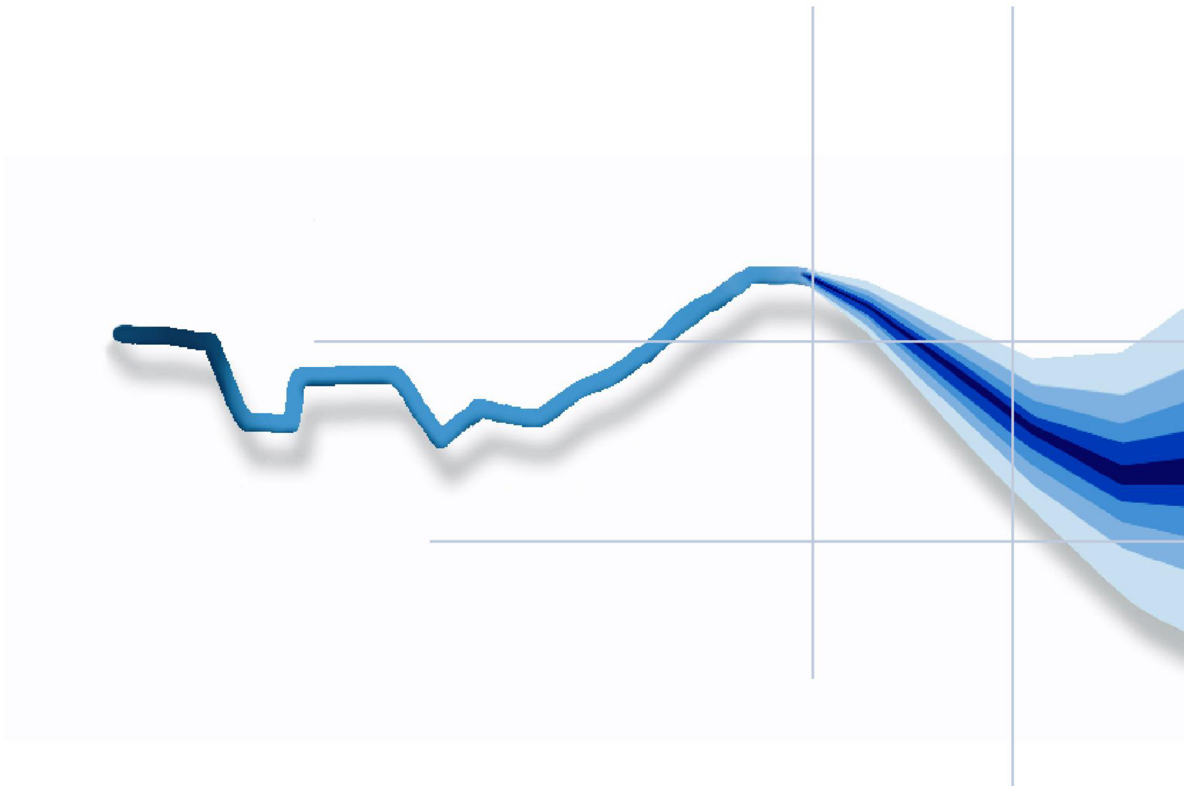
IPoM 2008

2008
MAY

Monetary Policy Report



BANCO CENTRAL DE CHILE

2008

MAY

Monetary Policy Report*/

BANCO CENTRAL DE CHILE

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

Contents*/

*/ The closing date for the figures included in this *Report* was 6 May 2008.

Preface

The main purpose of the Central Bank of Chile's monetary policy is to keep inflation low, stable and sustainable over time. Its explicit commitment is to keep annual CPI annual inflation at around 3% most of the time, within a tolerance range of plus/minus one percentage point. To meet this target, the Bank orients its monetary policy at keeping projected inflation at 3% y-o-y over a policy horizon of around two years. Controlling inflation is the means by which monetary policy contributes to the population's welfare. Low, stable inflation enhances economic activity and growth, while preventing the erosion of personal income. Further more, monetary policy's inflation targeting focus helps to moderate fluctuations in national employment and output.

The main objectives of the *Monetary Policy Report* are: (i) to inform and explain to the Senate, the government and the general public about the Board's views on recent and expected inflation trends and their consequences for the conduct of monetary policy; (ii) to publicly disclose the medium-term analytical framework used by the Board of the Central Bank of Chile to formulate monetary policy; and (iii) to provide information that can help guide market players' expectations on the future inflation and output trends. This Report responds to an obligation under the Bank's Basic Constitutional Act to report to the Senate and the Minister of Finance (Section 80).

The *Monetary Policy Report* is published three times a year, in January, May and September, and it focuses on the main factors that influence the inflation trajectory. These include the international environment, financial conditions, prospects for aggregate demand, output and employment, and recent price and cost developments. The last chapter summarizes the results of this analysis in terms of both prospects and risks affecting inflation and economic growth over the next eight quarters. The Report also provides several boxes that offer more detailed information on issues relevant to evaluating inflation and monetary policy.

The Board approved the Spanish version of this *Report* at its meeting on 9 May 2008 for presentation to the Senate's finance commission on 12 May 2008.

The Board

Summary

There have been important changes to the macroeconomic outlook since the last *Monetary Policy Report*. Global growth fell, economic activity aggravated the weakness it had shown in the second half of 2007 and the peso appreciated, a tendency that reverted partially in the last month. International foodstuff and commodity prices have seen new increases. Annual CPI inflation continued rising in the first quarter, although at a somewhat slower pace than was expected in January, and without the unusual jumps of the second half of 2007. It began declining in April, a process that, in the most likely scenario, will go on in the coming quarters. This situation has permitted to hold the Monetary Policy Rate (MPR) at 6.25% since January, and remove the bias of its future path in April, within a context where the nominal exchange rate increased after the reserve purchasing program was announced. The Board reiterates its commitment with low, stable inflation, which is the main contribution of the Central Bank to economic progress and the welfare of the Chilean population, and that it materializes in the objective of driving annual inflation to 3% over a two-year horizon.

In April, annual CPI inflation reached 8.3%, reflecting a new increase in the prices of foods, both perishable and non-perishable, together with reduced fuel inflation due largely to a tax rebate applied. In the baseline scenario of this *Report*, annual inflation will converge to the inflation target from its current level. This convergence is grounded on inflation propagation still consistent with normal patterns, medium- and long-term inflation expectations aligned with the target and the assumed evolution of output gaps, among other factors.

On the output gap side, the first quarter saw a worsening of the weakness it showed in the second half of 2007, while domestic demand continued to grow strongly, with a dynamic investment component and a decelerated consumption. Accordingly, economic sectors more dependent on the behavior of consumption showed some slowdown. As has been the norm over the past few quarters, the negative impact of increased energy costs on the value added of output continued. Its direct effect on the electric generation sector combined with the effect on the costs of corporate users of energy, especially due to weakness in one sector of the industry, and its incidence on households' disposable income. In addition, the increase in energy costs is estimated to have had a negative effect on the economy's measured productivity, which may have reduced temporarily the level of trend product with respect to January forecasts. However, this does not result by itself on a material change in the evaluation of the output gap, due to its incidence on the level of actual GDP (box VI.1) .

The most likely scenario for 2008 foresees the economy growing less than last year and less than forecast in January. Considering also the recent and forecast evolution of the GDP of sectors other than natural resources, inflationary pressures associated to the output gap are estimated to be below January forecasts. There are risks surrounding this evaluation. More severe effects from the higher energy costs than estimated cannot be ruled out, which might have a stronger impact on manufacturing. Nor can it be ruled out that hydrological conditions are not as foreseen, either improving or aggravating the scenario for costs and supply contemplated in the projection horizon. The implications of these settings on inflation and monetary policy are not straightforward, so they will have to be addressed when the time comes.

The risks of the growth scenario are also very closely related with doubts surrounding the impulse coming from the world economy. Developments of recent months have brought the relevant external scenario closer to weak conditions that in January were considered worst-case scenarios. The U.S. economy has continued to show signs of fragility and its recovery is now expected to take longer than was believed in January. Although the extraordinary provision of liquidity and other measures adopted by the main central banks have bounded the probability of more severe crises in systemically important organizations, credit conditions have tightened and uncertainties and risks persist. Emerging economies that so far seemed less affected by the financial implications of this crisis, have also begun reducing their growth prospects. This combines with widespread foodstuff hikes in several countries and their incidence in inflation.

International baseline scenario assumptions

	2005	2006	2007 (e)	2008 (f)	2009 (f)
	(annual change, percent)				
Terms of trade	9.6	23.7	0.8	-7.2	-8.9
Trading partners GDP (*)	3.9	4.6	4.8	3.4	3.3
World GDP at PPP (*)	4.4	5.1	5.0	3.8	3.8
World GDP at market exchange rate (*)	3.3	3.9	3.8	2.6	2.6
External prices (in US$)	7.5	5.3	8.5	12.5	2.2
LME copper price (US¢/lb)	167	305	323	350	300
WTI oil price (US$/barrel)	56	66	72	110	109
Gasoline parity price (US$/m^3) (*)	451	526	597	775	779
Libor US$ (nominal, 90 days)	3.6	5.2	5.3	2.9	2.4

(*) For definition, see Glosary.
(e) Estimate.
(f) Projection.

Source: Central Bank of Chile.

Certainly, risks surrounding the external scenario are big, and most have a negative bias in their implications for domestic growth. A non negligible probability is being assigned to extremely negative scenarios with more harmful consequences on the national economy. Therefore, and before the risks of occurrence of any of these extreme scenarios, in April the Board began a program of intervention in the foreign exchange market to strengthen the Chilean economy's international liquidity position by announcing an increase of US$8 billion of international reserves over a period of eight months. Thus, in addition to its macroeconomic policy framework —based on foreign exchange flexibility, target inflation, the fiscal rule and prudent financial supervision— that puts the Chilean economy on a favorable stand to address turbulences, said program of international reserve hoarding will permit to better cushion the possibility of a further severe and abrupt deterioration of the world economy (box). In any case, if the worst-case scenarios do not occur, then the Chilean economy's international liquidity position will end up stronger than before.

Overall, forecasts are that, in the most likely scenario, this year's annual GDP growth will be in the range between 4.0% and 5.0% and, after considering other eventualities, the risk balance is believed to be biased downward. In 2009, considering the effects of the deteriorated external scenario relevant to the Chilean economy, the baseline scenario projects economic activity over an upward sloping path throughout the year, based partly on the recovery of natural resource related sectors, thanks to the startup of some investment projects.

Economic growth and current account

	2005	2006	2007	2008 (f)
	(annual change, percent)			
GDP	5.6	4.3	5.1	4.0 - 5.0
National income	8.7	6.7	7.8	4.8
Domestic demand	10.4	6.4	7.8	7.6
Gross fixed capital formation	23.9	2.9	11.9	12.8
Total consumption	7.1	6.4	7.4	5.4
Goods and services exports	4.3	5.5	7.8	3.4
Goods and services imports	17.2	10.5	14.3	11.1
Current account (% of GDP)	1.2	4.7	4.4	-0.5
	(US$ million)			
Current account	1,449	6,838	7,200	-1,100
Trade balance	10,775	22,587	23,653	17,000
Exports	41,267	58,485	67,644	75,100
Imports	-30,492	-35,899	-43,991	-58,100
Services	-622	-628	-1,161	-1,500
Rent	-10,487	-18,418	-18,265	-19,900
Current transfers	1,783	3,297	2,974	3,300

(f) Projection.

Source: Central Bank of Chile.

Beginning the fourth quarter 2007, the peso appreciated in both nominal and real terms. This appreciation has been common to most emerging economies, driven both by the weakening of the U.S. dollar globally and to the huge imbalances that the world has sustained for years. These were usually among the sources of risks considered by the Board in its evaluation of the baseline scenario for the next two years. Thus, the dollar's erosion was an expected response, that helps resolve the current account deficit of the United States. It also permits, in part, to offset the larger inflationary pressures around the world. The external price index (EPI) in dollars relevant to the Chilean economy has gone from growing at annualized rates of 8.5% on average in 2007 to slightly more than 15% annually in the first quarter of 2008. The baseline scenario projects external prices increasing somewhat more than 12% this year, up from the 7% forecast last January. The disinflationary implications of the real appreciation depend decisively of its persistence. On one hand, if world inflation accelerates and the U.S. interest rates show a fast normalization, the disinflationary effect will be mild. The opposite may happen if the world economy's weakness becomes deeper taking some steam off inflationary pressures globally. All these factors will be taken into consideration in future monetary policy decisions. Overall, the present level of the real exchange rate (RER) is estimated to be somewhat below the range believed to be consistent with its long-term fundamentals, so the baseline scenario contemplates, as a working assumption, a slight depreciation of the peso in real terms over the relevant projection horizon.

Within the same setting as imported inflationary pressures, it is worth noting the new increase in the foreign prices of some foods, especially cereals, which has reflected in some specific products such as bread and rice. The baseline scenario considers that these prices will show no further rises in the domestic market in the short term or in the next two years. Internationally, prices have pushed actual inflation up and have increased concerns on the matter, while actual or expected monetary policies have become less expansionary in a number of economies, given the risks that come from said price increases in each country's inflationary pressures. The above combines with the risk coming from the soaring prices of oil in recent weeks. In this sense, similarly to the case of foodstuffs, the persistence of these high prices is partly subject to the global economic scenario that will finally prevail. For the same reason, different scenarios for the oil price in either direction cannot be disregarded.

Information now available suggests that the propagation of the recent high inflation rates to the other prices in the economy has been less than was forecast in January. Nominal wages are growing between 6.5% and 8% annually, depending on the measure used, in consistency with usual indexation clauses. Unit labor cost growth has sped up since the beginning of the year, largely reflecting a decline in measured labor productivity, given the particular dynamics of salaried employment and output. CPI prices tied to past inflation, especially educational services, have shown smaller corrections than might have been expected from historical performance. The most likely scenario foresees that the propagation of high inflation will be in line with its usual patterns.

The baseline scenario considers that annual CPI inflation will, after declining in April, continue gradual convergence to the tolerance range of the inflation target. Thus, it is expected to fall within the range over the course of the second quarter of 2009, then decline further to reach 3% some time later in the year, and remain hovering around said figure until the end of the projection horizon, which is now the second quarter of 2010. CPIX1 inflation will follow a similar trend as the CPI the rest of this year and the first half of 2009. Its definitive convergence to 3% will be slower than the CPI's, and is expected to hit the desired figure toward the end of the horizon.

Inflation

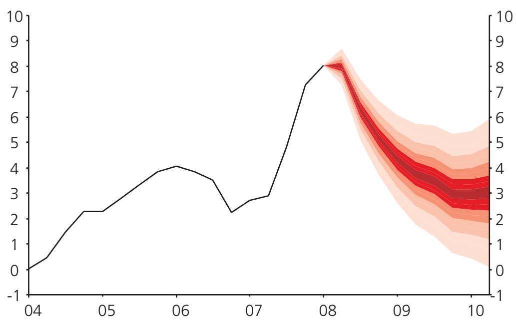
	2005	2006	2007	2008 (f)	2009 (f)	2010 (f)
CPI inflation, average	3.0	3.4	4.4	6.9	3.6	
CPI inflation, December	3.7	2.6	7.8	4.7	3.0	
CPI inflation, around 2 years (*)						3.0
CPIX inflation, average	2.3	3.2	4.0	6.9	3.8	
CPIX inflation, December	2.9	2.7	6.3	5.5	3.2	
CPIX inflation, around 2 years (*)						3.0
CPIX1 inflation, average	1.9	2.5	4.1	6.5	3.6	
CPIX1 inflation, December	2.6	2.4	6.3	5.2	3.1	
CPIX1 inflation, around 2 years (*)						3.0

(f) Projection.
(*) Corresponds to projected inflation for the second quarter of 2010.

Source: Central Bank of Chile.

CPI inflation projection (*)

(annual change, percent)

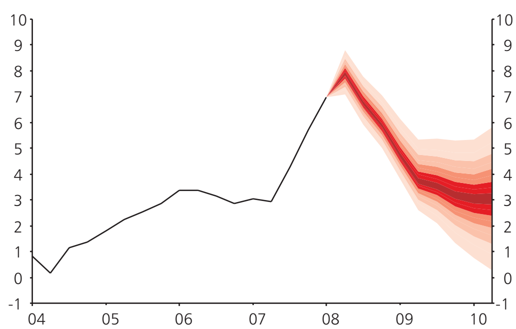


'(*) The figure shows the confidence interval of the baseline horizon over the respective projection (colored area). Confidence intervals of 10%, 30%, 50%, 70%, and 90% around the baseline scenario are included. These intervals summarize the Board's risk evaluation of future inflation. The baseline projection scenario uses as a methodological assumption that the monetary policy interest rate will follow in the next few quarters a path similar to the path that can be inferred from the different private sector expectations indicators of the two weeks prior to the statistical closing of this *Report*.

Source: Central Bank of Chile.

CPIX inflation projection (*)

(annual change, percent)



'(*) The figure shows the confidence interval of the baseline horizon over the respective projection (colored area). Confidence intervals of 10%, 30%, 50%, 70%, and 90% around the baseline scenario are included. These intervals summarize the Board's risk evaluation of future inflation. The baseline projection scenario uses as a methodological assumption that the monetary policy interest rate will follow in the next few quarters a path similar to the path that can be inferred from the different private sector expectations indicators of the two weeks prior to the statistical closing of this *Report*.

Source: Central Bank of Chile.

Whether this scenario will be a reality is, as usual, subject to developments occurring in coming months. This time the main risks are related with inflation propagation, which so far has been less than expected, being different in one direction or the other. There are also risks regarding the possible behavior of perishable and non-perishable foods. On one hand, in a weakened global scenario, a significant drop in non-perishable food prices cannot be ruled out, causing a faster decline in domestic inflation. It is also possible that recent price hikes domestically and internationally are reflecting a new supply shock and will end up pushing up the inflation of non-perishable foodstuff in a way comparable to 2007. On the other hand, the baseline scenario considers that the prices of perishables will remain fairly high in the next several months. Still, it is possible that this scenario changes to one where said prices show a drastic reversal. Considering all possible alternative events, the Board believes that the balance of risks for inflation is unbiased. Despite this, the high inflation level in place makes it necessary to review very carefully the potential implications of new surprises that may push inflation even further up and their possible propagation over the policy horizon.

The number of unforeseen shocks that hit inflation during the second half of 2007, combined with uncertainty around expected monthly figures for the next few months, have driven up inflationary risk premiums implicit in financial asset valuation, resulting in a higher relative demand for papers in UFs over peso-denominated ones. Given the difficulty of isolating such premiums, this has made breakeven inflation more complex to determine, particularly when calculated on the basis of swap contracts. Thus, despite substantial increases in 2008 to date, and that to different maturities they are distant from the target, the Board's evaluation is that implicit expectations continue to be consistent with annual inflation converging to 3% in the two-year horizon (box V.1). This is shown, for example, by the Central Bank's economic expectations survey that reveals expected inflation of 3.3% two years ahead, despite a projected CPI increase of 4.7% for the end of this year. It is also worth noting that, as aforesaid, so far the propagation of inflation to other prices in the CPI basket has been somewhat smaller than foreseen in January and that wages have performed in line with usual indexation clauses.

Overall, it must be kept in mind that an essential part of the inflation target regime is public credibility of the monetary authority's commitment with its objective. The Board reiterates that, should it estimate that a true de-anchoring of inflation expectations has occurred, it will adopt any necessary measures to ensure convergence of annual inflation to 3% over the policy horizon.

It is also necessary to point out that there are several reasons why the Central Bank of Chile orients its policies toward a medium-term objective for inflation and not to a shorter-term goal. For one thing, changes in monetary policy produce effects on output and prices with a lag. The empirical evidence for Chile has it that the full response from demand and production to a monetary policy action will take from two to five quarters, and between four and eight quarters to generate the maximum effect on inflation. There is also a disadvantage in the high volatility to interest rates, output, employment and other variables that would result from having a shorter policy horizon. And finally, because there are some transitory movements in CPI prices that should not be an issue for monetary policy action.

The baseline scenario considers as a methodological assumption that, in the next few quarters, the MPR will continue along a path similar to the one inferred from the different measures of private sector expectations in place in the two weeks prior to the statistical closure of this *Report*. The Board reaffirms its commitment of conducting monetary policy so that projected inflation stands at 3% over the policy horizon. Future changes in the MPR will depend on incoming information. Particularly important for this will be the inflationary implications of the evolution of the complex international scenario, the degree of propagation of inflationary shocks of recent months to other prices, and the emergence of new inflationary pressures.

Box: **The foreign-exchange intervention**

Uncertainty surrounding the implications of the U.S. financial crisis over the world economy has increased the probability of risk scenarios, with potentially very damaging consequences on the Chilean economy. Therefore, and considering the risks for Chile's financial stability of some of the identified worst-case scenarios, on 10 April the Board decided to intervene in the foreign exchange market and announced an international reserves hoarding program for US$8 billion, to be acquired between April and December 2008. Announcing the intervention was in line with the norms of transparency that govern the Central Bank's policymaking, and is consistent with the floating exchange rate and inflation targeting schemes in force.

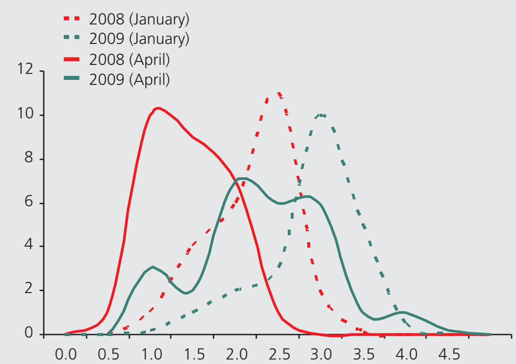
This accumulation of reserves modifies, also, the Central Bank's foreign currency position, in consistency with the assessment that, at the time of the intervention, the real exchange rate was below the level that would prevail in normal global real and financial conditions. An overreaction of the exchange rate could not be ruled out, either.

