizations

"Improving Financial Regulation: Report of the Financial Stability Board to G20 Leaders" (FSB, September 2009, www.g20.org)

The Financial Stability Board (FSB), sponsored by the G20 nations, has provided a briefing and follow-up on its ambitious financial regulatory reform program. To this end, the FSB met initially in London (April 2009) and later in Pittsburgh (September 2009)[1]/.

The report starts with a review of achievements in some areas of reform. Highlights include adjustments to the Basel capital framework to remove incentives for off-balance-sheet securitization activity, the redefinition of accounting standards, increased standardization of transactions associated with credit default swaps (CDS), and progress in the international convergence of supervisory standards.

The report also analyzes issues that have not yet been resolved, such as increasing the level and quality of minimum capital requirements established in the Basel II capital framework, making liquidity management standards more robust, making progress toward a single set of global accounting standards, implementing new compensation practices, expanding oversight processes, and strengthening the over-the-counter (OTC) derivatives markets through incentives for standardization. In the case of securitization markets, the report establishes the need to redesign management and disclosure practices for transactions associated with securitized instruments.

Finally, the report discusses efforts underway to ensure the highest degree of international commitment to this reform program. Starting in November 2009, the FSB will publish reports on the degree of compliance among the G20 nations with the Financial Sector Assessment Program (FSAP) being developed by the IMF and the World Bank.

"Enhancements to the Basel II Framework" (BCBS, July 2009 www.bis.org)

This document contains new measures for strengthening and improving the Basel II capital framework, developed by the Basel Committee on Banking Supervision (BCBS) in the context of a broad program oriented toward expanding banks' liquidity cushion and improving the quality of their liquid assets. In this context, the framework incorporates leveraging measures such as the complementary capital adequacy ratio.

The measures incorporate a stricter treatment for determining liquidity requirements, especially for off-balance-sheet operations. Specifically, the risk weights have been increased for short-term liquidity facilities, even though counterparty risk is lower in the short-term, and special market disruption facilities.

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[1]/ The Financial Stability Board was formed through a reorganization of the Financial Stability Forum (FSF), carried out in June 2009. Its members include all the G20 nations.

Finally, the measures improve various aspects of oversight, risk management, and disclosure, with special emphasis on the tracking and control of elements specific to the securitization markets.

"Financial Regulatory Reform: A New Foundation" (U.S. Department of the Treasury, June 2009, www.ustreas.gov)

The new administration in the U.S. released a proposal to reform the country's financial regulations and architecture, incorporating the discussion of the last two years on the main lessons of the crisis and operationalizing the most relevant ideas[2]/.

The proposal focuses, in particular, on developing the regulatory foundations through which the current financial oversight systems can transition from a functional to a systemic perspective. To this end, the following lines of action were proposed for financial firms and markets:

- Promote robust supervision and regulation of financial firms: The proposal includes the creation of a new institutional framework that is better able to oversee systemically important financial firms. This is centered on giving the Fed new powers to supervise this type of entity, creating a council with the authority to coordinate the activities of sectoral supervisors, and establishing a new agency to coordinate bank supervisors.

- Establish comprehensive regulation of the financial markets: the proposal includes reforms to give the supervisory system a clearer view of certain financial markets, in particular securitization and OTC derivatives, and systemically important payment systems.

New regulations have also been proposed to optimize consumer and investor protection mechanisms, provide the government with new tools for managing financial crises, and improve International Regulatory Standards and International Cooperation.

"Council Conclusions on Strengthening E.U. Financial Stability Arrangements" (Council of the European Union, Luxembourg, October 2009, www.consilium.europa.eu)

This document presents the calendar for implementing the decisions on the design of a regulatory reform for the European Union (E.U.), adopted by the region's finance ministries (June 2009). Actions are programmed in four areas: supervision, crisis resolution, regulation, and financial market integrity.

[2]/ Incorporates elements of the document, "Blueprint for a Modernized Financial Regulatory Structure," U.S. Department of the Treasury, March 2008.

The supervisory reforms include the recommendations of the Larosière report, by establishing a macro-prudential supervisory agency that is independent from other entities with macro-prudential supervisory functions (December 2009)[3]/. The reforms also establish "colleges of supervisors" for large cross-border financial groups, better reports and analysis, increased capacity to account for transactions across the E.U., and greater transparency in disclosure.

