MONETARY POLICY REPORT

June 2018

MONETARY POLICY REPORT*/ JUNE 2018

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

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*/ The statistical cutoff date of the *Monetary Policy Report* was 08 June 2018. The *Report* also includes the publication of the June Economic Expectations Survey and the monetary policy meeting held on 13 June.

PREFACE

The main objective 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 inflation at around 3% most of the time, within a range of plus or minus one percentage point. To meet this target, the Bank focuses its monetary policy on keeping projected inflation at 3% annually over a policy horizon of around two years. Controlling inflation is the means through which monetary policy contributes to the population's welfare. Low, stable inflation promotes economic activity and growth while preventing the erosion of personal income. Moreover, focusing monetary policy on achieving the inflation target helps to moderate fluctuations in national employment and output.

The *Monetary Policy Report* serves three central objectives: (i) to inform and explain to the Senate, the Government, and the general public the Central Bank Board's views on recent and expected inflation trends and their consequences for the conduct of monetary policy; (ii) to publicize the Board's medium-term analytical framework used to formulate monetary policy; and (iii) to provide information that can help shape market participants' expectations on future inflation and output trends. In accordance with Section 80 of the Bank's Basic Constitutional Act, the Board is required to submit this report to the Senate and the Minister of Finance.

The *Monetary Policy Report* is published four times a year, in March, June, September and December. It analyzes the main factors influencing inflation, which include the international environment, financial conditions, aggregate demand and output, and recent price and cost developments. The last chapter summarizes the results of this analysis in terms of the outlook and risks for inflation and economic growth over the next eight quarters. Some boxes are included to provide more detail on issues that are relevant for evaluating inflation and monetary policy.

This *Report* was approved at the Board's session on 13 June 2018 for presentation to the Senate on 14 June 2018.

The Board

SUMMARY

The evolution of the macroeconomic scenario has reduced the risks for inflation's convergence to 3% within the policy horizon. The economy's recovery has consolidated, inflation expectations two years ahead remain at 3% while the short-term inflation forecast was revised upwards due to the direct impact of the oil price hike on the more volatile elements of the basket. In the baseline scenario, the trajectory of core inflation has not changed much and will reach 3% at the end of 2019. However, headline inflation will be back at 3% sooner than expected. In this context, during the first quarter of the year, activity was a little above expectations due to surprises, probably transitory, in supply sectors and stronger dynamism in lines associated with investment and durable consumption. However, even though output gaps were reduced somewhat, there are still gaps, as suggested by the evolution of the labor market, core inflation and used capacity indicators. In the baseline scenario, the closure of these gaps will consolidate at a pace not very different from that expected in March. This also considers that the impulse that the Chilean economy will receive from abroad will fall short of estimates in the last *Monetary Policy Report*, due to less favorable financial conditions and somewhat lower terms of trade because of the higher oil price. In this context, the Board has kept the MPR at 2.5%, and reaffirms that the monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%.

Data from the first four months of this year shows activity outperforming projections. This owes partly to sector-specific factors where the numbers are highly volatile and not very relevant in the evaluation of capacity gaps, such as fishery, and electricity, gas and water. Another part of the surprise came from investment in machinery and equipment, services related to investment, wholesale trade and some items of durable consumption. The baseline scenario foresees that the pace of final domestic demand expansion will moderate in what remains of 2018. On the consumption side, this evaluation assumes that the lower expansion of the wage mass—given the behavior of employment and wages—limits growth in household spending. On the investment side, no major investment projects are expected, in line with the Capital Goods Corporation (CBC)'s survey and the *Business Perceptions Report.*