As aforesaid, the main reason for intervening the foreign exchange market was that reserves accumulation will permit to buffer some adverse external scenarios or tight credit conditions internationally. While still unlikely, in the past few months negative evidence has accumulated, driving this *Report's* international baseline scenario, for example, closer to conditions that in January were identified as worst-case. This becomes worse if the great uncertainty surrounding the ultimate duration and depth of the U.S. slowdown and its global effects are considered, which can be seen in the dispersion and shifts of growth projections considered by private analysts for 2008 and 2009 (figure 1). Furthermore, emerging economies, which so far have been less affected by the financial aspects of this crisis, have also begun to lower their growth projections. Although the probability of worst-case scenarios is a matter for debate, there is no doubt that, should it happen, the costs for the domestic economy would be very high.

In its *World Economic Outlook* of last April, the International Monetary Fund (IMF) also warned of a more adverse external scenario. Said report estimated at 25% the probability of the world economy growing 3% or less in 2008-2009, which would be tantamount to a worldwide recession[1]. In such a situation, the U.S. economy would show a prolonged recession, with added effects —though smaller in proportion— over the emerging economies' growth prospects. In that case, world growth in the two-year period 2008-2009 would be the lowest since 2001-2002, which averaged 2.5% (figure 2).

Figure 1

Distribution of U.S. growth projections for 2008 and 2009
(frecuency of answers, percent)



Source: Consensus Forecast.

Figure 2

World and U.S. growth
(percent)

Source: International Monetary Fund.

Still with the IMF's risk scenario, the U.S. financial crisis could be transmitted to the rest of the world through a financial channel, aggravating the current liquidity constraints and prompting bigger adjustments in financial asset and real estate prices[2]. The deteriorated balance sheets of financial institutions could trigger

[1]/ For further detail, see IMF (2008b). While more negative scenarios are possible, their probability of occurrence is smaller.

[2]/ This is based on the evidence that these assets continue to be overrated in a significant number of developed economies. This larger correction would affect household wealth and hence private consumption and output.

solvency problems similar to those endured by the U.S. in the late 1990s or Japan during the crisis of 1992[3]. In turn, tighter lending conditions than the ones now prevailing in the developed economies could translate in less credit availability and higher funding costs for the emerging economies. This risk is exacerbated by the increase in world inflation of recent months, which could lead developed economies to adjust their monetary policy rates to honor their commitments with price stability. As yet, there is no reasonable certainty about the financial repercussions of the current credit crisis in the U.S. on the emerging economies. A sudden stop of inflows to developing countries as has occurred in the past cannot be ruled out. Although these effects have been reduced thanks to improved macroeconomic policy frameworks in developing economies, the risks cannot be overlooked. Add to this the drastic deterioration of the terms of trade that would occur in such a scenario, aggravated by the active participation of speculators in commodity markets that puts significant risks on price projections, because if they decide to leave the markets abruptly, even harder price adjustments would result (box I.1).

The program of international liquidity accumulation will permit to increase international reserves by around 50% over the stock of March 2008. These had declined significantly between 2003 and 2005[4], to less than in other emerging economies as shown by indicators such as the GDP, imports, or M2, reducing the Chilean economy's hedge against adverse external shocks (figures 3, 4 and 5).

The Board reiterates that the intervention is an exceptional measure, in accordance with both the floating exchange rate and the inflation targeting regimes. On one hand, the intervention does not have an objective in terms of a value or range for the exchange rate. On the other, while 100% of the foreign exchange intervention will be sterilized[5], at the moment of implementation there is no conflict of purposes between the monetary policy and reserves accumulation, because inflationary pressures have decreased and there is room to absorb a peso depreciation without jeopardizing the goal of taking annual inflation to 3% over a two-year horizon.

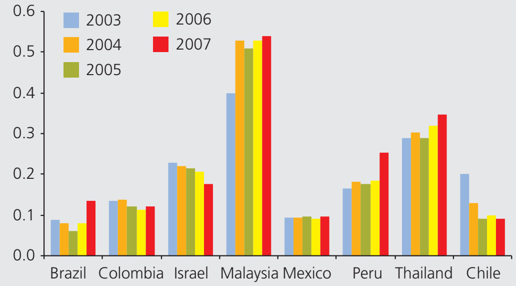
[3] Between 1990 and 1993, world economic growth averaged 2.1% per year.

[4] In 2003, the Board announced a program to swap liabilities denominated in dollars but payable in pesos (PRD, BCD and CERO) for debt certificates payable in dollars (BCX), indicating that it would not continue to renew said instruments. This triggered a reduction in international reserves between 2003 and 2005, where the bulk of BCX maturities occurred.

[5] The foreign exchange intervention of the first month, equivalent to one billion U.S. dollars, has been sterilized via the issuance of short-term documents. For the next seven months, the program contemplates that the remaining U.S.$7 billion will be sterilized by issuing long-term documents. The timetable for the period covering from May to August this year was announced after the statistical closing of this Report, and is consistent with the overall debt policy of the Central Bank of Chile.

Figure 3

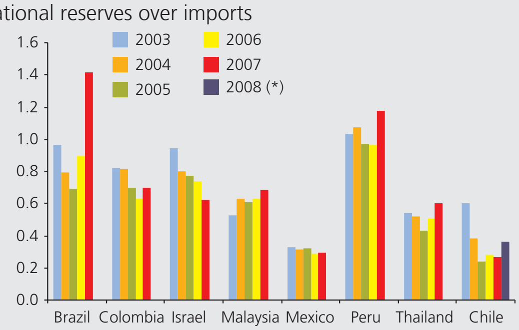
International reserves over GDP.



Sources: Central Bank of Chile, Bloomberg and International Monetary Fund.

Figure 4

International reserves over imports

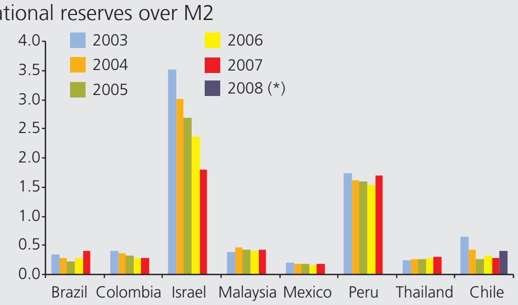


(*) It would be the level generated by the purchase of US$8 billion reserves over total imports in the moving year ending in March 2008.

Sources: Central Bank of Chile, Bloomberg and International Monetary Fund.

Figure 5

International reserves over M2



(*) It would be the level generated by the purchase of US$8 billion reserves over the M2 level as at March 2008.

Sources: Central Bank of Chile, Bloomberg and International Monetary Fund.

Monetary policy decisions in the past three months

Background: *Monetary Policy Report*¸ January 2008

By the end of 2007, annual CPI inflation had continued to rise above expectations, approaching 8%. The increases in foodstuff prices in the middle of the year added a new rise in fuels and electric rates plus a smaller than expected reversal in the prices of some foods. Output was losing strength and the international outlook was becoming more uncertain, despite high terms of trade. In this scenario, monetary policy had adjusted by raising the monetary policy interest rate (MPR) by 75 basis points since September, to 6.25% y-o-y in January.

Domestically, the foreseen baseline scenario featured headline inflation increasing further during the first quarter of 2008, to begin converging to the target by mid-year and into the tolerance range by early 2009. The risk balance for inflation was unbiased. GDP was forecast to increase between 4.5% and 5.5% in 2008, with a downward biased risk balance. To ensure inflation's convergence to the target, the Board considered that new MPR adjustments could be necessary in the future.

Meetings from February to April

At its February meeting, the Board considered that the most plausible options were to keep the MPR unchanged or raise it 25 basis points. The last month had been particularly filled with news. Latest figures for the U.S. showed a widespread and significant adjustment, reflecting the fact that the financial difficulties were already hitting the real variables and would probably continue to do so. Thus, the adverse external scenario depicted in January's risk evaluation was coming true. Locally, the main developments were a smaller than expected inflation rate in January, a low monthly indicator of economic activity (Imacec) in December, substantial peso appreciation and higher risks perceived for the supply of energy. In addition, the perception of greater inflationary persistence remained. Smaller than forecast inflation in January was thought to respond essentially to the contribution of fairly volatile elements, some of them one-time occurrences, such as the prices of perishables and fuels and the peso appreciation. A greater persistence of these factors, affecting the medium-term inflationary outlook and deviating from projections in January's *Report* seemed unlikely. The latest news on inflation could result in a somewhat faster convergence to the tolerance range of target inflation, which allowed ruling out the option of raising the MPR on that occasion and could also affect the path of rates compatible with inflation's convergence to the target. Nonetheless, it was still premature to regard recent macroeconomic developments as persistent and, therefore, cautiousness was necessary for the baseline scenario not to experience any change that might jeopardize compliance with the target and require more drastic monetary policy adjustments in the future. Information of the last month seemed insufficient to modify the monetary policy bias upward. However, additional adjustments suggested or foreseen in the last Report might not be necessary. Therefore, the Board decided to keep the monetary policy rate at 6.25% y-o-y and stated that further adjustments to the MPR to ensure inflation convergence to the target could not be ruled out.

In March, the Board again considered that the most plausible options were to keep the MPR unchanged at 6.25% or raise it 25 basis points. Signs of deterioration of the U.S. economy continued to pile up, the most significant one being that uncertainty and risks on the external scenario had increased again. Commodity price rises had aggravated concerns about inflation, then perceived as a global phenomenon. Within the country, January information confirmed weakness of economic activity, thus confirming that the downward biased scenario described in January's *Report* was beginning to materialize. This was aggravated by the effects of drought and energy supply restrictions on output prospects. Breakeven inflation was increasing significantly, suggesting that risk premiums were rising and thus there was no clear de-anchoring of expectations. Inflation figures of the past month reinforced concerns on its future trend, particularly regarding commodities and foodstuffs. Another important news of the month was the prevalence of the significant appreciation of the peso. If persisting, this foreign exchange appreciation would affect output and, particularly, the inflation trend, which had to be closely monitored and processed for the purposes of Board decisions. Inflationary projections for the following months had been adjusted upward, but with high associated uncertainty, which made monetary policy decision-making more complex. Should internal and external factors driving future inflation, including drought, be more persistent than estimated and drive food prices up, this would justify higher private inflation expectations suggested by financial asset prices. Conversely, in a less pessimistic scenario for food prices, and assuming a more persistent foreign exchange appreciation, the inflationary outlook could be more benign and even consider convergence of inflation to target occurring earlier than assumed in January's *Report*. The option of raising the MPR depended substantially on the assessment on the MPR level where the monetary adjustment cycle was expected to close. Given the prevailing uncertainty, it was possible that a rise this time would not allow it to close. Furthermore, given the context of high uncertainty wherein the decision had to be made, it seemed reasonable to wait for news to settle down to evaluate the persistence of recent shocks with more information. A rise entailed a high risk associated to the evolution of the external scenario, and more so considering that, at the same time, there were forces in operation backing inflation convergence over the policy horizon. With respect to the monetary policy bias, it was necessary to assess the decision of holding it unchanged in function of both the monetary policy rate and the foreign exchange status. Keeping the bias would probably have a greater effect on the private sector's MPR expectations than the decision of raising it by 25 basis points at said meeting. This would mean that the projected interest rate differential would be accordingly bigger and, if there was agreement that the foreign exchange rate had experienced an overreaction, keeping the bias might increase it. In this scenario, the Board decided to keep the MPR at 6.25% for the second consecutive month and reaffirm that the future path of the MPR would depend on incoming information and its implications on projected inflation, not ruling out the possibility of making future adjustments to the MPR to ensure convergence to the target.

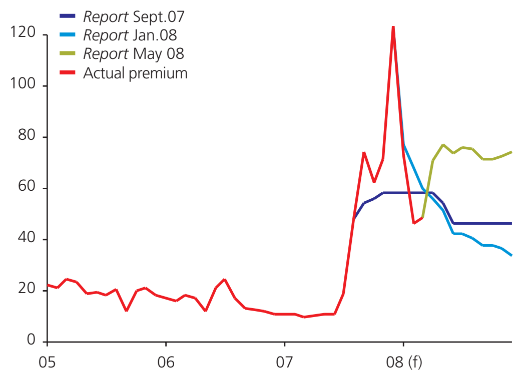
In April, the Board considered again that the most reasonable options were to raise the MPR by 25 basis points or to keep it at 6.25%. Chances of a more severe and prolonged deterioration of the external scenario had increased, and concern over inflation was generalized. There was a major adjustment downward of world growth projections, particularly intense in the U.S., where the baseline scenario foresaw a recession. There was great uncertainty over how fast it would recover and the mechanisms through which the world economy's slowdown would hit developing countries in general and Chile in particular. Domestically, information of the latest month confirmed the complexity and growing risks of the macroeconomic scenario. On the one hand, factors were identified, such as foreign exchange appreciation, weak economic activity, and a fuel tax rebate, that effectively supported inflation convergence. On the other hand, new price increases, especially of foods, pointed in the opposite direction. This combined with risks over the inflationary trend, including: the unfolding of the international financial crisis and its impact on world output; the final effects of the drought, and the possible future propagation of inflation more severe than known to date. Thus, while inflation was converging to the target over the policy horizon, the economy had weakened in accordance with January's downward biased risk scenario. The propagation of inflation was thought to be moderate so far considering the magnitude of the inflationary shock. Wages, specifically, were increasing in line with normal indexation clauses, and the market's medium-term inflation expectations had remained high and stable, which continued to sound an alert, especially because of its persistence. The peso appreciation had become persistent, fluctuating within a range that showed a significant departure from the level consistent with its long-term fundamentals. It was unclear to what extent the foreign exchange appreciation reflected the increased international inflation or if it was a sign of real appreciation pressures. Overall, the short-term inflationary outlook was filled with uncertainties. Projections confirmed convergence to the target range, but there were factors that might slow down the process. Particularly worrisome were the price increases of some foods, as well as their persistence, but the recent drop in the international price of wheat, a major input in bread, suggested that the shock might be temporary. Private expectations for the MPR were moderating and standing within a rather neutral range. In this context, the Board opted for holding the MPR at 6.25%, although acknowledging the presence of risks with varying implications on inflation, but considering that any other policy option entailed bigger risks. The monetary policy bias was lifted, on the grounds that the prevailing conditions made it necessary to have flexibility to introduce changes in the policy's orientation. This was reinforced with the decision of holding the MPR unchanged for the third consecutive month. In addition, data available at the time did not necessarily point to a future upward adjustment. Finally, maintaining the upward bias was thought not to be credible because the direction of the next movement in consistency with target inflation was unclear. Plus the bias was already fading and the best choice at the moment was to eliminate it in order not to reduce the effectiveness of a useful communication tool.

I. International scenario

Figure I.1

Liquidity in international markets: U.S. short-term premiums (*)

(basis points)



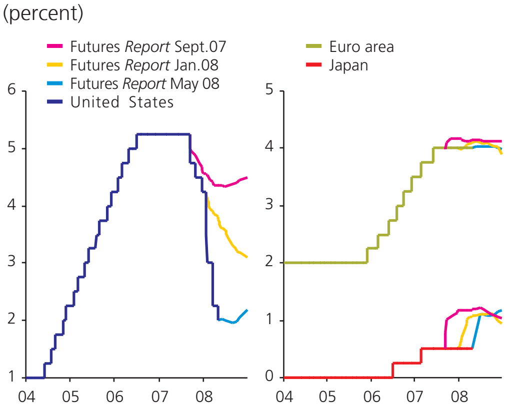
(*) Difference between three-month Libor and three-month fed funds rate.
(f) Projection based on futures contracts.

Source: Bloomberg.

Figure I.2

Expected monetary policy rate in developed economies (*)

(percent)



(*) Based on interest rate futures contracts.
Average for the 10 working days prior to the statistical closing of this *Report*.
Sources: Central Bank of Chile and Bloomberg.

This chapter examines recent developments and prospects of the world economy over the next two years and describes the external scenario relevant to the Chilean economy considered the most likely, along with the main risks.

Developed financial markets

In the past few months, the financial crisis originated in the U.S. subprime market has continued to propagate. Its depth and duration has exceeded projections and its reach is still very uncertain. The persistence of lack of liquidity in developed markets has hurt financial institutions' balance sheets significantly in the U.S. and the euro area. As a result, within a context of high volatility, new financial asset price corrections have been observed. These difficulties, along with more pessimistic and uncertain growth projections, persist despite several actions implemented by the main economies' central banks to cope with them, and the possibility of them triggering a very costly international financial crisis must not be overlooked.

Important banks have had to absorb in their balance sheets their losses from investments not only in subprime market related assets, but also in a variety of derivative instruments. Doubts about the final degree of exposure of the parties in these assets and the need to cover own losses have resulted in a substantial reduction in liquidity available in the money market (figure I.1).

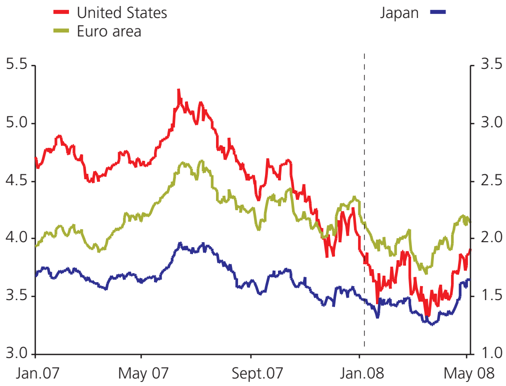
The main central banks have responded aggressively to liquidity problems. In the U.S., the Federal Reserve not only cut down the fed funds rate by 225 basis points since our January *Report* —beginning with a 75 basis points cut in an unscheduled meeting in mid January and subsequent reductions of 50, 75 and 25 basis points at ensuing regular meetings— but it also increased the mechanisms through which it can add liquidity to the market and the instruments that can be used as collateral in these operations. Central banks of other developed economies have adopted similar measures to provide liquidity. Worth singling out for their very unique characteristics are the rescue operations of the investment banks Bear Stearns in the U.S. and Northern Rock in the U.K.

Movements in monetary policy rates have been dissimilar, considering the diverse intensity with which liquidity problems have hit their economies. In the UK, although inflation is above target, the monetary policy was loosened. In the euro area, the rate has remained unchanged and the market eliminated its expectations of a tax cut for this year due to signs of higher inflation. Thus, the interest rate differential with the U.S. has widened, favoring an

Figure I.3

Long-term interest rates (*)

(percent)



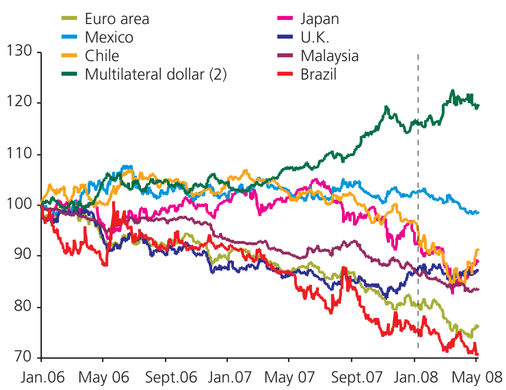
(*) Nominal 10-year government bonds.

Source: Bloomberg.

Figure I.4

Currency parities (1)

(index 02. Jan. 2006=100)



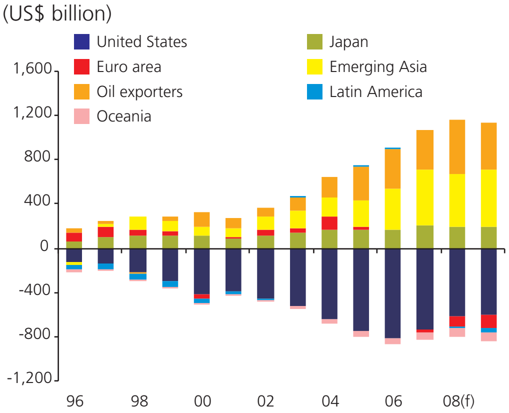
(1) Parity against the U.S. dollar. An increase denotes depreciation.
(2) Dollar parity against a currency basket including the U.S.'s main trading partners. An increase denotes a depreciation of the U.S. dollar.

Sources: Bloomberg and U.S. Federal Reserve.

Figure I.5

Current account balances (*)

(US$ billion)



(*) For a more detailed definition, see Glossary.
(f) Projection.

Source: International Monetary Fund.

appreciation of the euro against the U.S. dollar. The Bank of Japan has not changed its rate either, and the market has postponed expectations of additional rises (figure I.2).

Despite central bank actions, short-term interest rate premiums are still high, reflecting persistent liquidity problems and risks of default. The increases in corporate risk premiums have shown no significant reversal either. Furthermore, a number of bond insurers have seen a drop in their risk ratings, prompting further skepticism over rating agencies. In this context, the U.S. announced a major financial reform that further empowers the Federal Reserve to regulate and supervise the financial system.

Long-term interest rates have been highly volatile. U.S. Treasury rates dropped dramatically responding to flight to quality and fears of severe economic slowdown, which was attenuated by increased inflationary risks and measures taken by fiscal and monetary authorities. Thus, at the statistical closing of this *Report*, the rates of 10-year government bonds in the U.S. and the euro area are practically equal to their January levels (figure I.3).

The facts described above have resulted in a dollar depreciation in international markets. In multilateral terms, the U.S. currency has lost nearly 3% since our last *Report*, and with respect to the euro and the yen the loss has been bigger: 5.9% and 6.2%, respectively (figure I.4). It should be noted that both the dollar depreciation and the effects of the financial crisis on output contribute to reduce the excess spending in the U.S., and thus operate as mechanisms for correcting global imbalances. Hence, the dollar's loss of value is an expected response, which helps resolve the country's current account deficit (figure I.5).

Emerging financial markets

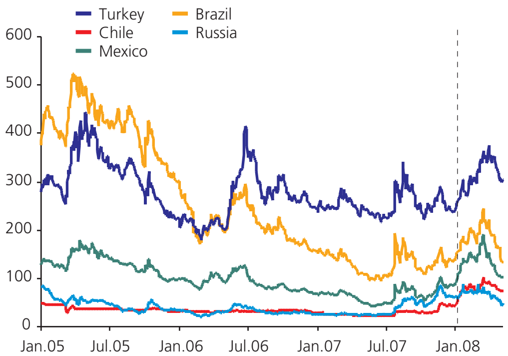
The developed economies' financial crisis has also spread to emerging markets, albeit somewhat softened. Lending conditions for the latter have continued to deteriorate. Sovereign premiums increased further since the last *Report* and began reversing only in recent weeks (figure I.6). With a few exceptions in Latin America, stock markets have generally posted negative returns since January, in line with the reduction in investment fund inflows. The Chinese stock exchange stands out, with a fall of nearly 30% this year to date after recording returns of close to 100% in 2007.