Actions to improve crisis prevention systems include shoring up the bank resolution framework, optimizing guarantee schemes, increasing E.U.-wide policy coordination on financial stability, and implementing memorandums of understanding between supervisors, finance ministries, and central banks.

With regard to the regulatory framework, actions are contemplated in the areas of asset valuation and accounting standards, bank capital requirements, the degree of procyclicality of capital requirements and provisions, requirements for credit rating agencies, standardization of OTC derivatives, extension of the scope of supervisory activities, and convergence of the legislative standards and regulations of E.U. member states.

The integrity of the financial markets will be promoted by ensuring responsible lending and borrowing, strengthening consumer rights, and optimizing remuneration policies. Finally, a strategy is being developed to identify noncooperative jurisdictions with regard to the G20 recommendations and specific aspects of this E.U. reform.

"Policy Statement 09/16: Strengthening Liquidity Standards" (FSA, October 2009, www.fsa.org.uk)

This document presents a definitive proposal for regulating liquidity risk in the U.K. banking industry, which will enter into force in December 2009. This regulatory framework is the culmination of an extensive review process with industry feedback, as outlined in documents published previously by the Financial Services Authority (FSA).

Some of the key elements of the new framework include the incorporation of mechanisms to ensure firms' self-sufficiency for liquidity purposes, the expansion of control systems and quantitative standards, and the introduction of more frequent, granular reporting of liquidity data. The framework also incorporates an operating liquidity reserve, made up of strictly defined liquid assets, to ensure the firm's independence from related entities.

The instructions for developing stress tests specify that the tests must take into account the impact on pricing assumptions and short- and long-term stress scenarios, at the firm and market levels (and both levels combined).

[3]/ For additional references, see chapter VI of the *Financial Stability Report*, First Half 2009.

Contingent financing plans must be aligned with the firm's defined strategy for meeting its commitments in extreme cases, must be approved by the board of directors, and must be consistent with the stress test results.

The document ends with a cost-benefit analysis, in which the new regulatory framework appears to be justified in that it will reduce the probability of a systemic crisis and reduce the costs associated with bank failure.

Finally, box VI.2 presents an analysis of the most relevant international regulatory initiatives that have emerged in response to the lessons of the 2008–09 financial crisis, as summarized in the current *Report* and earlier editions.

Box VI.1: Regulatory framework on clearing derivatives transactions in Chile

The treatment and resolution of derivatives transactions and contracts in case of default, insolvency, or bankruptcy of one of the counterparties has two essential components: the early close-out of existing contracts and the netting of positions to date.

The events that can trigger the early close-out of derivatives transactions are usually defined in the corresponding master agreement. Once an event is triggered, it produces the early close-out of existing transactions, and the resulting positions are netted. If the "failed" party comes out ahead in the netting, then the counterparty must immediately pay the amount due. Otherwise, the counterparty, like any other unprotected creditor, must wait for the results of the liquidation process or charge the amount owed against eligible collateral. The derivatives master agreements include close-out netting provisions that establish a different special scheme, which is clearly favorable over other creditors.

Benefits of a special scheme for derivatives transactions

The benefits of applying these special schemes have to do with the following factors:

Improvement of counterparty risk management: the possibility of netting is recognized in the literature as a useful tool for risk management, in that it allows for a more efficient adjustment or closing out of unwanted positions, by taking opposite positions with the same counterparty[4]/.

Reduction in capital requirements: netting schemes only take into account the credit risk resulting from the net exposures, such that for a given level of capital, each participant can support a much higher level of transactions than would be possible if exposure was calculated on the basis of gross positions. The existence of such netting mechanisms can at least partly explain the rapid growth of the derivatives market in recent years.

Complexities of a special scheme for derivatives transactions

Despite the potential benefits of a special treatment for the resolution of derivatives transactions and contracts, international experience suggests the presence of highly complex factors that constitute a systemic risk:

Reduced incentives to monitor risk: the application of netting schemes effectively reduces the bilateral risk exposures of the participants, relative to gross exposures. This reduces the participants' incentives to invest resources in monitoring counterparty risk. This is simply than the flip side of the "benefit" cited above, in terms of lowering capital requirements.

Limits on the reduction of systemic risk: the reaction of the authorities in real cases of default risk or insolvency in an important financial institution indicates that, despite the existence of close-out netting provisions, the potential systemic impact of the failure of a large participant is still significant.