For the time being, emerging economies have not experienced any critical situation in this episode. In some cases, this is explained by their recent policy reforms that have made them more resilient to external shocks, with stronger fiscal positions, more flexible foreign exchange regimes and reduced dependence on foreign financing, which reflects on current account surpluses. Other countries have been able to sustain large expenditures thanks to high prices for their commodities. In these latter cases, the risk of adjustments due to an abrupt fall in commodity prices is increased. Thus, the risk persists of lending standards deteriorating severely or even ceasing completely.

Figure I.6

Credit default swap risk premiums (*)

(basis points)



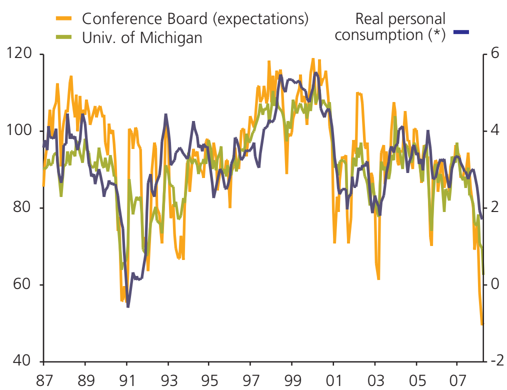
(*) Credit Default Swap: Insurance against credit default.

Source: Bloomberg.

Figure I.7

United States: consumer confidence and real personal consumption

(indices; annual change, moving quarter, percent)



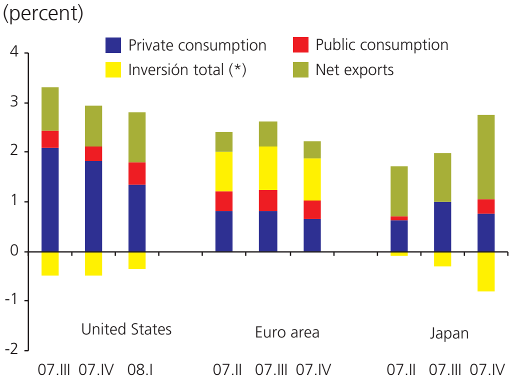
(*) Data before 1990, built by deflating nominal personal consumption by the total PCE price index.

Sources: Bloomberg and Bureau of Economic Analysis.

Figure I.8

Contribution to annual GDP growth

(percent)



(*) Includes changes in inventories.

Sources: European Central Bank, U.S. Bureau of Economic Analysis and Japan's Cabinet Office.

World growth

The U.S. economy grew by an annualized quarterly rate of 0.6% (25% y-o-y) in the first quarter of 2008, according to early estimates available. Although this figure was expected by market analysts, the large inventory accumulation implicit in it maintains the risks of slowdown considering that other components are weak. Worth noting is the large fall in consumption's contribution to growth, confirming that the worst fears over U.S. output come from the signs of weakness from this GDP component. Consumer confidence is down, at record lows since the early 1990s, especially due to a labor market that has destroyed an average of 65,000 jobs this year so far, but also because of lending constraints and price hikes for foods and energy that have eroded the disposable incomes of households (figure I.7). This combines with the erosion of real-estate and financial wealth caused by price drops affecting households. The adjustment of the real-estate market has been not only longer but also deeper, while non-residential investment is showing negative signs as well. Nonetheless, the dollar depreciation in international markets has helped to maintain a positive contribution of the foreign sector to economic growth in that country (figure I.8).

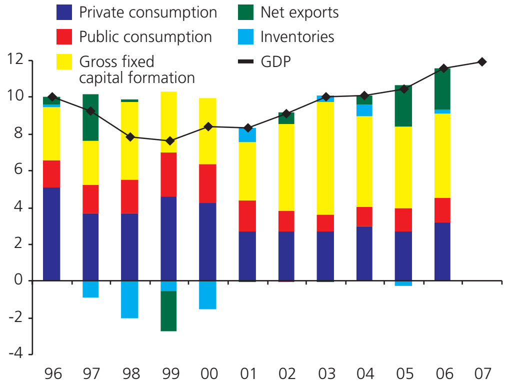
The baseline scenario assumes that the U.S. economy will slow down significantly during 2008. The persistence of liquidity problems and the tightening of lending standards for a longer time than anticipated are spreading the financial crisis to the real economy, thus materializing one of the risks identified in the last *Report*. The fiscal stimulus announced last January is forecast to have only a temporary effect and, considering households' level of debt, these are expected to postpone expenses, giving priority to servicing their credits. The baseline scenario assumes that the economy will take several quarters to recover its former dynamism. Hence, growth projections for the U.S. are corrected downwards by nearly 3 percentage points for 2008-2009, to 0.7% and 0.8% y-o-y, respectively.

The euro area grew by 2.6% in 2007. The last quarter posted a deceleration in domestic demand, especially private consumption. Liquidity problems are also hurting lending standards, as reflected by surveys on expectations and economic sentiment in the region. This, together with the erosion of available income of households because of fuel hikes, will continue weakening domestic demand. The external sector will be affected by an appreciated euro and reduced foreign demand, particularly from the U.S. growth forecasts are revised downward by one percentage point over the projection horizon, to 1.4% in 2008 and 1.2% in 2009.

The Japanese economy grew above forecasts to 2% y-o-y in the fourth quarter of 2007, to end the year with 2.1%. Japan's growth has relied mainly on its strong foreign sector, since the decline in exports to the U.S. has been more than offset by shipments to other Asian countries. In addition, Japan has not suffered as much as the U.S. and Europe from liquidity problems. The above, along with a moderate slowdown in emerging Asia, will permit Japan to experience a smaller adjustment in 2008 than other developed economies. The outlook for investment will remain weak according to the Tankan survey on investment plans. The Japanese economy will see a slowdown in 2008, growing nearly 1.5% over the projection horizon, that is, more than half a percentage point difference with January's projection for the two-year period 2008-2009.

Figure I.9

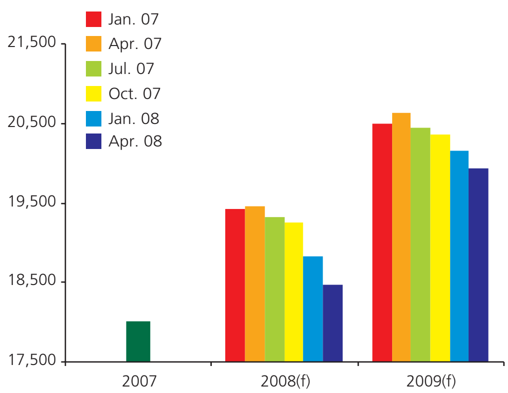
China: contribution to annual GDP growth
(percent)



Sources: Bloomberg and International Monetary Fund.

Figure I.10

Copper market: world supply projections (*)
(thousands of metric tons)

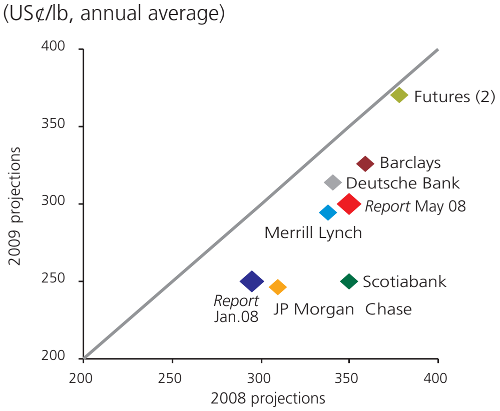


(*) Data of 2007 corresponds to actual production.
(f) Projection.

Source: CRU International Ltd.

Figure I.11

Copper market: dispersion of price projections (1)
(US¢/lb, annual average)



(1) Considers projections reported since April 2008.
(2) Futures consider the average of the last 10 working days at 6 May 2008.
Sources: Central Bank of Chile, Barclays (2008), Bloomberg, Deutsche Bank (2008f), JP Morgan Chase (2008b) and Scotiabank (2008).

For now, emerging Asia has weathered the subprime crisis and the developed economies' slowdown, and remains the main driving force of world growth. China grew by 11.9% y-o-y in 2007, the highest rate since 1994 (figure I.9). Such dynamism was based mainly on strong investment and a robust external sector. Considering that 20% of Chinese exports go to the U.S., China's economic growth is expected to be at least 2 percentage points less than in 2007, to 9.3%. In line with this scenario, the figure already declined to 10.6% y-o-y during the first quarter of 2008.

The main Latin American economies have held on to their strong growth rates, particularly owing to private consumption and investment, but also to persistently high commodity prices. Nonetheless, prospects for the region have worsened since January, reflecting the global deceleration affecting external demand. Growth projections for the two-year period 2008-2009 are revised down by nearly one percentage point, especially for 2009. Still, these economies can generally rely today on stronger macroeconomic settings than in the past to withstand the deterioration of the world economy, which help them mitigate the effects of global slowdown.

Toward the end of 2007, Australia and New Zealand exceeded their growth forecasts, closing the year with 3.9% and 3%, respectively. Both reflected the fiscal stimulus and the application of a contractionary monetary policy facing increasing inflationary risks, in particular because of demand pressures and persistently high commodity prices. Although improved terms of trade have helped to narrow the trade deficit —despite a substantial appreciation of their local currencies— in both cases the external accounts continue to show a large imbalance.

In sum, the world economy's prospects have deteriorated significantly since January, because of both reduced world growth projections and increased risks prevailing. The U.S. is forecast to recover slowly from the drastic deceleration it will experience this year, affecting economic growth around the world to an uncertain extent. While emerging economies have continued to grow strongly, they will have to face a reduced external demand. In addition, the baseline scenario contains great uncertainty, and is biased toward even weaker growth figures for international growth, and a world recession is not ruled out (see box in Summary chapter) (table I.1).

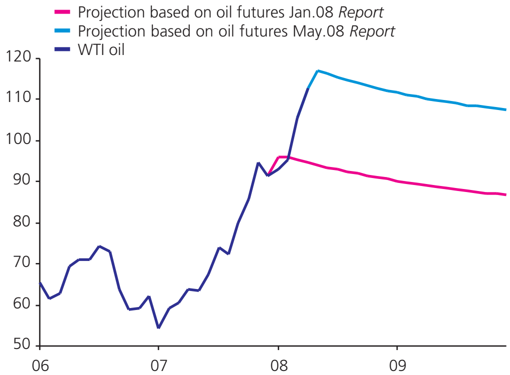
Commodity prices

In recent months, the copper price rose to record highs of more than US$4 per pound in the London Stock Exchange (LSE). Part of this rise is related to the depreciation of the U.S. dollar. The demand of emerging economies —especially in Asia— has remained strong, overcompensating developed countries' slowdown in consumption. World product estimates have been systematically revised downward, reflecting lower-grade mineral ore, labor conflicts, and energy supply constraints, so in 2008 the world supply's growth rate will expectedly be less than half what was expected a year ago (figure I.10). The increasing participation of speculators has also been a factor pushing prices up and putting a big question mark on its future trajectory. The risk of a sharp fall in its price is associated to these speculators suddenly quitting the market (box I.1). Considering its recent evolution and supply and demand prospects, the baseline scenario projections for

Figure I.12

WTI oil price and futures (*)

(US$/ barrel)



(*) Futures consider average of last 10 working days prior to each *Report*'s statistics closing.

Sources: Central Bank of Chile and Bloomberg.

Table I.1

World growth (1) (2)

(annual change, percent)

	Average 1990-99	Average 2000-05	2006	2007 (e)	2008 (f)	2009 (f)
World	2.9	3.8	5.1	5.0	3.8	3.8
World at market parity	2.4	2.9	3.9	3.8	2.6	2.6
United States	3.1	2.5	2.9	2.2	0.7	0.8
Euro area	2.2	1.9	2.8	2.6	1.4	1.2
Japan	1.5	1.6	2.4	2.1	1.4	1.5
China	10.0	9.4	11.6	11.9	9.3	9.5
Rest of Asia	5.5	4.8	5.5	5.8	4.7	5.0
Latin America	2.7	2.9	5.4	5.6	4.3	3.5
Commodity exporters	2.7	3.1	2.7	3.1	2.0	2.4
Trading partners (3)	3.0	3.1	4.6	4.8	3.4	3.3

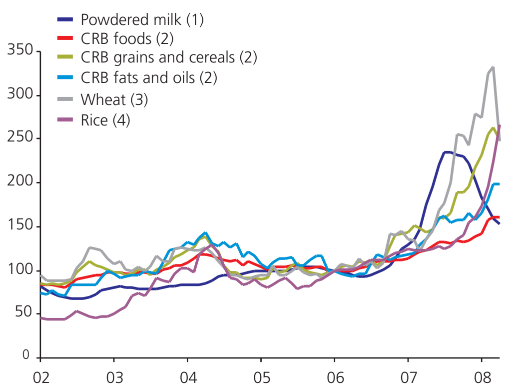
(1) For definitions, see Glossary.
(2) World and regional growth estimates based on new PPP weights from April 2008's World Economic Outlook.
(3) Based on new methodology that considers the countries' share of Chile's total exports in two moving years.
(e) Estimate.
(f) Projection.

Sources: Central Bank of Chile based on a sample of investment banks, Consensus Forecast and International Monetary Fund.

Figure I.13

Foodstuff prices

(indices January 2006=100)



(1) Calculated using the prices of Oceania, Europe and the U.S. weighted by their exports.
(2) Indices calculated by the Commodity Research Bureau (CRB).
(3) Soft Red Winter N°2, Chicago.
(4) Future price one month ahead in Chicago.

Source: Bloomberg.

the copper price are corrected upward from January, to US$3.5 for 2008 and US$$3.0 for 2009 per LSE pound (figure I.11).

The oil price has posted persistent increases since January, also reaching record highs. The WTI barrel has gone above US$120, within a context of renewed involvement of non-commercial market players and production stoppage in several producing countries[1]/. Tight supply and demand conditions persist in the oil market. On the one hand, demand for crude oil has remained solid, mostly so in emerging countries. On the other, non-OPEC countries' supply is short of room to increase production, and the OPEC estimates that the market is well stocked and that no quota increases will be announced before September. Furthermore, geopolitical risks persist that add uncertainty to the price trend. Thus, based on prices implicit in futures contracts, the baseline scenario assumes average prices for the barrel of WTI oil of US$110 and US$109 in 2008 and 2009, respectively (figure I.12). The international price of gasoline rose by nearly 20% since the last Report, in line with crude oil, but also affected by constraints in refining capacity. However, at the beginning of the high-consumption season in the northern hemisphere, gasoline inventories in the U.S. are larger than the average for the decade this time of year, which could moderate price increases.

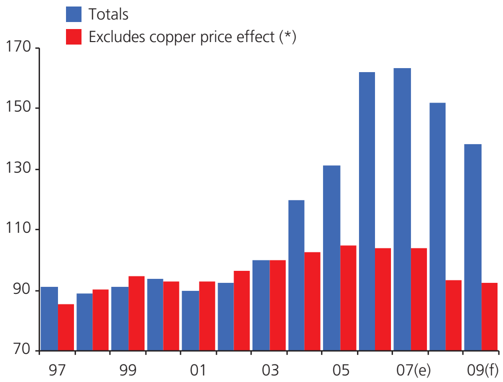
The price of NBSK wood pulp has risen by close to 3% this year to date, to around US$900 per metric ton. Strong demand —especially from Asia— and a tight world supply due to problems in the provision of woods and high transportation costs explain why the price has remained high and will probably remain so throughout this year. Molybdenum has remained at record highs, reflecting the strength of the Asian iron and steel industry —with a nearly 50% increase in the price of steel this year— within a context

[1]/ Due to strikes in the Northern Sea and Nigeria. This latter country, the sixth largest OPEC producer, has also suffered terrorist attacts that cut its production in half.

Figure I.14

Terms of trade

(index 2003=100)



(*) Estimated using as reference the average price in the London Metal Exchange (LME) in 2003. No other potential effects on price and quantity are considered.
(e) Estimate.
(f) Projection.
Source: Central Bank of Chile.

Table I.2

World inflation

(average annual change in local currency, percent)

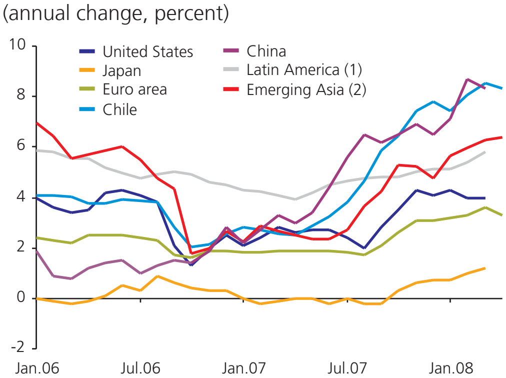
	Average 1990-99	Average 2000-05	2006	2007 (e)	2008 (f)	2009 (f)
United States	3.0	2.7	3.2	2.9	3.7	2.4
Euro area	2.3	2.2	2.2	2.1	3.1	2.2
Japan	1.2	-0.5	0.3	0.1	0.9	0.7
China	7.8	1.2	1.5	4.8	5.9	3.9
Australia	2.5	3.3	3.6	2.4	3.4	2.8
New Zealand	2.1	2.5	3.4	2.4	3.3	2.8
Argentina	253.7	8.8	10.9	8.9	9.4	10.1
Brazil	854.8	8.4	4.2	3.6	4.8	4.2
Mexico	20.4	5.7	3.6	4.0	4.6	3.4
EPI (*)	1.9	3.8	5.3	8.5	12.5	2.2

(*) For definitions, see Glossary.
(e) Estimate.
(f) Projection.
Sources: Central Bank of Chile, Consensus Forecast and International Monetary Fund.

Figure I.15

CPI inflation

(annual change, percent)



(1) Geometric average including Argentina, Brazil, Mexico and Peru.
(2) Geometric average including Indonesia, Singapore and Taiwan.
Sources: Each country's central bank and Bloomberg.

of tight supply. The startup of new projects and the extension of old ones will only moderate prices in coming years. Meanwhile, the fishmeal market has been hurt by live fish shortage and production cost increases, pushing prices up by nearly 15% since last January. The market is forecast to remain tight, meaning that prices will change little with respect to recent months.

With a few exceptions, international food prices have continued on an upward trend. Wheat has been one such exception, thanks to good sowing prospects in the U.S., the largest exporter in the world. Thus, its price escalation that had gone to 50% above the price in the last *Report* reversed completely in recent weeks and is now below its levels early this year. The baseline scenario assumes that it will continue declining gradually in line with the increasing supply, but will stay around the 2007 average during this year. The prices of other grains like maize and rice have increased since January: 30% and 60%, respectively. In the dairies market, the supply-side reaction to the sharp increases of 2007 has led it to sell at similar prices to those of a year ago (figure I.13).

The baseline scenario assumes that the terms of trade will begin normalizing this year, albeit at a slower pace than forecast a few months back (figure I.14). Commodity prices have remained high for longer than expected, which combined with the active speculation in some markets, increases the normal uncertainty that is typical of these projections. Thus, it is not possible to rule out a drastic price correction associated to speculators suddenly quitting the markets or to a greater than expected global deceleration. Nor can it be ruled out that prices remain high or even increase further, as has been the norm lately.

World inflation

Soaring international commodity prices, particularly of oil and foods, are an important factor in the rise in world inflation. The most generalized increase occurred during the second half of 2007, although in some economies —including Chile, China, Brazil and Russia— the process began sooner (figure I.15). Thus, for a wide variety of countries, continuous downward revisions have been made to inflation projections for this year. Compared to January forecasts, U.S. inflation is now expected to be 1.1 percentage points higher, while for China and the euro area it is up by 1.8 and 0.8 percentage points, respectively. Persisting inflationary risks associated to a possible increase in the degree of passthrough of aforesaid price hikes are offset by the possibility of a more drastic global slowdown reducing demand-pull pressures and, therefore, inflation.

In this context, the external price index (EPI) in U.S. dollars relevant to the Chilean economy went from growing at an average annual rate of 8.5% in 2007 to somewhat more than 15% in the first quarter of 2008. The baseline scenario considers that this year the EPI will increase faster than projected in January. Behind this revision are the higher inflation figures and the significant depreciation of the U.S. dollar in world markets. Toward 2009, to the extent that this dollar depreciation begins reversing, the EPI will go back to growth rates around 2% (table I.2).

Box I.1: **Commodities as a global asset class**

Commodity prices have shown significant increases in the past few years, persisting —and often accelerating— even in the present context of uncertainty about the performance of the world economy. One possible explanation of sustained price hikes is increasing importance of commodities as an investment option in financial markets. This reflects, for example, in investments in commodity indices in 2007, which amounted to more than ten times those of 2002[1]/. This box describes the causes of this phenomenon and its possible effects on prices.

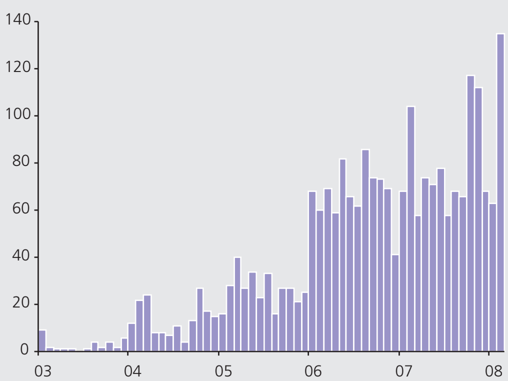
Historically, precious metals have been considered an attractive asset of institutional investors and speculators, for their use as store of value and as a portfolio diversifying tool. Nonetheless, the widespread, unrelenting increase in commodity prices from 2003 onwards, mainly in tight markets —with low stocks that reflect dynamic demand and limited supply— has led investors to also consider fuels, metals and agricultural products as global assets yielding high medium-term returns. Thus, new commodity-indexed fund issues have increased substantially (figure I.16). In addition, it is worth noting the negative correlation between fuel- and metal-related investments and the U.S. dollar, favoring the inclusion of these products in portfolios in order to diversify risks.

There is a wide range of investors in these markets, with varying investment horizons and financial vehicles and strategies they use. The *Commodity Trading Advisors* (CTA) are small firms taking and reversing positions —long and short[2]/— rapidly, and making their decisions based on technical analysis, using options and futures as the main vehicles. Then there are the hedge funds that, with more diversified investment strategies, take advantage of arbitrage opportunities in different markets and asset classes, with intense use of derivatives to generate returns via leverage. They are characterized by their high level of financial sophistication, and by taking long and short positions over a variety of horizons. And there are the institutional investors and sovereign funds, which in recent years have been increasing their participation and have more extensive investment horizons, so they maintain almost exclusively long positions. Generally, they invest in securities indexed to commodity prices, using passive investment strategies.

In the past several months, non-trading agents' long positions, largely associated to investments speculative in nature[3]/, have increased significantly in all types of raw materials. Although a more precise quantification of its effects is difficult to do, it has coincided with the persistence of high prices[4]/. For the copper market in particular, Jaramillo and Selaive (2006) estimate that a 100% increase in non-trading long positions can be associated to a transitory increase of US¢40 per lb. Southwood (2008) estimates that close to 25% of the current price obeys to speculation; the remainder reflects fundamental factors. Overall, the active involvement of speculative agents in the commodity markets poses substantial risks to price projections, because they may decide to leave the market abruptly, prompting major adjustments to its quotations.

Figure I.16

New commodity-based investment instruments
(number of instruments issued)



Source: Barclays.

[1]/ The amounts invested in commodity indices went from less than US$12 billion in 2002 to more than US$145 billion in 2007.

[2]/ A short position is equivalent to a selling position, and a long position is a buying position.

[3]/ The Commodity Futures Trading Commission (CFTC) publishes positions in futures markets and defines non-trading agents as speculators or firms taking market positions to obtain short-term gains deriving from price changes. These include, among others, mutual funds, pension funds, investment funds, hedge funds and CTA.

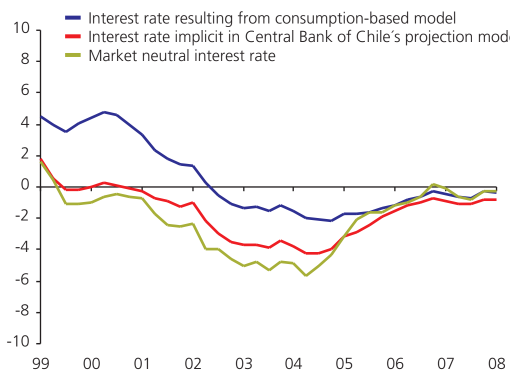
[4]/ See also *Monetary Policy Report*, May 2006, box I.1.

II. Financial markets

Figure II.1

Real interest rate gap: real MPR (*) minus indicated neutral interest rate

(percent)



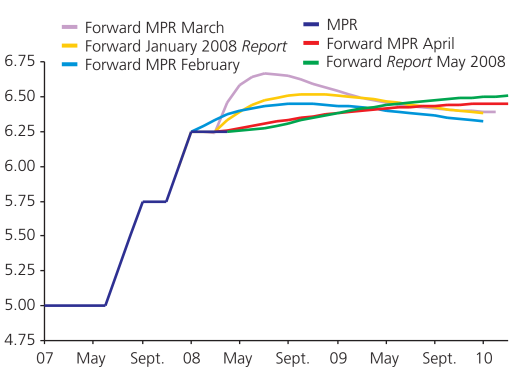
(*) Calculated as the nominal MPR less expected inflation as per the Central Bank of Chile's survey.

Source: Central Bank of Chile.

Figure II.2

MPR and forward curve

(percent)



Source: Central Bank of Chile.

This chapter reviews recent trends in financial markets' main variables from a monetary policy perspective.

Monetary policy

The macroeconomic outlook has undergone major changes since the last *Monetary Policy Report*. The global growth scenario worsened, economic activity aggravated the weakness it showed in the second half of 2007 and the peso appreciated, a trend that was partially reversed in the last month. International commodity and foodstuff prices show new increments. Annual CPI inflation continued rising in the first quarter, albeit somewhat more slowly than expected in January and without the unusual increases of the second half of 2007. In April it began to decline, a process that the baseline scenario assumes will continue in the coming quarters. This permitted to hold the monetary policy rate (MPR) at 6.25% since January and remove the bias from its future trend in April, in a context where the nominal exchange rate increased when the reserve purchase plan was announced. Currently the MPR stands around the values considered to be consistent with a range of estimates of its neutral level (figure II.1).

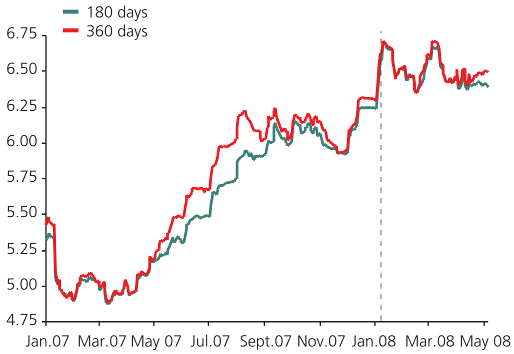
Considering information from the two weeks prior to the statistical closing of this *Report*, the various measures of market expectations for the MPR have tended to decline for the next two years. In particular, expectations derived from the forward curve and swap rates show no more than one further increase of 25 basis points in the next twelve months, while at the closing of January's *Report* the market expected up to two 25 basis points increases during 2008. Specifically, figures inferred from prices of financial assets— the forward curve— went from anticipating in January that the MPR would be in 6.51%, to foresee it in May at 6.36% in December, showing a flattening of the curve (figure II.2). The swap rates performed similarly, anticipating in May that the MPR will close 2008 at 6.39% (6.63% in January's *Report*) (figure II.3). Finally, the Economic Expectations Survey (EES) of last May foresees that by the end of this year the MPR will be 25 basis points lower than it is today and, two years ahead, 50 bp lower (25 bp less than reflected in January's survey in both cases).

For the coming quarters, the analysis uses the methodological assumption that the MPR will follow a similar path to the one deduced from different measures of private sector expectations prevailing in the two weeks prior to this *Report*'s statistical closing. The Board reaffirms its commitment of conducting monetary policy so as to ensure that projected inflation stands at 3% over the policy horizon. Future changes in the MPR will depend on incoming information. Particularly important for this will be the inflationary

Figure II.3

Swap rates (*)

(percent)



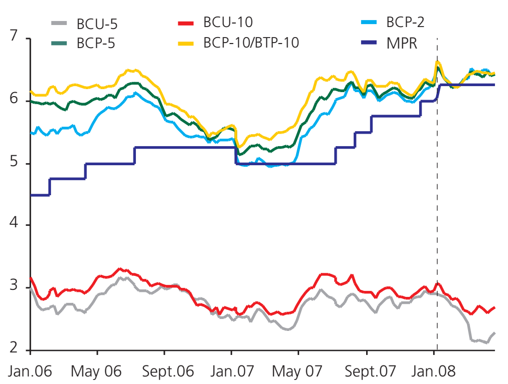
(*) For definitions, see Glossary.

Source: Central Bank of Chile.

Figure II.4

MPR and interest rates of Central Bank of Chile notes

(weekly averages, percent)

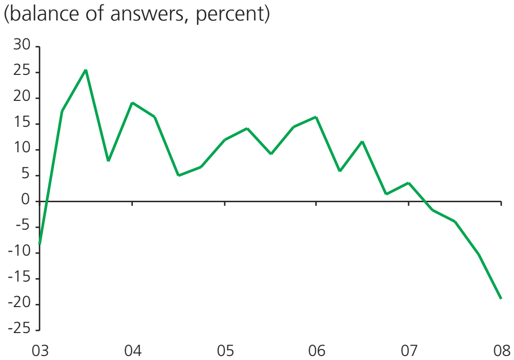


Source: Central Bank of Chile.

Figure II.5

Lending conditions for consumer credits (1) (2)

(balance of answers, percent)



(1) Average of answers per quarter. Negative figures indicate more restrictive conditions.
(2) Considers questions about minimum standards required for loan approval, maximum credit amount, maximum credit card limit and minimum payment.

Source: Central Bank of Chile, Banking Credit Survey.

implications of the unfolding of the complex international scenario, the degree of propagation of inflationary shocks of past months to other prices and the emergence of new inflationary pressures.

Financial conditions

In March, uncertainty about the short-term inflation scenario pushed up the demand for UF-denominated instruments relative to nominal securities. In this context, the interest rates of nominal Central Bank of Chile documents dropped significantly by mid-January and later returned, with fluctuations, to levels slightly below those of the previous *Report*. Interest rates on indexed documents showed larger falls that also reversed in part, to enter this *Report* at 40 and 10 basis points below January levels for BCUs at 5 and 10 years, respectively (figure II.4).

The sterilization of the purchase of U.S. dollars made by the Central Bank of Chile in the framework of its international reserve hoarding program —US$50 million a day— so far has been done via issuing short-term instruments. For the seven months ahead, the program contemplates sterilizing the remaining US$7 billion through issues of long-term documents. The timetable for the period from May and August of this year was announced after the statistical closing of this *Report* and is in line with the Central Bank of Chile's debt policy.

On the household's side, the survey on banking credits of the first quarter of 2008 indicated that overall consumer loans conditions have tightened. This reflects on stricter requisites for approval, smaller amounts and increased markups over the cost of the funds, although there was also an increase on the maximum duration of the loans (figure II.5). As for loaned amounts[1]/, in 2008 so far the average consumer debt has continued —albeit more gradually— with the decline it began in late 2006. It is worth noting, however, the greater number of debtors (figure II.6). Mortgage loans, meanwhile, are still growing at a nominal annualized rate of around 25% (15% real), coinciding with the growth posted by some new home sales indicators. Finally, interest rates charged by banks on consumer loans, after rising in January and February, returned in March to its levels of December 2007, while credit card rates showed slight movements after January's *Report*. For the same period, mortgage loans show a drop in interest rates smaller than the drop in reference rates for equivalent maturities (table II.1.).

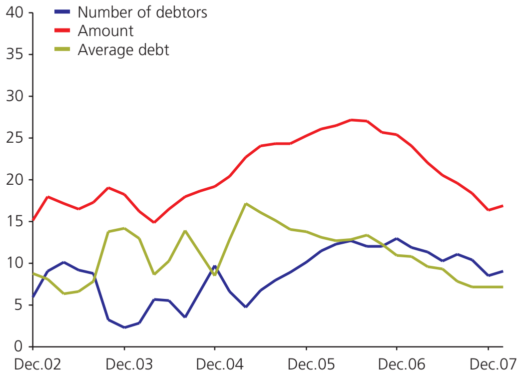
As for companies, lending conditions also appear less favorable. On the one hand, interest rates on commercial loans showed an increase in recent months, while the MPR has remained constant. On the other hand, there is greater participation of large corporations in the overall banking market and an increase in the cost of alternative funding sources such as bonds, associated with the episodes of volatility and uncertainty in external markets (figure II.7). Growth in banking commercial loans has slowed somewhat since last December, but remains strong. This has coincided with a reduction in bond issues. In fact, projections a year earlier foresaw that in 2007 bond

[1]/ Beginning in January 2008, due to methodological changes in information supplied by banks, credit information published by the Superintendency of Banks and Financial Institutions (SBIF) are not comparable with the old series. The series discussed in this *Report* correspond to a splicing applied by the Central Bank of Chile based on SBIF data. Details on the splicing methodology are presented in the *Finacial Stability Report* of June 2008.

Figure II.6

Banking consumer debt (*)

(annual change, percent)



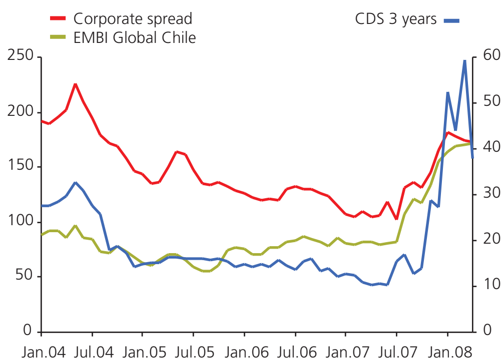
(*) Average amount and debt at current prices.

Sources: Central Bank of Chile and Superintendency of Banks and Financial Institutions.

Figure II.7

Sovereign and corporate spreads

(basis points)

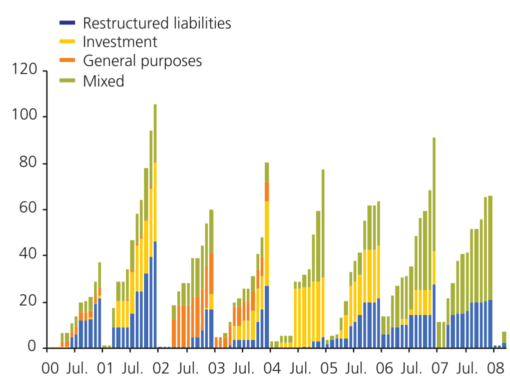


Sources: Central Bank of Chile and Bloomberg.

Figure II.8

Corporate bond issues by objective

(UF million accumulated per year)



Sources: Central Bank of Chile and Superintendency of Securities and Insurance.

issues would approach 2001 highs and ended up being less than the figure for 2006, with a marked slowdown in the second half. So far in 2008, the trend of low movements of these issues has continued, albeit with greater activity in recent weeks (figure II.8).

Table II.1

Lending interest rates

(base 360 days, percent)

			Consumer		Mortgage loan rates (3)				Retail
		MPR	WAR (1)	Credit cards (2)	Rate 4-5% and duration 5-6	Spread over BCU-5	Rate 5-6% and duration 5-6	Spread over BCU-5	WAR (1)
2004	Average	1.87	24.3	33.4	4.0	1.6	4.4	1.9	7.4
2005	Average	3.44	26.0	34.1	3.7	1.4	4.3	1.9	9.7
2006	Average	5.02	27.2	37.3	4.1	1.2	4.3	1.5	10.7
2007	Average	5.31	28.5	41.7	3.7	1.0	4.2	1.5	10.1
2007	Jun.	5.00	28.0	41.7	3.9	1.0	4.3	1.4	9.7
	Jul.	5.16	28.8	41.8	3.8	1.1	4.2	1.5	9.7
	Aug.	5.43	27.8	41.9	3.8	0.9	4.4	1.5	9.8
	Sept.	5.63	28.9	42.3	3.7	1.0	4.1	1.4	10.7
	Oct.	5.75	29.0	43.0	3.7	1.0	4.1	1.3	10.8
	Nov.	5.75	29.0	43.7	3.6	0.9	4.1	1.3	10.8
	Dec.	5.89	30.0	43.8	3.7	0.8	4.1	1.2	10.6
2008	Jan.	6.17	32.3	43.5	3.7	0.9	4.1	1.2	11.1
	Feb.	6.25	32.2	43.8	3.6	0.9	3.9	1.2	10.8
	Mar.	6.25	30.2	44.4	3.5	1.2	3.6	1.4	11.2
	Apr.	6.25	30.3		3.4	1.2	3.6	1.4	11.4

(1) Weighted average rate.
(2) Series published by the Superintendency of Banks and Financial Institutions (SBIF), corresponding to peso operations at more of 90 days for an amount equivalent to UF200 or less.
(3) Mortgage rates with indicated issue rate.

Sources: Central Bank of Chile, Santiago Stock Exchange and Superintendency of Banks and Financial Institutions.

Stock market returns have been positive since the last *Report*. The IPSA accumulates increases of around 5% since January. Measured in U.S. dollars, the recovery of the Chilean stock exchange has been greater than for stock indices around the world and smaller than for Latin America. However, compared with its own level before the subprime crisis, stock returns are around 10% below.

Annual growth rates for monetary aggregates have declined, especially for M1, which went from 18.1% in December to 10.1% in April (figure II.9). Its expansion velocity also dropped considerably.

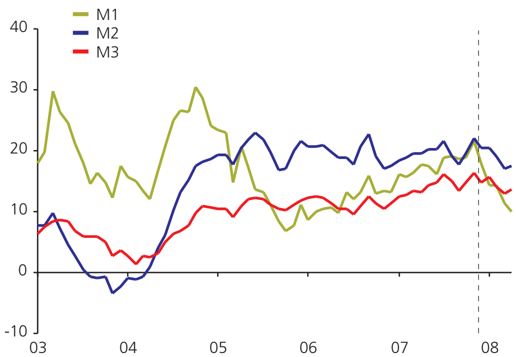
Exchange rate

The peso appreciated nearly 8% in nominal terms since the last *Report*, that is, considering the average of the ten working days prior to that and this *Report*'s statistical closing. The appreciation of the peso is reduced when a wider currency basket is considered. The total multilateral exchange rate (MER) and the one that excludes the U.S. dollar (MER-X) have fallen around 5% and 3%, respectively, since January (table II.2). Taking a longer period, the movements of the peso against the dollar have been in line with most of the world's currencies, as confirmed by the average MER for the last ten working days prior to the closing of this *Report* being 2% lower than in early 2006 and by the MER-X for the same period being virtually flat (figure II.10). The real exchange rate (RER) also fell to slightly above 87 in base 1986=100, considering the average for the same ten days.

Figure II.9

Monetary aggregates (*)

(nominal annual change, percent)

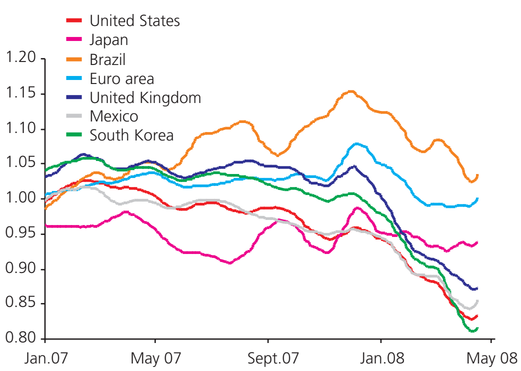


(*) For definitions, see Glossary.
Source: Central Bank of Chile.

Figure II.10

International parities (*)

(pesos/foreign currency, index avg. 2005-April 2008 = 1)



(*) Moving months.

Source: Central Bank of Chile.

The weaker dollar is linked to the subprime mortgage crisis in the U.S. This has widened interest rate differentials between the U.S. and most countries (including Chile), because the Federal Reserve has aggressively lowered its monetary policy rate. The depreciation of the dollar is also related to the huge global imbalances prevailing in the world for several years now. In this context, the dollar value loss is seen as an expected response to the U.S. current account deficit. The appreciation of the peso has also coincided with the high price of copper and significant gains in the terms of trade of the Chilean economy in recent years.

On 10 April, the Board announced a program of international reserve increase of US$8 billion. This accumulation is consistent with the assessment that, at the time of the intervention, the real exchange rate was below the level that would prevail once the global real and financial conditions normalized. The intervention is not intended to set a value or a range for the exchange rate. Still, without this purchase of reserves the peso/dollar parity would surely be more appreciated. For comparison, the nominal exchange rate of the last ten days is nearly 4.5% above the average for the ten days before the intervention.

Table II.2

Observed, multilateral and real exchange rate

(OER: pesos per US dollar, monthly average; MER, MER-5 and MER-X: 02/Jan./1998=100; RER and RER-5: 1986=100) (1)

	OER	MER	MER-5	MER-X	RER	RER-5
Sept. 07	516.91	104.74	132.39	100.66	92.18	80.15
Oct. 07	501.44	103.20	129.72	99.61	91.07	78.62
Nov. 07	506.95	105.68	133.56	102.37	93.62	81.49
Dec. 07	499.28	103.63	130.59	100.26	91.79	79.37
Jan.08	480.90	100.50	126.88	97.35	89.32	77.84
Feb.08	467.22	98.25	123.51	95.34	87.59	75.87
Mar.08	442.94	94.82	120.29	92.47	84.56	73.83
Apr.08	446.43	96.13	121.53	93.91	85.80	74.22
May 08 (2)	464.18	99.58	125.26	97.17		

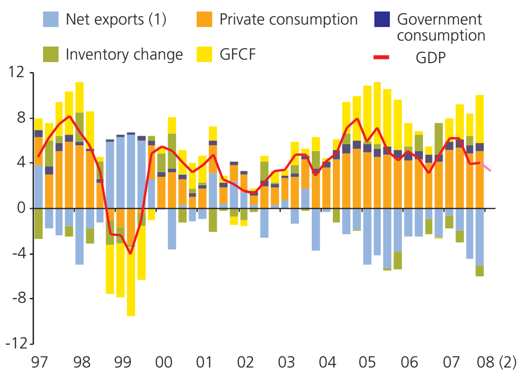
(1) For definitions, see Glossary.
(2) Average at 6 May.

Source: Central Bank of Chile.

III. Aggregate demand

Figure III.1

Contribution to GDP growth
(annual change, percentage points)



(1) Goods and services exports minus goods and services imports.
(2) GDP for the first quarter of 2008 is the average of known Imacecs.

Source: Central Bank of Chile.

Table III.1

Aggregate demand
(weight in GDP, real annual change, percent)

	Weight 2007	2006 Year	2007 I	II	III	IV	Year
Domestic demand	106.3	6.4	6.8	8.0	7.9	8.6	7.8
Final demand							
(minus inventories)	105.6	5.6	8.1	9.1	7.2	9.5	8.5
GFCF	25.8	2.9	9.1	13.2	8.0	16.9	11.9
M&E	12.0	4.0	7.7	18.3	8.8	26.1	15.5
C&O	13.8	2.0	10.3	9.1	7.3	9.2	8.9
Other	80.5	7.5	6.1	6.4	7.9	6.0	6.6
Private consumption	67.6	6.5	8.0	8.3	7.2	7.4	7.7
Durable	8.0	19.8	17.7	17.3	16.1	17.6	17.2
Non durable	29.4	5.7	7.6	6.9	6.3	6.2	6.8
Services	30.1	4.5	6.4	7.4	5.8	6.1	6.4
Government consumption	12.3	5.8	6.5	5.7	5.5	5.8	5.8
CI (%GDP) (*)		1.3	1.0	0.7	0.9	0.7	0.7
Goods and services exports	40.0	5.5	9.1	10.6	4.2	7.3	7.8
Goods and services imports	46.3	10.5	10.6	14.7	13.5	18.0	14.3
GDP	100.0	4.3	6.2	6.2	3.9	4.0	5.1

(*) Change in inventories over GDP accumulated over four quarters.

Source: Central Bank of Chile.

This chapter reviews recent trends in domestic and external demand and its short-term prospects, to explore possible inflationary pressures arising in the markets for goods and services, and the most likely dynamics of economic activity.