In the cases of Long Term Capital Management (LTCM) investment fund in 1998 and Bear Stearns investment bank in 2008, the authorities were concerned about the possible activation of close-out netting provisions[5,6]/.There was tremendous uncertainty about the potential impact on the financial markets and on the economy in general, if a significant number of counterparties attempted to close uncovered positions or liquidate collateral following the close-out. This concern has also been recognized by the BIS[7]/.

In the case of Lehman Brothers, in the days prior to the company's declaration of bankruptcy in September 2008, the uncertainty centered on the markets' capacity to absorb the

[4]/ Bliss and Kaufman (2005).

[5]/ W. Mc Donough, President of the New York Federal Reserve, 1998.

[6]/ T. Geithner, President of the New York Federal Reserve, 2008.

[7]/ BIS (2007a).

massive enforcement of collateral associated with credit default swaps underwritten by entities such as AIG. This stemmed from the lack of knowledge on the total amount of open positions and, therefore, of the respective net positions involved[8]/.

Impediments to the authorities' actions: an analysis of the grounds for close-out incorporated into the internationally accepted master agreements indicates that in some cases, they can interfere with the exercise of the supervisory agents' authority, in relation to intervention in a specific entity at risk of bankruptcy. Furthermore, this could amplify the systemic impact of a case of default of a relatively large market operator.

International regulatory frameworks establish some safeguards to address these complexities. For example, over and above the definitions contained in the master agreements promoted by the International Swaps and Derivatives Association (ISDA), the U.S. Federal Deposit Insurance Corporation (FDIC) has the legal power to suspend the activation of the close-out netting provisions in case of default by a financial institution under its jurisdiction[9]/. These powers of the FDIC were updated, clarified, and reinforced in the 2005 reform of the U.S. bankruptcy law[10]/.

The Central Bank of Chile's regulatory framework on derivatives clearing

The Central Bank of Chile focuses the exercise of its authority on the recognition of derivatives master agreements or contracts and the determination of the applicable general terms and conditions of these agreements. This process takes into account the practices used in more developed derivatives markets and, at the same time, incorporates appropriate safeguards in areas that, according to international experience, could imply significant risk for the stability of the financial system and the economy in general.

To date, the Central Bank has recognized the ISDA derivatives master agreements and the Chilean Association of Banks and Financial Institutions (ABIF) agreements used between local banks and other local counterparties[11]/.

The general terms and conditions established by the Central Bank specify that the entities that enter into one of the recognized master agreements can agree to any grounds for early close-out, which they can establish in their role as counterparties[12]/. Nevertheless, in the case of banks and other institutional investors, the Central Bank has defined some specific situations in which it can suspend the clearing that results from the application of the negotiated grounds for early close-out. These specific situations are related to the exercise of the authority of the respective supervisory agencies, for cases in which the equity situation of one of the entities is compromised. Once the situation is resolved, the clearing can proceed according to the terms of corresponding master agreement. Similarly, the Central Bank of Chile reserves the regulatory power vested in it by its Basic Constitutional Act and other legal statutes.

Thus, in the case of a troubled bank, the close-out netting procedures could be activated as soon as the bank declares bankruptcy to the SBIF, but not while the SBIF is in the process of exercising its legal authority to regularize the bank's situation. These safeguards on the powers of the agencies that supervise the financial sector in Chile are comparable to, although less restrictive than, those conferred on the FDIC in the U.S.

Effects on banks' capital requirements and lending limits

The SBIF, in accordance with international best practices and recommendations, has established in its regulatory framework the procedures for equating the derivatives positions held by banks in Chile and their credit exposures, for the purpose of determining capital requirements and lending limits. These regulations were recently updated in order to incorporate, in the corresponding algorithms, the positive impact of the derivatives clearing schemes on counterparty risk. As can be expected, this involves a reduction in capital requirements and a freeing up of credit margins the derivatives transactions are carried out under the master agreements recognized by the Central Bank.

[8]/ Gyntelberg (2008).

[9]/ Bliss and Kaufman (2006).

[10]/ Krimmenger (2005).

[11]/ Resolutions 1385-04-080117 of January 2007 and 1427-02-080807 of August 2008.