Aggregate demand

During the fourth quarter of 2007, output performed similarly to the third, to end the year with a growth rate of 5.1%. In 2008 so far, economic activity weakened further from the second half of 2007, to a significant extent influenced by the reduction in value added by natural-resource related sectors, as well as by the slowdown of sectors most related to consumption. Domestic demand, meanwhile, continued to grow strongly, with annual growth rates of around 9%, outperforming figures for 2006 and the first half of 2007. This trend leaned on gross fixed capital formation which, after a slight slowdown in the third quarter of 2007, resumed double-digit annual growth rates by the turn of the year (above 15%). Private consumption has slowed down since mid-2007, as anticipated in the last *Report*. This has occurred in a scenario where the wage bill[1]/ has been losing strength since mid-2007—although still growing above 5% y-o-y—and lending conditions faced by households have tightened. The change in inventories accumulated 0.7% of GDP in 2007, reflecting a mild decumulation with respect to the moving year ended the previous month. Thus, the final domestic demand (discounting the change in inventories), increased 8.5% in 2007, well above GDP growth. Thus, in the last quarter of 2007 and the first quarter of this year, the difference between GDP and domestic demand continued responding, to a large extent, to dynamic imports and slowing exports (figure III.1 and table III.1).

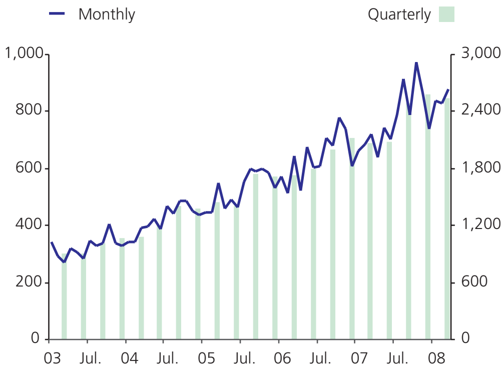
Partial indicators anticipate that his year domestic demand will remain strong, especially its investment component, supported by prospects derived from the investment survey of the capital goods corporation *Corporación de Desarrollo Tecnológico de Bienes de Capital* (CGC) and actual imports of capital goods.

[1]/ Calculated by multiplying the real hourly wage index of salaried workers by salaried employment and hours actually worked.

Figure III.2

Consumer goods imports

(US$ million)



Source: Central Bank of Chile.

Figure III.3

Durable over non-durable consumption (*)

(moving year)

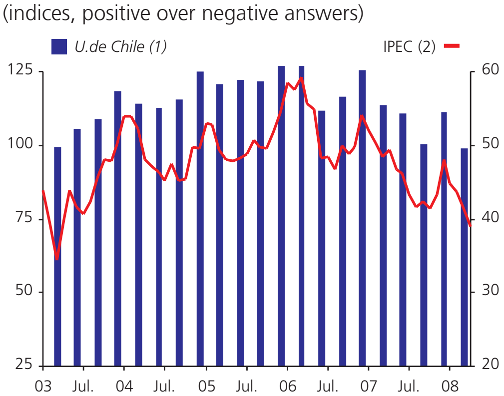
(*) Non-durable consumption includes non-durable consumption and services.

Source: Central Bank of Chile.

Figure III.4

Consumer perception

(indices, positive over negative answers)



(1) Index March 2001=100.
(2) Economic perception index (IPEC) above (below) 50 points indicates optimism (pessimism).

Sources: Adimark and *Universidad de Chile*.

Private consumption and inventories

During the second half of 2007, private consumption remained dynamic, growing at annual rates below those of the first half, but still slightly higher than the average for 2004-2006 and of GDP. Partial indicators for the first quarter of 2008 reveal a slowdown in consumption. This demand component has performed in line with the deceleration of the wage bill by the end of 2007 —although with an annual change of more than 5%— and tighter lending standards, even though imports in this category of goods remain strong (figure III.2).

Among its components, it is worth noting the deeper slowdown of durable consumption's annual growth, although still in high levels. In particular, partial first-quarter indicators show durables growing less than 15% y-o-y in the period, compared with the average of 17.2% for 2007. Non-durable consumption, meanwhile, is estimated to have recorded an annual growth rate in the range of 5% in the first quarter of this year. However, the ratio of durable over non-durable consumption continues on an upward path, reflecting a greater than expected accumulation of durable goods, probably associated with the drop in their relative prices that may have intensified with the appreciation of the local currency (figure III.3).

Consumer expectations, after a slight recovery at the turn of the year, worsened again. Measured through the economic perception index (IPEC), they dropped well passed their neutral value: 38.9 in April. Within this index, it is worth noting that the perception about the country's economic situation for the next five years is in its lowest ever recorded. A similar result is delivered by the index reported by *Universidad de Chile* (figure III.4).

Despite increased risks surrounding the future trend of consumption, information now available suggests that slowdown will continue through 2008, responding to the less favorable external scenario and decelerating disposable income. Projections for this year have total consumption in the range of 5.5% y-o-y.

In 2007, change in inventories totaled 0.7% of GDP in constant prices, posting a similar accumulation to that of 2005. Preliminary data for the first quarter of 2008 permit to foresee an increase in inventory accumulation, mainly because of sustained growth in imports and flatter consumption.

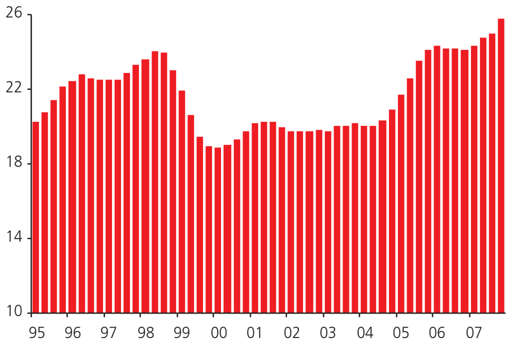
Gross fixed capital formation (GFCF)

Annual investment growth regained strength toward the end of 2007. Gross fixed capital formation thus ended the year with an annual growth of 12%, and a level close to 26% of GDP at constant prices (figure III.5). By sectors, a large fraction of investments went to energy and mining projects, consistently with high, persistent prices observed in these business areas.

GFCF in machinery and equipment's annual variation showed a significant increase by the end of 2007: 26.1% in the fourth quarter, mainly due to imports of capital goods (figure III.6). Also high were investments in construction and engineering works. This trend has been visible in figures of construction inputs, including sales of cement and concrete.

Figure III.5

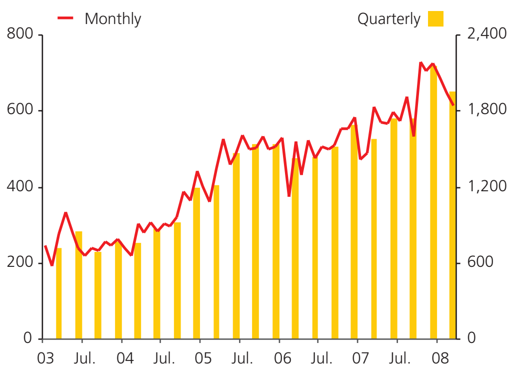
Gross fixed capital formation (GFCF)
(percent of GDP in 2003 pesos, moving year)



Source: Central Bank of Chile.

Figure III.6

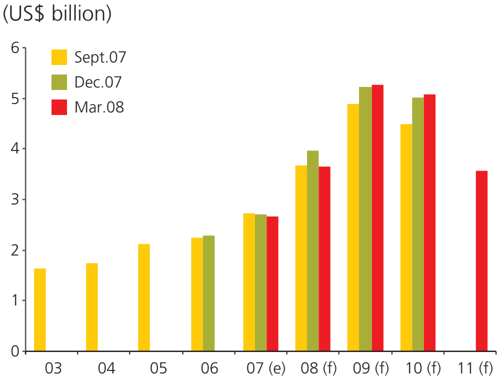
Capital goods imports
(US$ million)



Source: Central Bank of Chile.

Figure III.7

Investment survey for construction and engineering (*)
(US$ billion)



(*) Excludes real-estate, telecommunications and manufacturing sectors.
(e) Estimate.
(f) Projection.

Source: *Corporación de Desarrollo Tecnológico de Bienes de Capital* (CBC).

It is worth noting that during 2007 and 2008 to date enterprises' preferred source of financing has been local banks, whose commercial loans have grown by around 20% y-o-y on average in nominal terms. Unlike previous years, bond financing shows a slowdown since mid-2007, in line with deteriorated external financial markets and increased uncertainty regarding their repercussions. Nontheless, domestic fund flows of enterprises remained high during said period. In particular, profits of listed companies reporting Fecu —measured via profits of the period net of taxes over equity on a moving year— were little above 19% during all of last year, driven by mining corporations. If this sector is excluded, profits drop to around 12%. On the other hand, entrepreneurs' prospects measured by the IMCE, although with swings, remain on the optimistic side.

Data available for the first months of 2008 shows that the good performance of investment continued through the first quarter. Imports of capital goods posted annual variation rates above 27% in current dollars for the second consecutive quarter, sales of new homes have recovered their levels driving down the number of months necessary to absorb the existing stock, and the Central Bank of Chile's survey on investments and engineering works for March continue to show large projects in mining and engineering works for this year and for the two-year period 2009-2010, not contradicting January estimates (figure III.7).

Fiscal policy

At March 2008, executed Central Government budget accumulated a surplus of 9.5% of GDP, which compares with 8.8% for the whole of 2007. To date, expenses do not differ much from its historical average.

The baseline scenario in this *Report* assumes that in 2008 fiscal spending will continue to be governed by the structural surplus rule of 0.5% of GDP. Complying with the budget approved in Congress in September 2007, fiscal expenditure will grow by 8.9% y-o-y in real terms this year, ending with an overall balance of 4.8% of GDP. These figures change when the actual spending of 2007 and new assumptions for the macroeconomic scenario are used.

Exports and imports

To a large extent, the slowdown in 2007 GDP reflected the performance of net external demand. Overall, the trade balance ended the year with a balance of US$23.65 billion, outperforming previous years and responding to the high prices of exported products (table III.2).

Total fob exports amounted to US$67.65 billion in 2007, equivalent to an annual change of almost 16%. Volume exports continued on the rise, reaching an annual growth rate of 7.1% in 2007, that is, more than in 2006. This larger increase in volumes affected all export categories. Non-commodity manufacturing sectors showed a slowdown in volume exports, largely due to reduced methanol shipments.

In the first quarter of this year, annual growth in volume exports was quite slower than in the previous quarter, with virtually zero change in mining

Table III.2

Foreign trade

Exports

	Value US$ million	Total Value	Total Volume	Total Price	Mining Value	Mining Volume	Mining Price	Manufacturing Value	Manufacturing Volume	Manufacturing Price	Agricultural Value	Agricultural Volume	Agricultural Price
2005 Year	41,267	26.9	4.7	21.1	36.7	-0.4	37.3	17.1	10.8	5.7	6.4	5.6	0.7
2006 Year	58,485	41.7	2.4	38.3	59.4	-1.1	61.2	19.5	5.3	13.4	8.5	6.0	2.4
2007 Year	67,644	15.7	7.1	8.0	16.6	7.6	8.4	13.6	5.9	7.3	16.4	5.3	10.5
2007 I	16,619	20.7	6.9	13.0	19.0	4.1	14.3	26.4	12.8	12.1	21.6	12.0	8.6
II	18,293	19.6	12.7	6.1	23.9	17.7	5.3	11.4	4.8	6.3	18.7	6.5	11.5
III	16,272	5.0	0.2	4.8	3.2	-1.9	5.2	5.8	1.6	4.1	30.4	16.7	11.8
IV	16,460	18.2	9.1	8.4	21.7	10.8	9.9	13.3	7.9	5.0	-13.2	-22.2	11.6
2008 I	18,907	13.8			14.7			8.9			11.5		

Imports

	Value US$ million	Total Value	Total Volume	Total Price	Consumption Value	Consumption Volume	Consumption Price	Capital Value	Capital Volume	Capital Price	Intermediate Value	Intermediate Volume	Intermediate Price
2005 Year	32,735	32.1	21.2	9.0	24.9	21.8	2.5	59.3	56.3	1.9	30.2	14.6	13.6
2006 Year	38,405	17.4	11.6	5.3	21.1	19.3	1.5	1.7	0.5	1.2	20.1	11.5	7.8
2007 Year	47,125	22.7	17.5	4.4	20.6	18.1	2.1	17.8	16.7	0.9	25.5	17.8	6.6
2007 I	10,084	11.9	10.2	1.5	19.7	18.5	1.0	7.6	6.9	0.6	9.8	7.7	1.9
II	11,228	19.7	16.7	2.5	16.0	13.4	2.3	19.2	18.3	0.7	22.4	18.3	3.5
III	12,306	23.0	19.1	3.2	25.0	22.8	1.8	12.1	10.8	1.2	26.5	21.0	4.6
IV	13,506	34.9	21.9	10.7	21.3	17.1	3.5	30.6	29.2	1.1	42.9	22.3	16.8
2008 I	13,997	38.8			22.9			27.3			50.8		

Annual change, percent.

Fuente: Banco Central de Chile.

and manufacturing shipments. Agricultural shipments regained strength with respect to the previous quarter, which had posted a drop of more than 20% y-o-y because of frosts.

Cif imports grew 23% in 2007, to little more than US$47.10 billion. Most outstanding was the annual increase in capital goods imports (associated to investments in progress this year in electricity and mining) and consumption. The high growth of intermediate imports (25.5% y-o-y) was largely determined by increased fuel demand in the face of shortages of natural gas and bad hydrological conditions.

Throughout this year, import value has continued to increase to annual growth rates in the range of 40% in the first quarter. Because the conditions that pushed up fuel purchases in 2007 are still in place, this component has continued to play a part, growing nearly 50% y-o-y in current U.S. dollars.

The current account of the balance of payments accumulated a surplus of US$7.20 billion in 2007, equivalent to 4.4% of GDP. For 2008, it is expected to accumulate a deficit of 0.5% of GDP.

IV. Output and the labor market

Table IV.1

Gross Domestic Product

(weight in GDP, real annual growth, percent)

	Weight	2006	2007				
	2007	Year	I	II	III	IV	Year
Agriculture, livestock and forestry	3.8	5.9	4.7	5.8	-2.2	4.4	4.0
Fishing	1.1	-9.7	1.5	5.2	-1.5	-7.1	-0.1
Mining	7.3	0.0	6.2	5.5	4.1	-0.7	3.7
Manufacturing	16.1	3.6	4.4	5.3	0.1	0.4	2.5
Electricity, gas and water (EGW)	2.4	7.7	3.8	-9.5	-20.1	-17.0	-10.7
Construction	7.2	3.8	9.5	8.5	6.8	8.5	8.3
Retail (1)	10.5	6.9	7.9	8.1	4.5	5.4	6.5
Transportation	7.1	6.7	6.5	8.0	5.0	4.0	5.9
Communications	2.6	5.7	11.5	13.2	13.9	14.7	13.4
Other services	36.4	4.4	5.8	5.9	5.0	5.3	5.5
Natural Resources (2)	11.0	0.7	5.0	1.8	-2.5	-5.2	-0.3
Other (2)	83.7	4.8	6.3	6.6	4.2	4.8	5.5
Total GDP (3)	**100.0**	**4.3**	**6.2**	**6.2**	**3.9**	**4.0**	**5.1**

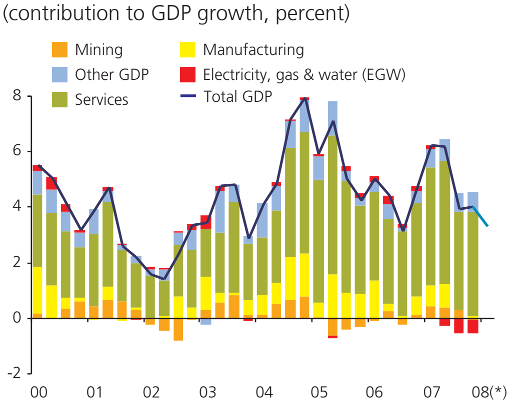
(1) Includes restaurants and hotels.
(2) For definition, see Glossary.
(3) Total GDP is the sum of natural resources GDP, other GDP, net VAT collected, and import duties, minus banking charges.

Source: Central Bank of Chile.

Figure IV.1

Gross domestic product

(contribution to GDP growth, percent)



(*) GDP for the first quarter of 2008 is the average of published Imacecs.

Source: Central Bank of Chile.

This chapter reviews changes in GDP based on sectors of origin and employment trends, with the purpose of evaluating price pressures in markets for goods and factors, along with short-term prospects for output.

Total GDP

In 2007, output increased 5.1% y-o-y, with positive variations in every productive sector except fishing and electricity, gas, and water (EGW), the latter affected by constraints in gas supply from Argentina, unfavorable hydrological conditions, and the high oil price. Thus, the GDP of natural resources dropped 0.3% annually, while other sectors' GDP grew 5.5%. Output's quarterly growth profile for 2007 was similar to that of the previous year, with the first half growing 6.2% y-o-y and a sharp slowdown in the second, which averaged 4% y-o-y, determined by both a significant drop in natural resource GDP and reduced dynamism of other sectors. Weak economic activity in the second half of last year has aggravated this year so far. Behind this trend is the impact of higher energy costs and slowdown of the sectors most associated with consumption. Thus, output growth for the first quarter of this year is estimated to have been less than in the previous one; actually, when considering the average of Imacecs published, first-quarter GDP growth[1]/ becomes 3.3% per annum (figure IV.1 and table IV.1).

GDP growth is forecast between 4.0% and 5.0% in 2008, with a downward biased risk balance. This range is lower than considered earlier in the year and responds to both the deterioration of the world economy and the expected behavior of energy costs and hydrological conditions.

Natural resource GDP

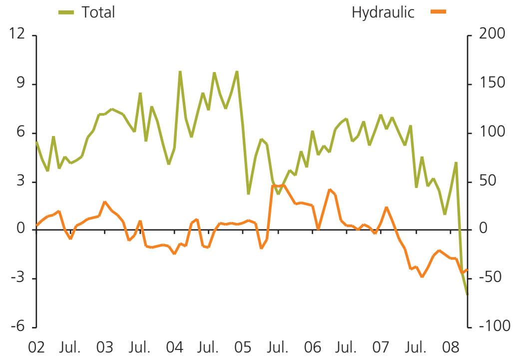
The reduced production of natural-resource-related sectors—mining, EGW and fishing—played a leading role in the economic slowdown of the second half of 2007. This negative contribution to GDP deepened in the last quarter, with an annual drop in GDP of 5.2%, determined by falls in EGW, mining and fishing output (figure IV.2). The mining shortage is due to less mineral content in extracted ores and productive declines due to operational problems in some mines. In fishing, the also negative variation of output

[1]/ Under the normal calendar of quarterly national accounts disclosure, preliminary first-quarter 2008 GDP estimates were published on 23 May.

Figure IV.2

Electric power generation

(annual change, percent)

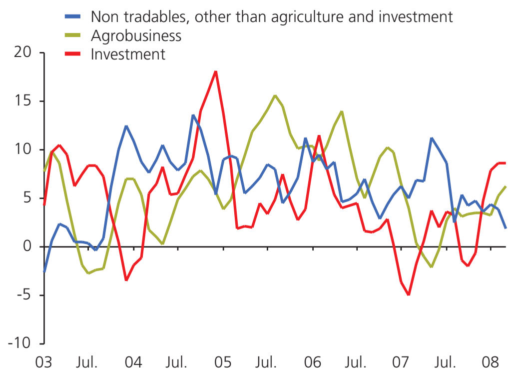


Source: *Centro de Despacho Económico de Carga* (CDEC).

Figure IV.3

Manufacturing output (*)

(index 2003=100, annual change, quarterly moving average of seasonally adjusted series, percent)



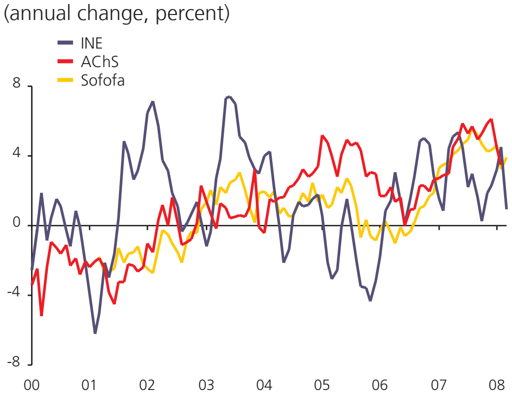
(*) Indicators calculated with INE's disaggregated industrial production, adjusted by weight in national accounts.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure IV.4

Manufacturing employment

(annual change, percent)



Sources: *Asociación Chilena de Seguridad* (AChS), National Statistics Bureau (INE) and Manufacturing Development Association (*Sociedad de Fomento Fabril*, Sofofa).

can be attributed to reduced production in fish farming centers —especially salmons in the second half of the year— and reduced captures in the case of catch fishing. This was partly offset by the strong production of algae.

In the first quarter of this year, information available indicates that mining posted negative annual growth rates for the second consecutive quarter, again due to operating problems in some companies. The negative contribution of this sector to total GDP is expected to continue into the second quarter, this time because of labor conflicts, to recover only toward the second half with the startup of new increased capacity projects. EGW is also expected to continue showing negative annual changes, again explained by the composition of electric production. The baseline scenario assumes that in 2008 hydrological conditions will not differ materially from those of 2007. Thus, the contribution of value added by power generation to GDP will continue to be negative in the remainder of the first half, to then turn positive, in line with the expected growth in energy output.

Other GDP

Weak natural resource sectors combined with deceleration in some of the other sectors of GDP. Thus, the year closed with annual growth in other sectors' GDP of 5.5% (4.8% in the last quarter of 2007).

Manufacturing

In the last quarter of 2007, manufacturing posted slight growth (0.4% y-o-y). The positive incidence came from the production of paper and transportation equipment, almost fully offset by the fall in methanol and fuel output. Overall, the sector grew by 2.5% in 2007, less than the previous year. For the first quarter of this year, information at hand reveals similar growth to the previous quarter's, with persistent negative influence of methanol production but a recovery in fuel production. By category, investment and non-tradables remained high, followed by agrobusiness (figure IV.3).

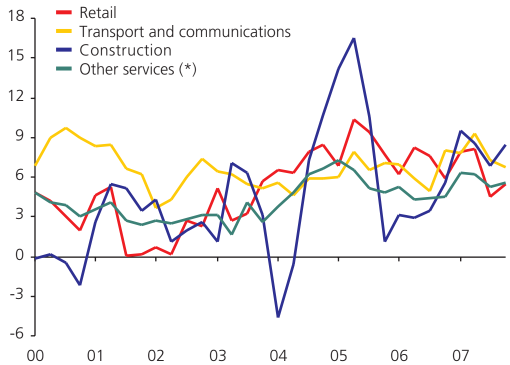
Manufacturing activity has also been hit by energy cost increases. The empirical evidence shows a negative correlation between the price of energy and mean labor productivity at the manufacturing plant level, so it is possible that an increase in the price of energy reduces short- and long-term mean labor productivity (box VI.1). Also, casuistic information taken from companies in the sector also points at some effect on output from higher energy costs and quantitative constraints prevailing since mid-2007. The most likely scenario foresees manufacturing in a moderate growth trend in future quarters, because the factors that negatively affected this sector in 2007 and in the first quarter of 2008 have experienced no favorable changes. This should combine with a decline in domestic demand arising from the consumption slowdown.

As for manufacturing employment, the volatility of INE figures hampers a conclusive evaluation of its trend. However, figures from AChS and Sofofa (that consider only formal employment), show growth rates smaller than the peaks of 2007. In both cases, the annual increase in employment stands between 3% and 4% (figure IV.4).

Figure IV.5

GDP: services sectors

(annual change, percent)



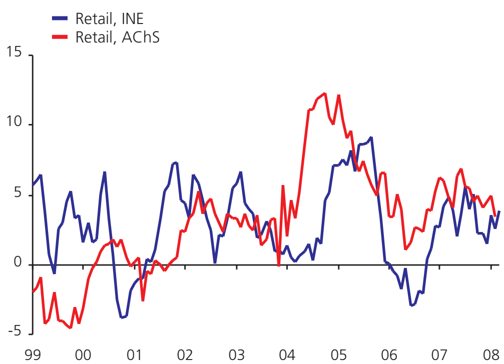
(*) Includes financial and entrepreneurial services, personal services and public administration.

Source: Central Bank of Chile.

Gráfico IV.6

Retail employment

(anual change, percent)

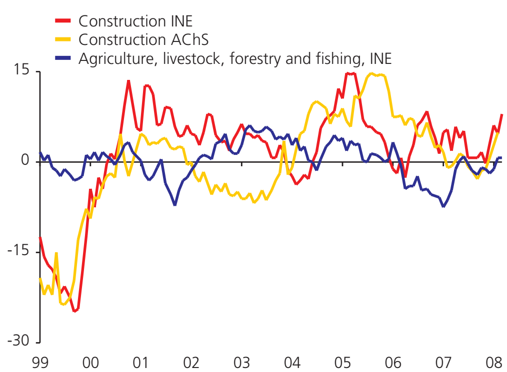


Sources: *Asociación Chilena de Seguridad* (AChS) and National Statistics Bureau (INE).

Figure IV.7

Construction and agricultural employment

(annual change, percent)



Sources: *Asociación Chilena de Seguridad* (AChS) and National Statistics Bureau (INE).

Retail and other services

In the fourth quarter of 2007 retail output grew more than the previous quarter but less than the first half of the year (figure IV.5). By components, car sales stood out, but was offset by slowdown in wholesale activity, where only machinery and equipment sales continued strong (probably associated to the strong recovery of this investment component in the same period). Retail sales —the component most linked to private consumption— while slightly down from earlier quarters, continued to post high growth rates, where worth singling out were department store sales. Retail is estimated to have grown less in the first quarter of 2008 than in the previous quarter, in line with consumption. As for employment in the sector, AChS figures show further attenuation of its annual increase, a trend that started in the beginning of the second half of 2007. Thus, in February employment increased 3.4% y-o-y, compared with an average increase of 5.3% in 2007. In INE figures, the first quarter the sector's employment increased by an annual average of 3.3% y-o-y, picking up from the average of 2% it saw the previous quarter (figure IV.6).

Transportation growth followed a downward trend in 2007, to 4.0% y-o-y in the last quarter. Worth highlighting were subsectors air and maritime transport, with annual growth rates of more than 10%. The communications sector increased nearly 15% in the last quarter of the year, totaling a rise of 14% in the whole year. This is the most dynamic sector in GDP, influenced by strong cellular phone growth and a recovery of fixed landline and long-distance calls.

Construction

In line with January forecasts, construction continued to grow above aggregate GDP throughout 2007, mainly reflecting engineering works supported by strong investment. Building activity saw moderate growth, in line with slowdown in the sale of new homes in the second half of 2007. For the remainder of 2008 the outlook is positive for the sector as a whole, explained by the expected strength of investment —backed by projections in the CGC investment survey— and the recovery observed in new home sales in the first part of this year. Available sources coincide in showing a recovery in construction employment. By AChS figures, employment shifted from negative annual variations for most of the second half of 2007 to growing close to 5% y-o-y in February. INE figures also show an upturn beginning last December, with annual growth rates of 8% in March (figure IV.7).

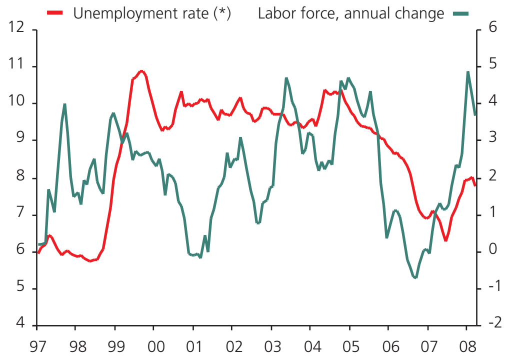
Agriculture livestock and forestry

The agricultural sector saw a drop in value added in the third quarter of last year, partially picking up in the last quarter. In this period the negative incidence of the fruit sector stood out, associated in delayed harvests because of frosts and low temperatures in the spring of 2007. Worth noting was the strong forestry production due to the startup and expansion of some productive plants. Data for the first quarter of this year on adverse climate conditions suggests that this sector slowed down in the period. Agricultural employment remains slow, despite a slight upturn in recent months, with annual variations under 1%.

Figure IV.8

Unemployment rate and labor force

(percent)



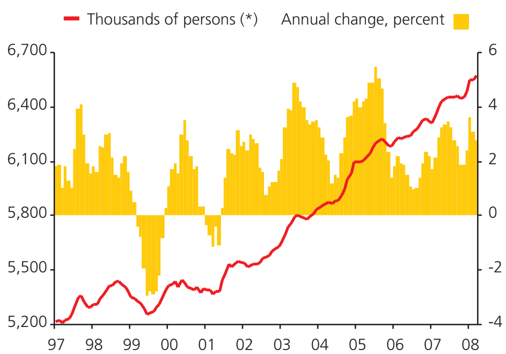
(*) Seasonally adjusted series.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure IV.9

National employment

Thousands of persons (*)



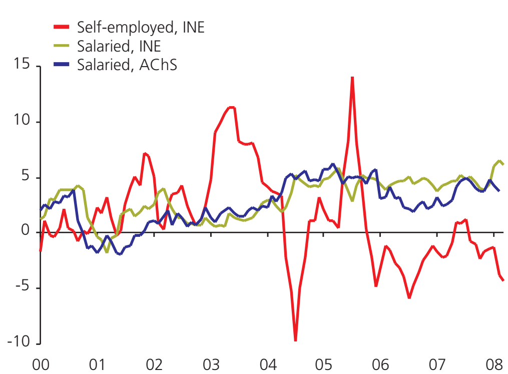
(*) Seasonally adjusted series.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure IV.10

Employment by occupational category

(annual change, percent)



Sources: *Asociación Chilena de Seguridad* (AChS) and National Statistics Bureau (INE).

Employment, participation and unemployment

The labor market loosened somewhat from the end of 2007. Labor force dynamism in the second half extended until January 2008, to then remain fairly stable at high levels (figure IV.8). The participation rate behaved similarly, approaching its 2005 peaks in January, that is, nearly 56% in seasonally adjusted terms and staying there for the two months that followed.

Since December 2007, and more so in the early months of 2008, employment regained strength —posting annual variations in the range of 3% in the first quarter— deepening the change in composition from self-employment to salaried occupation (figure IV.9). Thus, this year to date, INE figures show salaried employment growing at annual rates above 6% (4.7% on average in 2007), while self-employment further dropped to 4.3% y-o-y in March. AChS figures show salaried employment growing between 4% and 5% y-o-y since mid-2007 (figure IV.10).

Therefore, and after increasing throughout the whole second half of 2007, the seasonally adjusted unemployment rate was 8% in December and remained there the two following months and dropped to 7.8% in March. This figure is believed to be inside the range of estimates for the Non-accelerating-Inflation Rate of Unemplyment (Nairu).

Estimates reported by *Universidad de Chile* showed that the seasonally-adjusted unemployment rate for Greater Santiago remained virtually flat in the first quarter of 2008 at 8.7% (8.8% the quarter before). Regarding occupation, the figures show slower annual growth in employment compared with the previous quarter, with salaried employment growing more and self-employment growing less. The results of this survey (i.e. slower growth in employment and in the labor force and a relatively stable unemployment rate) go in the same direction as INE figures for the Santiago Metropolitan Region.

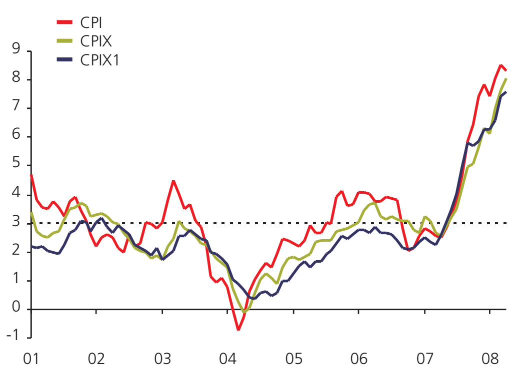
V. Recent inflation and cost trends

This chapter examines recent trends of the main components of inflation and costs, identifying different sources of short-term current inflationary pressures and their probable short-term behavior.

Recent inflation trends

Figure V.1

CPI, CPIX and CPIX1 inflation (*)
(annual change, percent)

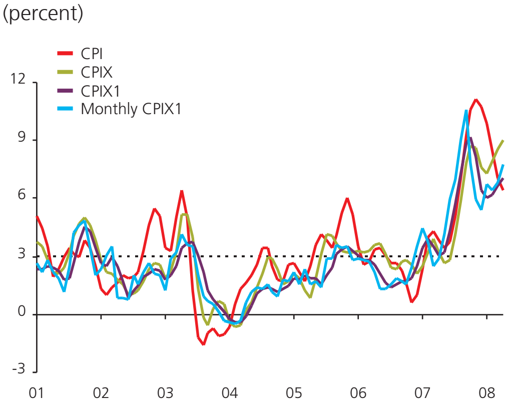


(*) For definition, see Glossary.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure V.2

Expansion velocity of CPI, CPIX and CPIX1 (*)
(percent)



(*) For definition, see Glossary.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

In the first quarter of 2008, annual CPI inflation increased further, but at a slower pace than forecast in January and with monthly figures that did not replicate the unusual increases of the second half of 2007. In April, annual CPI inflation was 8.3%; while down from March, it still is very much above the tolerance range defined for the inflation target (figure V.1).

Core inflation has been higher than headline inflation figures in annual terms, along an upward path through all this year, partly closing the gap between the two by late 2007. Annual CPIX1 inflation went from 6.3% in December to 7.6% in April, while for CPIX it rose from 6.3% to 8.1% in the same period. Headline CPI rose less than core measures because of both actions taken by the government to soften the impact of oil price hikes on domestic fuel prices[1]/ and to the exchange rate appreciation. In line with this scenario, velocities of expansion of CPIX and CPIX1 increased, while that of CPI dropped from around 11% in the last quarter of 2007 to 6.4% in April (figure V.2).

Trend inflation measures have been rising moderately in the past several months, as opposed to trends over most of 2007, when both the trimmed measure by items (MPA) and the TMVC —that excludes the most volatile prices each period— posted significant increases (figure V.3). Inflation measures that exclude some components, which in this conjuncture have recorded substantial increases, also rose somewhat less than in the second half of 2007. Thus, annual CPI inflation minus foods and energy —keeping 68% of the CPI basket— grew from 3% to 3.8% between December and April, while CPIX1 inflation without foods —keeping 52% of the basket— moved from 3.4% to 3.6% in the same period (figure V.4). It should be mentioned that the rise in these measures was expected, given the outlook for inflation.

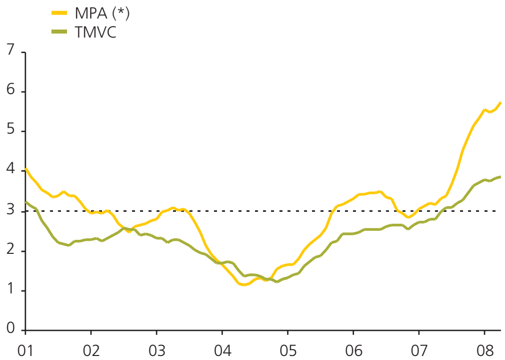
Considering annual CPI inflation, from December to date fuels' contribution decreased significantly, which has been more than offset by the greater

[1]/ The measures were an injection of US$200 million to the Fuel Price Stabilization Fund in late January and a rebate on gasoline taxes from 6 to 4.5 UTMs per cubic meter the last week of March.

Figure V.3

Trend inflation indicators (*)

(annual change, percent)



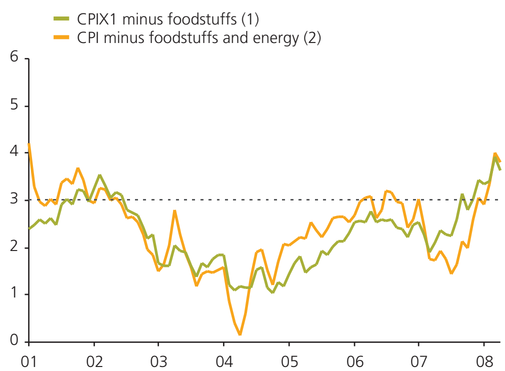
(*) For definition, see Glossary.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure V.4

CPI excluding diverse components

(annual change, percent)



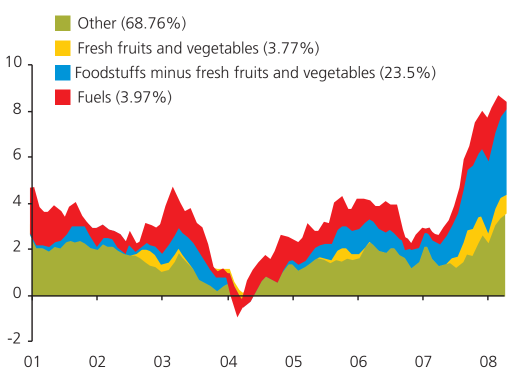
(1) Keeps 52% of the full CPI basket.
(2) Keeps 68% of the full CPI basket.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure V.5

Incidences in annual CPI inflation (*)

(percentage points)



(*) In parentheses, weight in CPI.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

incidence of foods —in particular non perishables— and the other groups (figure V.5). In this latter category, it is worth noting, in decreasing order of incidence, the increase in electric rates and the groups of education and recreation and of housing.

Overall, annual CPI inflation to April was somewhat less than forecast in January, while for CPIX1 it was slightly greater than predicted and with a different composition. To a large extent, low inflation surprises occurring in those months can be linked, on the one hand, to the exchange rate appreciation and, on the other, to a smaller than expected propagation of past inflation —to both prices and wages. In the case of CPIX1, food inflation was surprisingly high —mainly for bread, oil and rice— but this difference was partly offset by surprises in the opposite direction for transport, education & recreation, healthcare and housing. The CPIX combined with the surprise in CPIX1 of a larger increase in utility rates and a smaller increase in indexed prices compared with projections. Finally, in CPI inflation, contrary to expectations, fuel prices fell slightly, a difference that more than offset the upward surprise that occurred in the prices of fresh fruit and vegetables.

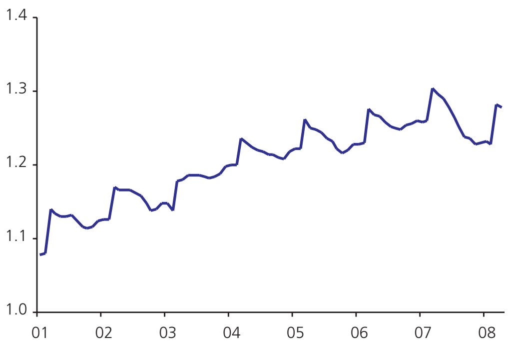
In the first four months of the year, new, unexpected increases of significant magnitude have been recorded for the prices of foodstuffs included in the CPIX1. However, the changes observed have not been generalized nor of the sizes seen in 2007, which can be linked —as aforesaid— to specific products such as bread and rice. Risks exist regarding the path that will be followed by foodstuff prices. On the one hand, in the face of a further weakened global scenario, a large reduction in these prices cannot be ruled out, causing a faster drop in domestic inflation. On the other, it is possible that recent increases in these prices, both internationally and domestically, reflect a new supply shock and end up triggering a rise in inflation of non-perishable foods comparable to that of 2007. In the case of fresh fruit and vegetables, that were also surprisingly high in the past few months, part of the price increase was caused by the drought being endured by most of the country's agricultural areas and, hence, their future behavior will largely depend on the final hydrological conditions affecting them. Thus, and despite important risks, the baseline scenario assumes that, in the short run, the prices of non-perishable foods will no longer show significant increases in the domestic market, a situation that will carry on for the next two years. Furthermore, its level is expected to drop relative to headline inflation.

It is worth noting that in the past few weeks public concern for soaring world food prices has been revived, mainly because the big increases posted by agricultural crops during 2007 were followed by rice. Given the importance of this cereal in some countries' consumer baskets—particularly in Asia—, the situation has stirred international concern both for its direct social implications and for its effects on inflation. In Chile, however, rice and maize have a relatively low weight in the CPI (0.34% for rice, while maize is not considered directly). Other products such as milk and wheat, along with foods that use them as inputs and that rose significantly in 2007, explaining a big fraction of the year's higher inflation, have dropped in recent months and account for a larger share of the CPI basket (2% and 4%, respectively) (figure I.13). This configures a scenario, from the standpoint of the possible effects of these lower prices in the domestic market, more benign for the trajectory of inflation.

Figure V.6

Indexation of educational services

(education CPI over total CPI)

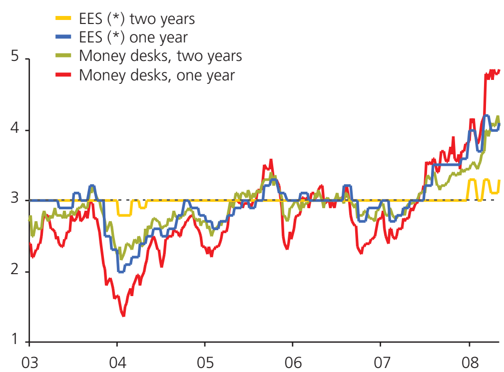


Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure V.7

Inflation expectations

(percent)



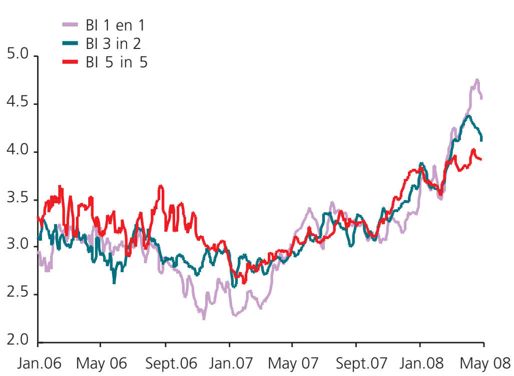
(*) Economic expectations survey.

Source: Central Bank of Chile.

Figure V.8

Average forward breakeven inflation from swap rates

(moving weekly average, percent)



Source: Central Bank of Chile.

The exchange rate appreciation of recent months has helped to smooth the rise in inflation. The lower rate has influenced —together with measures taken by the government— in the decline in fuel prices. Its effect, however, is believed to extend beyond fuels, pushing down import prices like clothing and appliances, among others. In turn, the lower exchange rate contributed to the drop in the node price of energy set in April, which will also lead to some reduction in consumers' electric bill. On the other hand, it is worth mentioning that, because of public transportation fares in Santiago have been frozen, the drop in the exchange rate failed to produce the downward effects that might have occurred if fares had been based in the former polynomial. In the opposite direction, neither have the sharp increases in international fuel prices and others that are used to calculate said fares.

In the most likely scenario, annual CPI inflation is forecast to converge to the target from its current levels. This convergence is grounded in, among other factors, inflation propagation that continues to be in line with usual patterns (figure V.6), in medium- to long-term inflation expectations consistent with the target and in the assumed trajectory of output gaps. Risks persist, mainly surrounding the future path of non-perishable foods and inflation propagation. An additional quota of uncertainty comes from electric rates. In this case, together with normal node price setting, new pressures in the manufacturing sector might arise, associated with increased marginal cost of power generation.

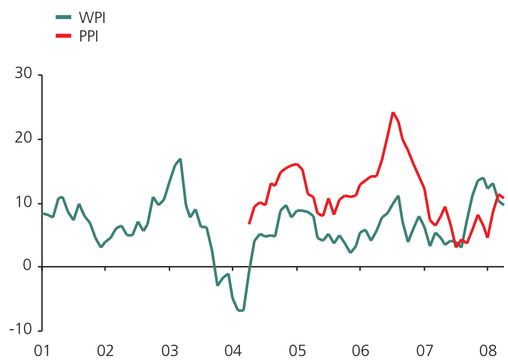
Inflation expectations

Most inflation expectation indicators have risen in recent months —especially for the short run—, although they are thought to still be consistent with an inflation reversal toward the target in the policy horizon. The Central Bank's economic expectations survey (EES), shows annual inflation expected for December this year increased from 4% in January to 4.7% in May and that, for December of 2009, it went from 3.3% to 3.5% in the same period. Inflation expected two years ahead, with swings, stands where it was in January: 3.3%. On the other hand, surveys to money desk operators show higher expectations one and two years ahead: one year ahead, inflation is expected to be at 4.9%, and in two years, at 4.1%. These expectations stood at 4.2% and 3.5%, respectively, at the statistical closing of January's *Report* (figure V.7). As for measures drawn from financial assets, forward breakeven inflation one year in one calculated from Swap rates yields, using moving weekly averages, an inflation of 4.6%, higher than expected in January (3.5%). At longer terms, the increase in breakeven inflation has been smaller. Breakeven 3 in 2 went from 3.7% to 4.1%, and for 5 in 5, with swings, stands at 3.9%, fairly constant from January (3.8%) (figure V.8). Breakeven inflation drawn from Central Bank of Chile assets is similar to their January levels for longer terms (3 in 2 and 5 in 5), while the measure for one year one year ahead, although exceeding those of the last *Report*, in the past few weeks has reversed significantly. Finally, inflation perceived by private non-financial market players has remained high. Adimark's IPEC consumer survey shows an increase in the fraction of respondents who believe inflation will post a high rise in the next twelve months. Also, according to IMCE's survey to entrepreneurs, expected inflation twelve months ahead increased from 5.2% to 5.5% between December and April.