[12]/ Resolutions 1427-02-080807 of August 2008 and 1457-02-090122 of January 2009.

Box VI.2: Initiatives for the regulatory reform of the international financial system

A distinctive characteristic of the current international financial crisis is that its epicenter lies in the world's most developed economies, whose financial markets, business practices, and regulatory and supervisory systems were supposed to be the most advanced on the planet and served as a benchmark for emerging economies and less developed countries.

The depth and global reach of the crisis, its cost in terms of employment and output, and the magnitude of public resources involved in its containment have motivated a comprehensive revision of the functioning of these financial systems, as well as the regulatory and supervisory framework within which they operate. This revision is in the process of being carried out, and it is of the utmost relevance for emerging or peripheral economies like Chile[13]/.

As has frequently been pointed out of late, the functioning of an economy based on private initiative, in which the market rewards successful innovation, but also punishes ill-conceived or badly managed projects, is incompatible with the rescue of financial entities that, due to their size or systemic relevance, appear to have been operating, in practice, under an implicit guarantee of solvency. Such an arrangement affects the firms' management and distorts the system of prices and incentives on which the smooth functioning of an economy must rest.

This box presents some key points in the international discussion of the future of the financial system and its regulation and supervision. These initiatives focus, in particular, on optimizing the global functioning of the markets, the entities that operate in them, their institutional framework, and, ultimately, their contribution to the innovation, stability, and development of the economy.

Greater financial resilience: raising the minimum capital and liquidity levels

There appears to be a consensus around the idea that over the past few years, the development of the largest, most complex, and interconnected entities in the international financial markets was not accompanied by adequate capital and liquidity levels.

The magnitude of the systemic effects generated by the insolvency of large financial institutions during the crisis has forced the extension of support and rescue programs in the developed countries, involving massive public resources. While this ensures the continuity of operations of these entities and of the economy as a whole, it has a severe impact on market discipline and the assessment and management of risk, distorting the incentives for prudent behavior not only in the affected entities, but throughout the entire financial system.

This distortion further suggests the existence of a clearly unlevel playing field, in which the largest entities, which implicitly are "too big to fail", operate with an advantage in securing funds and generating business, even when their risk profiles are not substantially different from other entities that, due to their smaller size or degree of importance, are perceived as systemically expendable[14]/.

The discovery of these negative externalities has oriented the international discussion toward a consensus on increasing the resilience of financial institutions in general and the most systemically important entities in particular, via the establishment of stricter requirements for both capital and liquidity.

[13]/ Formally, through initiatives led by the G20 and supported by finance ministries, central banks, and financial supervisors and regulatory agencies in the same countries, as well as international organizations such as the IMF, the Basel Committee, and the Financial Stability Board. The main references in terms of assessment documents and reform proposals are mentioned in this Chapter, in this *Report*, and in earlier *Reports*.

[14]/ See Bernanke (2009).

With regard to the revision of capital standards, the G20 nations are expecting the Basel Committee to present its proposal for reinforcing minimum requirements in late 2010. This proposal could include modifications that would mitigate its procyclical effects, along the lines of the Spanish scheme of dynamic provisions, for example. Similar modifications have been incorporated into the proposals by the U.S. and by the U.K. financial supervisory authority[15]/.

Initiatives to reformulate liquidity requirements not only address increasing the level of liquid assets that banking and financial firms must continuously maintain, but also focus on asset quality (for example, through the more selective or restricted types of eligible assets) and the design of contingency funding plans, appropriately tied to reliable sensitivity tests. The first regulation in this direction was recently published in the United Kingdom; it includes part of the review of liquidity risk management practices incorporated by the Basel Committee in 2008[16,17]/.

This debate on options for increasing the resilience of financial institutions is especially relevant in countries like Chile, where a small number of institutions account for a significant fraction of brokerage activities. In this regard, the Chilean bank supervisory agency recently published a document that proposes to increase the minimum capital requirement for banking firms, with the goal of covering credit, market, and operating risks in line with Basel II. The document further proposes an increase in minimum share capital requirements[18]/.

Reinforcing a consolidated approach to the supervision of the financial sector

The traditional functional approach of the supervisory systems was clearly insufficient for detecting and containing the crisis in the developed financial systems. Based on this diagnosis, proposals have been made for transitioning from this functional approach to a more systemic one. The U.S. reform proposal, for instance, vests the Fed with the authority to supervise "systemically important" financial institutions and, at the same time, proposes a scheme for coordinating the traditional sectoral supervisors. This type of institutional framework is also part of the regulatory reforms being proposed in the European Union.