Figure V.9

WPI and PPI (*)

(annual change, percent)



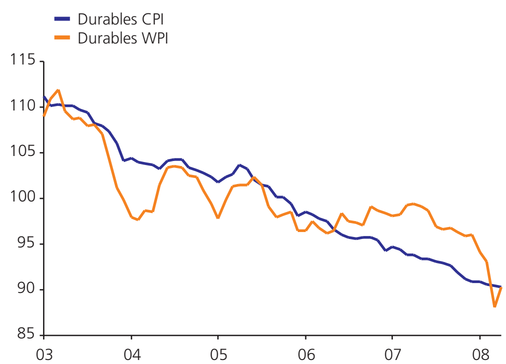
(*) Data for December 2007's WPI is the first with new base year November 2007=100.

Source: National Statistics Bureau (INE).

Figure V.10

Prices of durable goods

(average January 2003-April 2008=100)

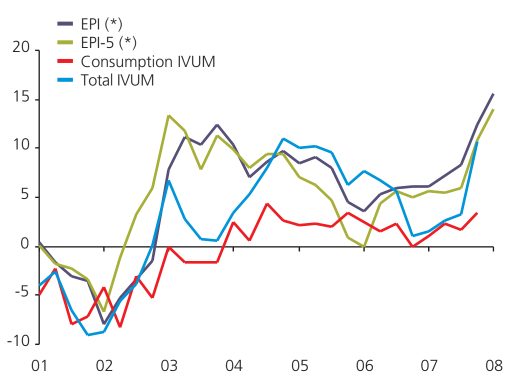


Sources: Central Bank of Chile and National Statistics Bureau (INE).

Figure V.11

External inflation

(annual change, percent)



(*) For definition, see Glossary.

Source: Central Bank of Chile.

As has been said earlier, uncertainty on expected monthly inflation for coming months has affected inflation risk premiums implicit in financial asset valuations. Given the difficulty to isolate them, this makes breakeven inflation more difficult to interpret. This phenomenon is not exclusive of the Chilean economy, as there are cases of more developed and deeper markets than the Chilean one, where breakeven inflation indicators show substantial increases recently (box V.1).

One element backing the hypothesis that expectations continued to be anchored to the target is the increase in inflationary uncertainty, given the market players' prediction error for monthly inflation in recent periods (figure V.15). Still, inflation figures for the first months of this year have not surprised in the way they did during the second half of 2007.

It should be kept in mind that one key element of the inflation targeting scheme is the credibility of the monetary authority's commitment with its target to the public. The Board reaffirms that, should it assess that a genuine increase in inflation expectations has occurred —instead of in risk premiums— it will adopt every decision necessary to restore the target's credibility and thus ensure that inflation will converge to 3% over the policy horizon.

Cost and margin pressures

Wholesale and producer price indices

From December to date, the WPI and the PPI have shown opposite trends. The annual increase of the former fell while the latter's rose, maybe because of the different nature of items considered in each indicator. While the PPI includes the prices of domestic goods and services, the WPI considers only goods, both national and imported. The latter could be particularly affected by the peso appreciation of the past few months, explaining the indicators' recent trends (figure V.9).

Consistently with the behavior of these and consumer price indices, indirect measures for margins have increased in recent months after showing sustained decline during some years. This increase is most notorious for durable goods, where the ratio of CPI over WPI has risen more than 5% since the end of last year, mainly due to a fall in the WPI. Considering a similar episode occurred in 2003 —coinciding also with a sharp exchange rate appreciation— it is not possible to rule out, as then, a faster drop in the durable goods CPI in the coming months (figure V.10). Beyond these indices, company results for the first quarter this year and other margin estimates for the same period show that, while reduced, given the increase in costs faced by firms, these will not be a significant source of inflationary pressures in the next months.

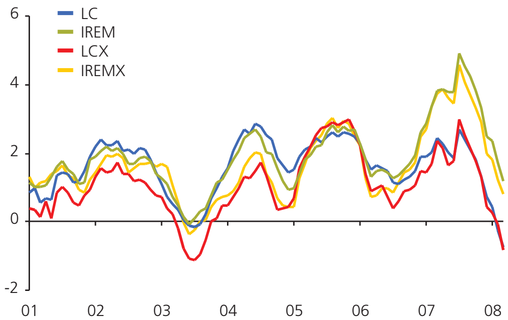
Imported inflation

The behavior of imported inflation in the past few months has been mixed. With the exceptions of the world prices for milk, that has continued to decline, and wheat —which, after increasing early in the year is now below its January levels— the prices of other agricultural commodities have continued on an

Figure V.12

Growth in salaries and inflation indexation (*)

(annual change, percent)



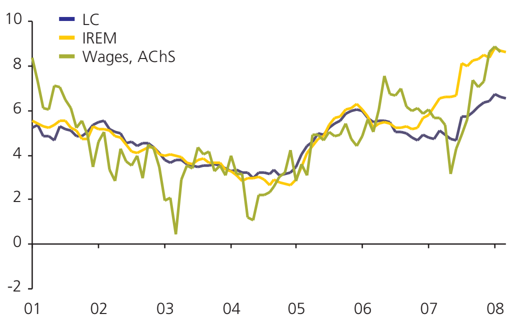
(*) For details on how it was constructed, see box V.1, *Monetary Policy Report* January 2008, page 47.

Source: Central Bank of Chile.

Figure V.13

Nominal wages

(annual change, percent)

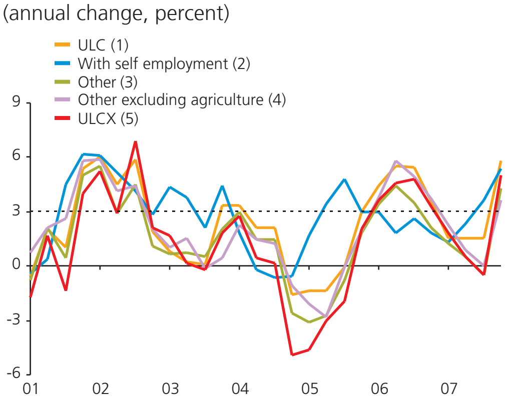


Sources: *Asociación Chilena de Seguridad* (AChS), Central Bank of Chile and National Statistics Bureau (INE).

Figure V.14

Unit labor cost

(annual change, percent)



(1) Considers total nominal LC, actual salaried worked hours, salaried employment and total GDP.
(2) Analogous to total ULC, replacing salaried employment by national employment.
(3) Considers other LC, other salaried employment, other GDP (without EGW, mining and fishing) and actual salaried working hours.
(4) Analogous to Other, excluding the agricultural sector from other salaried employment and in other GDP.
(5) For definition, see Glossary.

Sources: Central Bank of Chile and National Statistics Bureau (INE).

upward trend in the first four months of the year, exacerbating global concern for their inflationary implications. The oil price has hit new record highs and is projected to rise past January projections in the short and medium term. The peso/dollar parity, meanwhile, stands now at levels around 8% below those prevailing at the statistical closing of January's *Report.*

Higher inflation is a worldwide phenomenon. Thus, the increase seen in emerging economies during the second half of 2007 has begun to appear in developed countries. This, along with the persistent depreciation of the U.S. dollar in international markets, has continued to drive up the external inflation relevant to Chile. The annual increase of EPI and EPI-5 rose further during the last quarter of this year, to estimated values of 15.5% and 14%, respectively. Total IVUM, which increase for several quarters at annual rates around 2%, recorded a sharp increase in the first quarter of 2007, to close to 11%. The consumer IVUM posted a much more limited increase, going from an annual variation of 1.8% in the third quarter of 2007 to 3.5% in the fourth (figure V.11).

Unit labor costs and wages

The annual increase in nominal wages has tended to stabilize in recent months, consistently with normal indexation clauses and with the evolution of the labor market in the past few years (figure V.12). The labor cost (LC) rose 6.6% y-o-y in March, after ending 2007 in 6.4%. The wage index (IREM), meanwhile, grew 8.6% y-o-y in the same month, compared with 8.3% in December 2007. AChS figures showed a significant increase in the yearly variation of wages in December of last year, from 7.3% to 8.7%. However, during January and February, these wages continued to post annual growth rates similar to those of the end of 2007 (figure V.13). By sectors, wages are accelerating in construction, manufacturing and services more than the aggregate, constrasting with the slowdown of wages paid in the retail sector.

Unlike nominal wages, unit labor costs (ULC) rose sharply in the last quarter of 2007. This increase is due largely to a fall in mean labor productivity, which is associated in turn to the dynamics of salaried employment and output. Thus, total ULC went from growing less than 2% y-o-y during the second and third quarters last year, to almost 6% in the fourth. Also, with preliminary information, ULCs' annual growth from this year is estimated to be higher than in the preceding quarter. Other measures for unit labor costs showed a similar behavior to that of total ULCs at the close of 2007 and beginning of this year (figure V.14). Overall, although the strong increase of the labor force has tended to loosen the market, productivity flags a sign of alert in the trend shown by ULCs.

Box V.1: **Consistency between expected inflation and the target**

Inflation expectations play an important role in inflation targeting regimes. They permit to assess agents' perception about the Central Bank's commitment with the target, they inform of the way agents evaluate the propagation of specific shocks and show their possible reaction to changes in monetary policy. Despite the importance of this variable in the input used by the Board to make its monetary policy decisions, it has the drawback of not being directly observable, so various proxying mechanisms are used, including breakeven inflation contained in financial prices and surveys to different market players.

Recent months have seen a growing discrepancy between the behavior of different measures for inflation expectations. In particular, breakeven inflation[1]/ has posted increases that, even at longer horizons, place it above 3% y-o-y, while expectations obtained from the Central Bank's Economic Expectations Survey (EES) are very close to the target in a two year horizon (figures V.7 and V.8). The main problem in reading breakeven inflation is that it is impossible to effectively isolate risk premiums implicit in it. More specifically, during episodes like the present one, with big and unexpected acceleration of annual inflation, along with increased uncertainty on month-to-month figures, a change in breakeven inflation could not necessarily be reflecting a change in expected inflation, since an increase could also contain an increase in certain risks.

One way of examining the significance of this latter hypothesis is through statistical decomposition of breakeven inflation, in an attempt to isolate implicit premiums. Following Chumacero and Opazo (2008), breakeven inflation can be written as:

$$\ln(1 + ci_t^j) \simeq E_t[w_{t+j}] + \frac{1}{2} Var_t[w_{t+j}] + o_t \qquad (1)$$

where:

ci_t^j = breakeven inflation j periods ahead in t.

w_{t+j} = increase in the UF between periods $t+j$ and t.

$$o_t = Cov_t(s_{t+j}, w_{t+j}) - Cov_t(\pi_{t+j}, w_{t+j})$$

s_t = natural log of the stochastic discount factor in t.

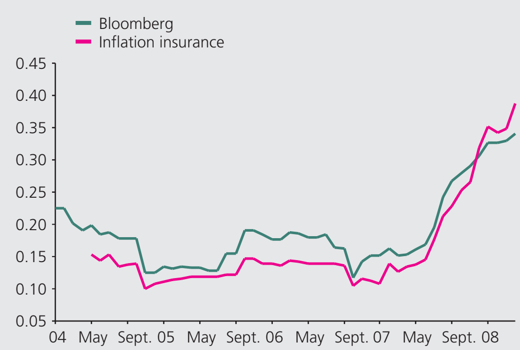
π_{t+j} = price level growth between periods $t+j$ and t.

Var_t and Cov_t are the variance and conditional covariance operators.

Thus, breakeven inflation comprises expected inflation for the asset's duration (first term in equation 1), inflation volatility (second term) and the covariance between the stochastic discount factor and inflation and, additionally, the covariance between the UF variation and the price level[2]/. So the higher expected inflation and/or volatility, the greater breakeven inflation[3]/. Estimates show that breakeven inflation one and two years ahead contains significant risk premiums and that these have increased their share in the past few months. Therefore, the increase in breakeven inflation cannot be construed, per se, as a departure of inflation expectations from the target. Another element backing the hypothesis that expectations continue to be anchored to the target is the increase in inflation uncertainty due to a higher prediction error on the part of market players in recent months (figure V.15).

Figure V.15

Standard deviation of monthly inflation forecast errors
(percent)



Source: Chumacero and Opazo (2008).

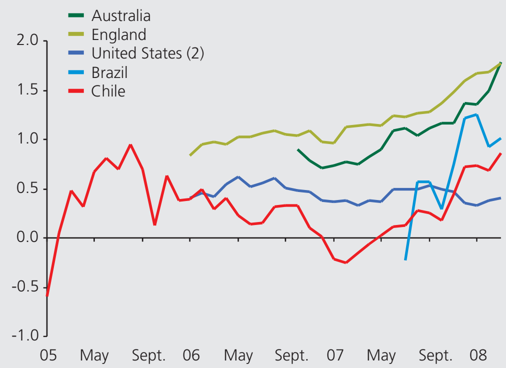
[1]/ Difference between the returns on nominal and indexed assets. See definition in *Monetary Policy Report* January 2006, box VI.1.

[2]/ The stylized model does not include the liquidity premium that could arise from difference in the rlative supply of and/or demand for the securities.

[3]/ For further methodological details of the estimation, see Chumacero and Opazo (2008).

Figure V.16

Breakeven inflation, 5 in 5 (1): deviations from target
(percent)



(1) Average inflation expected from the fifth year for the next five.
(2) Considers an annual inflation target of 2%.

Sources: Central Bank of Chile and Bloomberg.

Furthermore, it must be noted that the breakeven inflation increase is not exclusive to Chile. Other markets have posted big increases in recent months. Internationally, risk premiums in Chile are somewhat greater than those in the U.S., but quite smaller than estimates for Australia, Brazil, and the U.K.[4]/

As for different inflation expectations surveys at hand, these show no material misalignment with inflation forecasts in this *Report*. By May's EES, expected annual inflation at December this year is 4.7%, identical to the one assumed in this *Report*'s most likely scenario. One year ahead—second quarter of 2009—, inflation expectations in the same survey and the one to money desks are 4.1% and 4.9%, respectively, while the baseline scenario foresees that inflation will be within the tolerance range. Two years ahead, the EES and money desk respondents expect 3.3% and 4.1%, respectively, and this *Report* assumes a rate of 3.0%.

In sum, the breakeven inflation increase of recent months cannot be construed, per se, as a mismatch of this measure of expectations with the Central Bank's inflation target. In particular, because evidence suggests that the implicit risk premiums have increased substantially due to greater uncertainty over monthly inflation figures.

[4]/ During this year, the Federal Reserve Bank of Cleveland has adjusted inflation implicit in breakeven inflation ten years ahead in the U.S. by nearly 90 basis points on the grounds of liquidity risk, because financial turmoil may have reduced the liquidity of securities denominated in real terms (TIPS) in favor of nominal securities that are comparatively deeper. In Chile, such an argument would have the opposite effect —expected inflation would be reduced— because the market for indexed securities is deeper than the one for nominal instruments.

It should be noted that the high inflation seen since mid-2007 has led agents to prefer indexed instruments, which creates pressure on the interest rates of these documents and further distorts breakeven inflation.

Other measures of inflation expectations and statistical models show that prospects for inflation one year ahead in the range of 4% are compatible with an inflation of 3% in a two-year horizon and with inflation forecasts in this *Report*. It must also be noted that inflation propagation to other CPI prices has been somewhat less than anticipated in January and that wages are behaving in line with usual indexation clauses.

However, it must be kept in mind that a fundamental element in the inflation targeting scheme is public credibility of the monetary authority's commitment with its objective. The Board reaffirms that, if assessing that there has been a genuine increase in inflation expectations —instead of risk premiums— it will adopt every decision necessary to restore the target's credibility and thus ensure that inflation converges to 3% in the policy horizon.

VI. Inflation scenarios

This chapter presents the Board's assessment on the prospects of the Chilean economy for the next two years, including analysis and decision in the monetary policy meeting of 8 May 2008. It shows projections for the most likely paths for inflation and growth, pointing out the most relevant risks. These projections are prepared using the methodological assumption that, in coming quarters, the monetary policy rate (MPR) will move along a path similar to the one that can be inferred from the different measures of private sector expectations over the two weeks prior to the statistical closing of this *Report*. This is a working assumption that does not imply commitment of future monetary policy, which will be adjusted depending on the evolution of the macroeconomic scenario and inflation projections. Projections are also conditional to a set of events that make up the baseline scenario, so the Board's assessment on the balance of risks for output and inflation is also shown.

External scenario

In the most likely scenario, the world economy will post average annual growth of 3.8% in 2008-2009, a little more than one percentage point less than forecast last January for the same two-year period. Projected world economic slowdown is based on worsened prospects for the US economy and its implications on the rest of the world deriving from the financial crisis. This projection considers that the US economy will show a slow recovery from this deceleration, with growth rates of 0.7% and 0.8% in 2008 and 2009, respectively. Other economies' growth prospects are also hurt, with the euro area and Japan averaging less than 1.5% this and next year, which compares with January's projection of somewhat more than 1.5%. The Chinese economy, meanwhile, will grow at an average expected rate of just under 10% in the period.

Commodity prices rose again in 2008 and, in the most likely scenario, said increase is projected to be fairly persistent. Thus, the copper price is forecast at an average of US$3.5 and 3.0/lb in 2008 and 2009, respectively. The barrel of WTI oil is projected to average US$110 and US$109 in 2008 and 2009, respectively, based on prices for futures, both above January's forecasts. The prices of some foods will post dissimilar movements. Milk will show a decline this year that will be reversed to a small extent in 2009, not returning to 2007 levels. Wheat, meanwhile, will post a reduction in price over the projection horizon, although its annual average for 2008 will be higher than in 2007.

In this scenario, the terms of trade (ToT) will begin normalizing this year, accumulating a fall of around 16% in the period 2008-2009. Imported inflation, partly because of higher prices in dollars and partly because of the depreciation of the U.S. currency, will be higher in 2008 than forecast in January. The external price index in dollars (EPI) will go up 12.5% this year, which compares with January's projection of 7.1%, and 2.2% in 2009, matching January's projection.

Financial conditions relevant to emerging economies have deteriorated further, with sovereign premiums above January figures. In turn, stock markets have posted negative returns, in line with the drop in investment inflows. The baseline scenario considers that these financial conditions will not continue to worsen.

Risks surrounding the international economy have increased significantly, with extreme negative scenarios whose consequences on the Chilean economy can be very detrimental. A deepening of the fragility of the US economy cannot be ruled out, hurting the rest of the economies severely. It is also possible for the financial crisis to hit harder emerging economies if systemically important players suffer serious liquidity or solvency problems affecting their activities in developing economies. The materialization of one of these scenarios may result in substantial deterioration, both of the ToT and of financial conditions relevant to the Chilean economy. Similarly, it is possible that the worst of the liquidity crisis has already occurred, and that the determined action of the US authorities results in a more benign turning point.

Aggregate demand

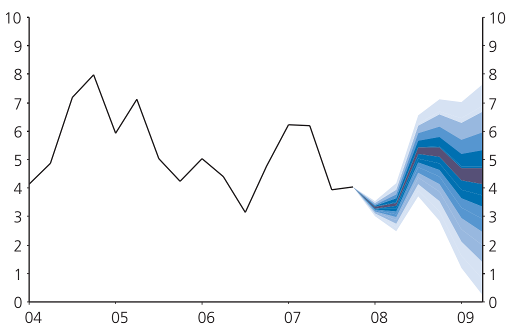
In the first quarter of 2008, domestic demand continued to outpace output, with a strong increase in fixed capital investment and a slowdown of private consumption. The baseline scenario considers that this year domestic demand will grow 7.6% annually, more than foreseen in January and more than expected output growth. This greater increase in expenditure responds largely to the expected strength of gross fixed capital formation which, in the most likely scenario, increases by nearly 13% in 2008. Behind this bigger estimated increase is the rise shown by investment in 2008 to date and good prospects ahead, especially due to the impulse of projects in mining and energy. The other economic sectors, meanwhile, do not show similar strength, which is a risk for investment prospects. With this, in 2008 fixed capital investment will rise to nearly 27.8% of GDP at prices of the base year 2003's purchasing power.

In the first quarter of 2008, in line with projections, consumption was slower than in 2007. For this year it is forecast to increase around 5.5% annually, only slightly less than foreseen in January. The baseline scenario of this *Report* considers, also, that in 2008, fiscal spending will continue to follow the structural surplus rule of 0.5% of GDP.

The baseline scenario of this *Report* estimates that net external demand will again contribute negatively to output growth. Goods exports will increase by somewhat less than 3% annually in 2008, less than forecast in January, partly because of the effects of a deteriorated external scenario on the demand for national goods. By categories, mining, manufacturing and agricultural exports will post annual growth rates in line with the whole. On the other hand, imported goods volume will grow somewhat less than 12% annually during this year, more than was foreseen in early 2008. This projection considers, as it did in January, significant growth in capital goods imports —reflecting the larger increase in investment— and a slowdown of imports of consumer goods. Purchases of fuels from abroad, in line with the energy supply scenario, will increase substantially, although less than in 2007. Considering the above and the foreseen variation of ToT, dollar exports of goods will be above US$75 billion, while purchases will be somewhat more than US$58 billion. This should result in an accumulated deficit of 0.5% of GDP in the current account of the balance of payments. Measured at trend prices, this negative balance in the current account should amount to around 4-4.5% of GDP in 2008[1]/.

Figure VI.1

Quarterly GDP growth scenarios (*)
(annual change, percent)



'(*) The figure shows the confidence interval of the baseline horizon over the respective projection (colored area). Confidence intervals of 10%, 30%, 50%, 70%, and 90% around the baseline scenario are included. These intervals summarize the Board's risk evaluation of GDP growth. The baseline projection scenario uses as a methodological assumption that the monetary policy interest rate will follow in the next few quarters a path similar to the path that can be inferred from the different private sector expectations indicators of the two weeks prior to the statistical closing of this *Report*.

Source: Central Bank of Chile.

Output and gaps

The costs shock that has hit the Chilean economy during the past several years has been more apparent in the reduced value added of the power generation sector, reduced activity in some areas of manufacturing and a rise in energy costs for both households and companies. This has coincided with a moderation of economic growth, but also with slower growth in measured total factor productivity (TFP), which is believed to be related with the relative persistence of the energy cost hikes, both because of the evolution of the oil price and because of the long time it takes to develop new cost-reducing investments in the sector (box VI.1). In any case, higher energy prices, consistently with energy supply conditions, provide the incentives for investments foreseen in the sector, as reflected in data available from the published list of energy projects.

Taking the above into account, the Board estimates that, given the higher energy costs and assumptions regarding its expected performance over the policy horizon, TFP will grow for a while at a slower pace than was previously implicit in the calculation of trend GDP. This triggers a transitory downward correction to trend growth, with estimates for 2008-2009 in the range of 4.5% to 5% annually, which compares with the figure of 5% foreseen in January. As usual, there is the risk that both actual and trend growth, as well as gaps, will not behave as projected.

In the labor market, employment growth resumed strong growth in the first quarter of 2008, while the labor force continued to expand. Unemployment, after seasonal adjustment, showed no significant changes in the first quarter of the year, and is thought to be within the range of estimates for its non-accelerating-inflation rate.

With respect to commodity related sectors, the baseline scenario considers that in 2008 hydrological conditions will vary little from 2007. Therefore, the contribution of power generation to GDP will continue to be a negative value added in the remaining of the first half, to turn positive in line with expected growth in energy output and the low basis for comparison. In turn, the most likely scenario foresees that mining will be moderate throughout the year. In this quarter, activity in this sector will be negatively affected by recent labor conflicts. Toward the second half, growth is expected to resume thanks to startup of new capacity extensions. Thus, the value added of natural resource related sectors will grow very near zero in 2008.

[1]/ This calculation considers a long-term price of US$1.60/lb for copper and of US$75/barrel for oil.

The rest of the sectors, where output is more related with the evolution of output gaps relevant for inflation, lost strength in the first quarter of 2008, in line with private consumption. The baseline scenario contemplates that these sectors will grow in 2008 less than in 2007. Thus, the most likely scenario projects that this year annual GDP growth will be in the 4.0% to 5.0% and, considering alternative events, the balance of risks is estimated to be downward biased (figure VI.1). Thus, in the most likely scenario the economy will grow less than in 2007 and less than foreseen in January, blowing some inflationary pressure off the output gap. In 2009, considering the effects of the worsened external scenario relevant to the Chilean economy, the baseline scenario assumes that output will move along an upward trend during the year, partly based on recovered production of commodity-related sectors, partly because of the completion of current investment projects.

Cost pressures

The baseline scenario assumes that the imported inflation in pesos will have a negative incidence in inflation during 2008. In this result, the peso's nominal appreciation will be key, more than offsetting the increase in foreign inflation in dollars. The risks surrounding the persistence of this imported disinflation in pesos depend critically of how the international economy unfolds. On one hand, if world inflation accelerates and the U.S. cycle of growth and interest rates normalize rapidly, this disinflationary effect could be mild or even revert. The opposite can happen if the global situation of weakness deepens and inflationary pressures diminish. Still, the present level of the real exchange rate (RER) is estimated to be somewhat below the range considered consistent with its long-term fundamentals, so the baseline scenario uses, as a working assumption, a slight depreciation of the peso in real terms over the relevant projection horizon.

Still with imported inflationary pressures, it is worth highlighting the new increase in the foreign prices of some foods, particularly cereals, increasing exposure to the consequences of higher inflation. The baseline scenario assumes that these prices will show no further rises in the domestic market in the short term or in the next two years. However, there are several associated risks. On one hand, the weakened global scenario might reduce food prices significantly, triggering a faster decline in domestic inflation. On the other hand, it is possible that recent price hikes domestically and internationally are reflecting a new supply shock and will end up driving up the inflation of non-perishable foodstuff in a way comparable to 2007. This combines with the risks surrounding the soaring prices of oil in recent weeks. In this sense, similarly to foods, the persistence of these high levels is partly subject to the global activity scenario that will finally prevail. For the same reason, different scenarios for the oil price in either direction cannot be disregarded.

The first quarter of 2008 saw an unexpected increase in the prices of perishable foods, presumably associated to the effects of the drought on some crops. The baseline scenario assumes that said prices will remain high in coming months, considering the risks posed by drought on these prices and the increase already occurred in the first quarter. Nonetheless, it is possible for this scenario to change to one where prices show a fast reversal.

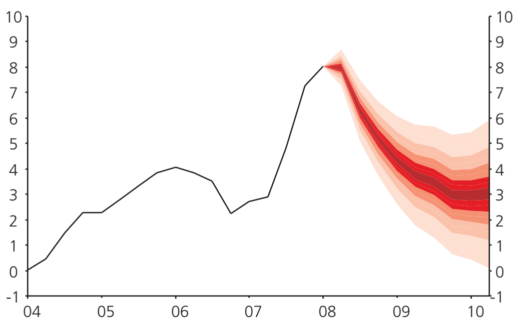
Information now available suggests that the propagation of the recent high inflation rates to the other prices in the economy has been less than forecast in January. The baseline scenario assumes that in future it will be in line with its usual patterns. Related risks, however, are still very high, and different scenarios in one direction or the other should not be disregarded. For now, nominal wages, consistently with the lag of indexation clauses in place, may increase again their annual variation rate over the next few months; however, it will decrease in following quarters if annual inflation declines. Unit labor costs, after an increase in their growth rates due to both higher wages and reduced measured productivity, will resume growing at rates consistent with the inflation target during 2009.

Inflation scenario

Figure VI.2

CPI inflation projection (*)

(annual change, percent)



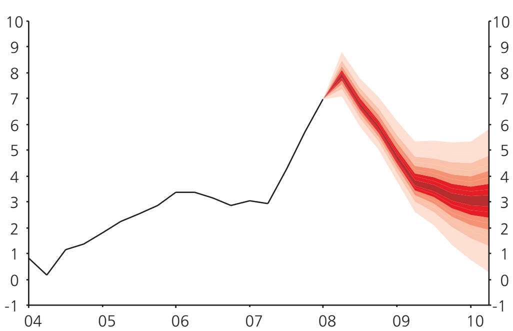
'(*) The figure shows the confidence interval of the baseline horizon over the respective projection (colored area). Confidence intervals of 10%, 30%, 50%, 70%, and 90% around the baseline scenario are included. These intervals summarize the Board's risk evaluation of future inflation. The baseline projection scenario uses as a methodological assumption that the monetary policy interest rate will follow in the next few quarters a path similar to the path that can be inferred from the different private sector expectations indicators of the two weeks prior to the statistical closing of this *Report*.

Source: Central Bank of Chile.

Figure VI.3

CPIX inflation projection (*)

(annual change, percent)



'(*) The figure shows the confidence interval of the baseline horizon over the respective projection (colored area). Confidence intervals of 10%, 30%, 50%, 70%, and 90% around the baseline scenario are included. These intervals summarize the Board's risk evaluation of future inflation. The baseline projection scenario uses as a methodological assumption that the monetary policy interest rate will follow in the next few quarters a path similar to the path that can be inferred from the different private sector expectations indicators of the two weeks prior to the statistical closing of this *Report*.

Source: Central Bank of Chile.

Annual CPI inflation began descending in April, a process that in the baseline scenario will continue for some quarters. Despite increases in the prices of oil and some foods in foreign markets, this will be facilitated by the appreciation that the peso has been showing since January and by the high basis of comparison due to large monthly CPI variations between June and December 2007, where accumulated inflation was 5.8%. Thus, in the most likely scenario, annual CPI inflation will stand at 4.7% in December this year, returning to the tolerance rage for the inflation target during the second quarter of 2009, to then converge to 3% in the second half of 2009 and fluctuate around said figure until the end of the projection horizon, this time the second quarter of 2010.

Annual CPIX inflation will also begin declining this quarter, although it will be slower than the CPI to converge to the target. Thus, although in the baseline scenario it will also enter the tolerance range in the second quarter of 2009, convergence to 3% will be delayed until early 2010. This, because the inflationary inertia is greater among prices that are included in the CPIX1 basket than in those that are not.

Projections for the future evolution of inflation draw from medium- and long-term inflation expectations that are in line with the target, output gaps gradually closing over the next two years, labor costs increasing in line with target inflation and a real exchange rate slightly depreciating in the relevant projection horizon. Whether this scenario will become a reality is, as usual, subject to developments occurring in coming months. As aforesaid, this time the main risks are related with inflation propagation and food prices differing from projections, so scenarios drifting in either direction cannot be ruled out. Considering possible alternative events, the Board believes that the balance of risks for inflation is unbiased (figures VI.2 and VI.3). Despite this, the high inflation level in place makes it necessary to review very carefully the potential implications of new surprises that may drive inflation even further up and their propagation over the policy horizon.

These projections use as a methodological assumption that, in the next few quarters, the MPR will continue along a path similar to the one inferred from the different measures of private sector expectations in place in the two weeks prior to the statistical closure of this *Report*. The Board reaffirms its commitment of conducting monetary policy so that projected inflation stands at 3% over the policy horizon. Future changes in the MPR will depend on incoming information. Particularly important for this will be the inflationary implications of the evolution of the complex international scenario, the degree of propagation of inflationary shocks of recent months to other prices, and the emergence of new inflationary pressures.

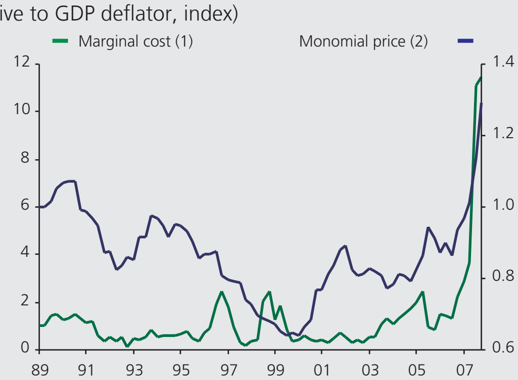
Box VI.1: **Trend GDP and energy cost increase**

In recent years, the Chilean economy has been hit by a series of negative shocks affecting both the cost and the provision of energy sources. On one hand, the price of WTI oil went from a nominal level of US$10 per barrel in 1999 to more than US$120 today. On the other hand, after the big investment in gas conveying pipes in the 1990s to bring natural gas from Argentina, from 2004 there have been repeated cuts, which in 2007 were virtually total. The situation was aggravated by bad hydrological conditions that drained the water reservoirs. The effects in the national economy have been most visible in the smaller value added from power generation and less production in some manufacturing areas. From the prices standpoint, these events have reflected in more expensive energy for both households and companies, with an upward trend since 1999 and a sharp increase in the past few quarters (figure VI.4).

Figure VI.4

Energy costs

(Relative to GDP deflator, index)



(1) Unregulated price charged by energy generators and distributors.

(2) Weighted average price of energy´s node price and power node price regulated by the interconected central grid (SIC).

Source: Banco Central de Chile.

The more expensive energy has coincided with a milder expansion of the economy, but also with a slowdown of the measured total factor productivity (TFP). TFP, a non-observable variable by nature, is proxied by the residual of a production function that includes capital and labor as productive factors. This residue should capture the behavior of labor productivity, the changes in the intensity of capital use (even if adjusted for this), measurement errors and changes in other factors not considered in the production function, such as energy. The latter, given the relative persistence of the increase in the energy cost, may drive down the observed TFP level without the economy actually being less efficient.

Echavarría, Jervis and Soto (2008) show that, using a Cobb-Douglas production function with capital and labor as productive factors, there is a negative, statistically significant correlation between the measured TFP and the cost of energy, measured either by the marginal cost[1]/ or by the monomial price[2,3]/. They find that a 416% increase in the real cost of energy (equivalent to the annual increase in the marginal cost occurred in the last quarter of 2007) reduces the measured TFP by around 0.7%.

Álvarez, A. García and P. García (2008) show that, in the period 1992-2005, a negative correlation exists between energy prices and mean labor productivity (value added per worker) at manufacturing plants. Although the results are not always statistically significant, some of the specifications yield that a 36% increase in the real price of energy[4]/ (equivalent to the actual monomial price increase occurred in the fourth quarter of 2007) would reduce the short-term mean labor productivity by 0.4% to 0.8%, and the effect would reach from 3% to 6% in the long run. If the 10% of most consuming plants are considered as a proportion of their total costs, the effect becomes greater: a contemporaneous fall of 0.8% to 1.1%, and between 5% and 8% in the long run.

Because of the foregoing, the Board estimates that, given the higher costs of energy and assumptions on their evolution in the policy horizon, measured TFP will grow for a while at a slower pace than was previously implicit in the calculation of trend GDP. This leads to temporarily revise the growth trend downward, assuming that it now stands within a range of 4.5% to 5% y-o-y. In this scenario, the implications on inflation and output of further increases in energy costs must be analyzed thoroughly. It is possible that such a scenario results in both actual and trend growth falling short of earlier estimates, without necessarily implying a change in the output gap, but definitely affecting company costs substantially.

The results suggest that the slowdown in measured TFP during the 2000s responds greatly to the impact of rising energy costs. In the long term, this will indicate that further TFP growth will depend on, among other elements, a lower energy cost and increased generating capacity. In the meantime, the higher prices have supported more investments in the sector, as shown by data from the survey on investment in engineering works.

---

[1]/ Unregulated price charged by energy generators and distributors.

[2]/ Weighted average of energy's node price and power node price regulated by the interconnected central grid *Sistema Interconectado Central* (SIC).

[3]/ When energy is considered as an input in the production function, the measured TFP (the Solow residual) obtained is not statistically correlated with the cost of energy and grows at higher rates than does the TFP measured by the traditional method.

[4]/ CPI deflated.

Tables and figures index

Tables

Figures

Glossary

Commodity exporting economies: Australia, Canada and New Zealand.

CPIGX: Goods price index, minus fuel and fresh fruit and vegetables, leaving 51.2% of the total goods basket.

CPISX: Service price index excluding utilities and subway and bus fares, leaving 35.5% of the total service basket.

CPIX: Core consumer price index. CPI excluding prices for fuel and fresh fruit and vegetables, leaving 92% of the total basket.

CPIX1: CPIX minus fresh fish and meat, regulated utility rates, indexed prices and financial services, leaving 70% of the total basket.

Emerging Asia: China, South Korea, Philippines, Hong Kong, India, Indonesia, Malaysia, Singapore, Thailand and Taiwan.

EPI: External Price Index, external prices relevant to Chile, calculated using information from Bloomberg, Consensus Forecast and the International Monetary Fund. External inflation is calculated using wholesale price indices (WPI) expressed in U.S. dollars (or the CPI, where the WPI is not available), for countries included in the multilateral exchange rate (MER) index. Both the WPI and exchange rates are included in the form of monthly changes, weighted according to their share of trade with Chile, minus oil and copper.

EPI-5: EPI using prices from: Canada, the U.S., Japan, the United Kingdom and the euro area.

Expansion velocity: for monthly data, the annualized monthly change in the moving quarterly average, of any seasonally adjusted series. For quarterly data, it is the annualized change in the seasonally adjusted series.

Flight to quality: flight of investors perceiving an increase in risks to safer instruments, such as government bonds of developed economies.

GDP, NR: Gross Domestic Product, natural resources (EGW, mining and fishing).

GDP, other: Includes the following sectors: agriculture, livestock, and forestry, manufacturing, construction, trade, transportation and communications, financial and business services, home ownership, personal services and public administration.

GDP, services: Includes the following sectors: construction, wholesale and retail trade, transportation and communications, financial and business services, home ownership, personal services, and public administration services.

Latin America: Argentina, Bolivia, Brazil, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.

LC: Labor cost.

LCX: LC minus community, social and personal services, EGW and mining.

M1: Currency plus non-financial private sector checking accounts net of float and demand deposits other than checking accounts and demand savings deposits.

M2: M1 plus time deposits, time savings deposits, mutual funds with investment in debt instruments lasting up to one year and deposits in savings and credit cooperatives, minus time deposits belonging to these mutual funds and savings and credit cooperatives.

M3: M2 plus deposits in foreign currency, Central Bank of Chile documents, General Treasury bonds, mortgage bills, bills of trade, company bonds, shares of other mutual funds and AFPs (voluntary saving), minus those where mutual funds and AFPs have invested their M3 assets.

MER: Multilateral Exchange Rate. This represents a measure for the nominal value of the peso against a broad basket of currencies with the same weightings as the RER. For 2008, ordered by their weight: Germany, Argentina, Brazil, Canada, China, Colombia, South Korea, Spain, United States, Finland, France, the Netherlands, Italy, Japan, Mexico, Peru, United Kingdom, Sweden, and Venezuela.

MER-5: The multilateral exchange rate for: Canada, the U.S., Japan, the U.K. and the euro area.

MER-X: MER minus the U.S. dollar.

MPA: Pruned average CPI, excluding items posting the largest and smallest monthly changes.

MPG: Pruned average CPI, excluding subgroups posting the largest and smallest monthly changes.

Oceania: Australia and New Zealand.

Oil exporting economies: Saudi Arabia, United Arab Emirates, Kuwait, Norway, Russia and Venezuela.

Parity gasoline price: Reference price for importing gasoline, calculated using quotations of similar quality to those in effect in Chile, in relevant markets (America, Europe and Asia). Also includes, maritime shipping, insurance rate, duties and other.

RER: Real exchange rate. This represents a measure for the real value of the peso against a basket of currencies. It is constructed using MER countries.

RER-5: RER, using the MER-5 currency basket.

Rest of Asia: South Korea, Philippines, Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Taiwan.

Sectors, investment: Includes manufacturing sectors producing goods linked to gross fixed capital formation.

Sectors, non-tradables: Includes manufacturing sectors involved in production or consumption not linked to foreign trade.

Sectors, supply: Includes manufacturing sectors producing wood pulp and fish meal.

Sectors, tradables: Includes manufacturing sectors producing goods traded internationally.

Swap rate: The fixed interest rate exchanged for the average observed interbank interest rate, on an amount of capital for a specific period in the future.

TMVC: Trim of Most Volatile Components: trimmed average CPI, minus the most volatile components.

Trading partners' growth: Growth of Chile's main trading partners, weighted according to their share of total exports. The countries included receive 94% of total exports.

ULCX: ULC using only formal sector employment, wages and output, minus natural resource sectors.

World growth at market exchange rate: Growth measured using the market exchange rate. Each country is weighted according to its dollar denominated GDP, published in the IMF's World Economic Outlook.

World growth: Regional growth weighted by share of world GDP at PPP, published by the IMF in World Economic Outlook (WEO, April 2008).

Projections of world growth for 2007-2009 were calculated using a sample of countries representing around 86% of world GDP. This assumes 5.7% growth for the remaining 14%.

Abbreviations

BCP: Central Bank bonds in pesos
BCU: Central Bank bonds in UFs
BCX: Central Bank bonds in U.S. dollars
BTP: Treasury bonds in pesos
CC.NN.: National Accounts
MPR: Monetary Policy Rate

References

Álvarez R., A. García and P. García. 2008. "Shocks de energía y productividad en la industria manufacturera chilena." Preliminary document. Central Bank of Chile, May.

Barclays Capital. 2008. *The Commodity Investor*. May.

Central Bank of Chile. *Monetary Policy Report*. Several issues.

Central Bank of Chile. 2007. *Central Bank of Chile: Monetary Policy in an Inflation Targeting Framework.* January.

Chumacero, R. and L. Opazo. 2008. "Compensación inflacionaria en Chile." *Working paper* N°468. Central Bank of Chile. May.

Consensus Forecast. 2008. *A Digest of International Forecast*. Several issues.

CRU International Ltd. 2008. *Copper Quarterly Industry and Market Outlook.* Several issues.

Deutsche Bank. 2008a. *Global Economic Perspectives*. May.

Deutsche Bank. 2008b. *Focus Europe*. May.

Deutsche Bank. 2008c. *Emerging Markets Monthly.* April.

Deutsche Bank. 2008d. *Dollar Bloc Weekly.* May.

Deutsche Bank. 2008e. *Asia Economics Monthly.* April.

Deutsche Bank. 2007f. *Commodities Weekly*. May.

Echavarría, G., P. Jervis, and C. Soto. 2008. "Impacto del costo de la energía en la medición del PIB potencial en el escenario central de proyecciones." Preliminary document. Central Bank of Chile. May.

International Monetary Fund. 2008a. *World Economic Outlook Update*. January.

International Monetary Fund. 2008b. *World Economic Outlook.* April.

Jaramillo, P. y J. Selaive. 2006. "Actividad Especulativa y Precio del Cobre." *Working paper* N°384. Central Bank of Chile. December.

JP Morgan Chase. 2008a. *Global Data Watch*. May.

JP Morgan Chase. 2008b. *Global Metals & Mining*. May.

Lehman Brothers. 2008. *Global Weekly Economic Monitor.* May.

Scotiabank. 2008. *Global Economic Research*. Weekly Trends. May.

Southwood. 2008. "CRU's New Process for Managing Copper Price Risk." Presentation at "CRU 7th World Copper Conference Santiago." April.

Juan Esteban Laval Z.
Legal representative

CENTRAL BANK OF CHILE
Institutional Affairs Management
Publications Department
MAY 2008

ISSN: 0716-2219
Santiago, Chile
Agustinas 1180, Santiago, Chile
P.O. Box 967, Santiago, Chile
Tel.: 56-2-670 2000
Fax: 56-2-670 2231
www.bcentral.cl
centralbank@bcentral.cl