In Chile, the quality of the supervisory processes are in line with the financial system's current state of development, as demonstrated by international assessments carried out in recent years[19]/. However, oversight of the financial conglomerates' activities could be reinforced, so as to ensure a comprehensive view of systemic risks. In this regard, the Committee of Superintendents of the Financial Sector has undertaken initiatives for the development of integrated financial supervision mechanisms[20]/.

Extending the scope of financial supervision

The events in the main international financial centers have clearly illustrated the limitations of the scope of the traditional supervisory systems. This may be explained by the rapid globalization process and the development of new markets and financial products in the last decades. Consequently, these systems have been almost completely ineffective in monitoring or preventing critical, systemically important situations.

IMF estimates indicate that in the U.S., the total assets of the shadow banking system—which are outside the reach of normal supervisory processes—were approximately US$10 trillion at year-end 2007, which is similar to the volume of the supervised banking system. In Chile, it is estimated that 76% of total credit is channeled through banking entities that are subject to formal supervisory processes. Many of the remaining credit entities that operate in the country are subject to fragmented and relatively light regulatory and supervisory schemes. These include retail credit card issuers, the Family Compensation Funds, mortgage lenders, and the savings and loan cooperatives. While none of these entities

[15]/ BIS (2009), FSA (2009a), and G20 (2009).

[16]/ FSA (2009b).

[17]/ BIS (2008).

[18]/ Held (2009).

[19]/ IMF (2004).

[20]/ Made up of the top authorities of the SBIF, the SVS, and the SP, with the Central Bank participating as a standing observer.

are systemically important on their own, the credit market share of the group as a whole is sufficiently relevant to merit an assessment of the applicable supervisory systems.

In the United Kingdom, the FSA has announced significant modifications to its supervisory approach in response to the financial crisis, emphasizing not only components such as the evaluation of systemic risk across the economic cycle, but also an explicitly more "intrusive" supervisory style.

Developing a stricter regulatory framework for derivatives markets

Derivatives markets, especially over-the-counter (OTC) derivatives markets, have expanded significantly since the 1990s. In late 2008, they exceeded US$590 trillion in notional value, which is about ten times world GDP[21]/.The development of complex derivatives instruments, products, and contracts, and their impact on the solvency of some large entities, substantially exacerbated the stress on the international financial system in late 2008 and contributed to the virtual collapse of interbank markets in the U.S. and the E.U. and the paralysis of the international foreign trade financing system. This process revealed that the relative opacity of OTC markets seriously interferes with the assessment and tracking of counterparty risk, while also affecting competitive price formation.

Consequently, several international initiatives are oriented toward moving these transactions to stock market platforms, with central counterparties (CCP) to handle post-transaction management. These initiatives thus aim to bolster the security and efficiency of this important investment and hedging market and increase its level of transparency[22]/. This proposal is a central element in the U.S. reform plan.

In the case of Chile, this type of negotiated instrument or contract is relatively less sophisticated, but it is still necessary to move forward with an analysis of these issues. The local derivatives market operates exclusively over the counter and has become fairly large. The Central Bank of Chile estimates that, in notional terms, it reached US$726 billion in 2007, which is more than four times that year's GDP.

The regulatory reforms for derivatives markets approved in the second Chilean capital market reform (known as MKII), as well as the recent enactment of a legal framework on securities settlement and clearing, are critical for the fortification and development of these markets. The Central Bank has participated actively in these recent initiatives.

Reevaluation of the structure of the financial sector

The international concern for bolstering the resilience of the financial markets does not end with the formulation of stricter capital and liquidity standards. While these initiatives contribute to strengthening the solvency of the institutions that operate in the market, they do not solve the moral hazard problem associated with managing systemically important entities. Nor do they address the challenge of establishing effective plans for facing financial contingencies stemming from rare, but high-impact events (tail risk).

This has led to the resurgence of proposals aimed at radically restructuring the functioning of the financial system, for example, by formally separating traditional commercial banking activities (deposit taking and supplying the means of payment) from trading and investment banking. These narrow banking models are being debated in the United Kingdom[23]/,in the U.S. and in the G30 discussions[24]/. The debate takes into account the recent U.S. experience, where the repeal of the Glass-Steagall Act in 1999 could be tied to some of the main triggers of the crisis.

Finally, while recognizing the potential benefits associated with these initiatives, the recent experience in countries like Iceland and Ireland illustrates the expedience of taking a more cautious approach to the adoption of broad programs of international financial market integration. The institutions responsible for ensuring the proper functioning and stability of the financial system must consider to what extent the adoption of these programs and the accelerated expansion of local financial firms into new markets or products—often driven by the competitive pressures of the sector, the presence of financial entities with global operations, or an excessive emphasis on innovation and profitability—are compatible with the solvency and stability of the financial system as a whole and, ultimately, with the sustained development and growth of the economy.

[21]/ BIS (2007b).

[22]/ Ceccheti, Gyntelberg, and Hollanders (2009).

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Glossary

ABS: Asset-backed security. A long-term bond backed by a set of assets, usually made up of consumer loans (credit cards and car loans), student loans, second mortgages (home equity loans), or commercial loans. ABSs that are backed by mortgage assets are called mortgage-backed securities (MBSs).

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 an index of capital adequacy (known as the Basel index), which is internationally accepted as a measure of bank solvency.

AMLF: Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility. A credit facility that provides financing to U.S. banking institutions, to finance their purchases of high-quality asset-backed commercial paper from money market mutual funds.

Leveraging: The ratio of assets to capital.

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

Retail banks: Banks whose main business is consumer lending.

Basel II: The second accord issued by the Basel Committee on Banking Supervision (BCBS), with the goal of creating an international standard for the banking industry's operation and risk control. Basel II is based on three pillars, which seek to foster greater stability of the financial system: (1) minimum capital requirements aimed at making resource allocation more sensitive to credit and market risks; (2) procedures for improved supervision; and (3) greater market discipline.

High-yield bonds: Corporate bonds that have a risk rating below investment grade (CCC to BB, in the Standard & Poor's rating system), which means they have a high default risk.

Senior bonds: Ordinary long-term bond 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 capital.

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

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

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.

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

Covenants: Protection clauses included in a loan contract, through which the lender seeks to ensure that the borrower's financial condition remains at least as favorable as when the contract was signed.

CPFF: Commercial Paper Funding Facility. A credit facility provided by the Fed to U.S. issuers of commercial paper.

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).

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

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).

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

DVP: Delivery versus payment. A clearing mechanism that links a securities transfer system with a funds transfer system, guaranteeing that the delivery of the securities occurs simultaneously with the payment thereof.

EBITDA: Earnings before interest, taxes, depreciation, and amortization. Used as an approximation of the operating cash flow.

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).

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

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.

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

FLAP: Short-term liquidity facility (*Facilidad de Liquidez a Plazo*). Financing provided by the Central Bank of Chile to banking entities, at maturities of 90 to 180 days and at a fixed rate for the full period of the operation. The guarantees required for these operations are the same as those for overnight loans.

MF1: Mutual funds invested in short-term debt instruments, with a maturity of 90 days or less.

MF2: Mutual funds invested in short-term debt instruments, with a maturity of 365 days or less.

MF3: Mutual funds invested in medium- or long-term debt instruments.

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.

FRP: Pension Reserve Fund (*Fondo de Reserva de Pensiones*). A fund created by the Fiscal Responsibility Law, whose objective is to complement the financing of fiscal liabilities deriving from the state minimum pension guarantee on old age, disability, and survivor's pensions and welfare benefits. It is managed by the Central Bank of Chile in its capacity as fiscal agent, under investment guidelines defined by the Finance Ministry's Decree 1,382 and complementary instructions.

FSAP: Financial Stability Assessment Program. A joint initiative of the IMF and the World Bank, through which experts from these institutions undertake an exhaustive assessment of the financial systems of countries that voluntarily choose to participate in the program, identifying strengths and weaknesses and suggesting measures to reduce vulnerabilities and improve financial intermediation.

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

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

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, Russia, the European Union, and a group of other economies, including Brazil, India, China, and South Africa, among others.

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

IFRS: International Financial Reporting Standards. A set of standards issued by the International Accounting Standards Board (IASB), whose goal is the comparable and transparent revelation of financial statement information, for all participants in the world capital markets.

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

Herfindahl index: A measure of industry or market concentration, defined as the sum of the squares of the market shares of the n largest firms. The index ranges from 1/n (perfect competition) to 1 (monopoly).

Dollar index: A measure of the value of the dollar against a basket of six currencies: euro, yen, pound sterling, Canadian dollar, Swedish krona, and Swiss franc.

MSCI Emerging Markets Index: An index created by Morgan Stanley Capital International to measure the stock market performance of emerging markets worldwide.

Public offering: Instruments issued by firms and traded in the capital market.

Negotiable 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.

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

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.

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

MBS: Mortgage-backed security. An ABS backed by mortgages.

MHE: Endorsable mortgage loans (*mutuos hipotecarios endosables*). Money loans that are recorded in a registered deed and collateralized by real estate, given to individuals or legal entities to finance the purchase, construction, extension, or repair of any type of real estate. They are called endorsable mortgage loans because once the seller is paid, the loan can be assigned (endorsed) to other institutions authorized by law.

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.

Takeover bid (*oferta pública de acciones*, or OPA)**:** The process through which a person or legal entity attempts to take control of a corporation that publicly sells its shares. In Chile, takeover bids are subject to the legal conditions specified in Law 19,705.

Nondeliverable forward (NDF): Over-the-counter (off-exchange) currency futures that are settled outside the local market, primarily in New York.

Overnight indexed swap (OIS): An interest rate swap in which the floating rate is the geometric average of an overnight rate (published daily) up to the day of payment. In the U.S. the calculation is based on the federal funds rate, which is published daily.

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

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

EMBI Premium: 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.

EMBI Global Premium: Measure of the difference between the return on emerging economies' sovereign debt in dollars issued in international markets and U.S. Treasury bonds.

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%).

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

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

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.

Revolving: Characteristic of a bond whose collateral expires within the life cycle of the instrument, such that the originator has to replace the collateral with new assets to generate the committed funds.

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

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.

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.

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

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

Unrestricted NIR: Official reserves less short-term commitments in foreign currency (maturing BCX, BCD, and swaps), Treasury deposits in the Central Bank, and others.

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.

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

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.

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.

Currency swap: A contract between two parties establishing a commitment to exchange the specified notional principal and fixed interest in one currency for the specified notional principal and fixed interest in another currency, at a future date and at a pre-established price. In this type of contract, the notional principal must be specified in both currencies.

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.

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

Secondary market deposit rate: The interest rate at which bank deposits are traded in the secondary market of the Santiago Stock Exchange.

Interbank rate (IBR): The daily weighted average rate on uncollateralized loans of bank reserves between banks.

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.

Overnight rate: The rate at which the banks grant immediate financing to other banks.

Abbreviations

Achef: *Asociación Chilena de Empresas de Factoring* (Association of Chilean Factoring Firms).
AFP: *Administradoras de Fondos de Pensiones* (Pension Fund Administrators).
BCD: Central Bank bonds expressed in dollars.
BCU: Indexed Central Bank bonds, expressed in UF.
BCX: Central Bank dollar bonds.
BIS: Bank for International Settlements.
CCAF: *Cajas de Compensación de Asignación Familiar* (Family Allowance Compensation Fund).
CNC: *Cámara Nacional de Comercio* (National Chamber of Commerce).
Codelco: *Corporación del Cobre* (Copper corporation).
CPI: Consumer price index.
DCV: *Depósito Central de Valores* (Central Securities Depository).
EMBI: Emerging Market Bond Index.
IMF: International Monetary Fund.
INE: *Instituto Nacional de Estadísticas* (National Statistics Bureau).
IRR: Internal rate of return.
IPSA: *Índice de Precios Selectivo de Acciones* (Selective Stock Price Index).
LIBOR: London inter-bank offered rate.
MPR: Monetary policy rate.
MSCI: Morgan Stanley Capital International.
OECD: Organization for Economic Cooperation and Development.
NIR: Net international reserves.
PDBC: *Pagaré Descontable en pesos del Banco Central.*(Central Bank discountable promissory note)
S&P: Standard and Poor's.
SBIF: *Superintendencia de Bancos e Instituciones Financieras* (Superintendence of Banks and Financial Institutions).
SII: *Servicio de Impuestos Internos* (Internal Revenue Service).
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* (inflation-indexed unit of account).

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