ECONOMIC GROWTH AND CURRENT ACCOUNT

	2017	2018 (f)	2019 (f)	2020 (f)
	(annual change. percent)			
GDP	1.5	3.25-4.0	3.25-4.25	3.0-4.0
National income	2.8	3.5	3.6	3.6
Domestic demand	3.1	4.1	3.9	3.5
Domestic demand (w/o inventory change)	1.9	3.7	3.6	3.6
Gross fixed capital formation	-1.1	4.5	4.5	3.9
Total consumption	2.7	3.6	3.4	3.5
Goods and services exports	-0.9	5.2	3.4	2.5
Goods and services imports	4.7	6.7	3.8	2.6
Current account (% of GDP)	-1.5	-2.1	-2.5	-2.6
Gross national saving (% of GDP)	20.6	20.3	20.6	20.7
Gross national investment (% of GDP)	22.1	22.5	23.1	23.3
GFCF (% of nominal GDP)	21.6	21.6	21.9	22.2
GFCF (% of real GDP)	21.6	21.7	21.9	22.0
	(US$ million)			
Current account	-4.146	-6.500	-7.900	-8.300
Trade balance	7.922	8.500	5.800	4.300
Exports	69.230	78.700	80.200	81.400
Imports	-61.308	-70.200	-74.400	-77.100
Services	-3.059	-3.800	-4.000	-3.800
Rent	-10.802	-13.400	-11.600	-10.800
Current transfers	1.793	2.200	1.900	2.000

(f) Forecast.

Source: Central Bank of Chile.

For this year, the Board estimates that GDP growth will be in the 3.25% to 4% range—3% to 4% in March—, mainly after examining actual data known at this moment[1]/. This supposes that the rate of annual change of the second half will be lower than those of the first, reflecting a higher basis of comparison than that of the first half of 2017, the higher dynamism in some lines linked to investment and the already noted moderation in the pace of growth of final domestic demand.

The vision on the evolution of growth in the 2018-2020 period and the evaluation of capacity gaps in the economy has not changed substantially. For 2019 and 2020, the estimated projection ranges are unchanged and next year the economy will grow between 3.25 and 4.25% and between 3% and 4% in 2019. The Board continues to estimate that the economic recovery relies on a favorable external scenario, a clearly expansionary monetary policy, the end of the mining and housing investment adjustment, and the absence of important macroeconomic imbalances. A working assumption is that in 2018 the economy will receive a fiscal impulse consistent with the current budget, including the adjustments announced by the Government. From then onwards, it is assumed that expenditure will follow the path of gradual fiscal consolidation defined in the decree just issued by the authority.

Considering these numbers, on average the economy will grow above its potential in the 2018-2020 period, closing the activity gap within the policy horizon, similar as foreseen in the March *Report*. The Board continues to estimate the economy's growth potential between 2.5% and 3%, and that it will approach trend growth—between 3% and 3.5%—in as much as investment recuperates, short-term constraints fade out and resources are reallocated to more productive activities.

The projected evolution of activity considers an external impulse slightly lower than was thought in March. This, because of not-so-favorable financial conditions and lower terms of trade because of the higher oil price. The activity and inflation data of the last several months has consolidated the differences between the cyclical positions of the United States and the rest of the developed world. Thus, while in the former there seems to be no leeway and the most recent data on prices and salaries shows more evident inflationary pressures, in the latter the gap is not yet closed and inflation seems bounded. This has widened the differences over the expected evolution of monetary policy in the different economic blocs, causing movements in interest rates and appreciating the dollar around the world. Lower-than-expected short-term data in Europe and political tensions in some major European economies have increased market volatility. In this context, the financial conditions for the emerging world have worsened somewhat. As a result, currencies have depreciated against the dollar and capital flows have declined, to which idiosyncratic factors have been added in some emerging economies having apparently weak macro fundamentals, exposing them market pressures.

[1]/ In this *Report* the growth projection range for the current year is adjusted from one percentage point to 0.75 percentage points. See box V.1, *Monetary Policy Report*, March 2016.

Regarding commodities, the increase in the price of the oil barrel stands out—the Brent rose to US$80 at some points in the second quarter—affected by geopolitical factors and changes in supply and inventory levels. The baseline scenario, in line with the market futures in the ten days prior to the statistical closing, estimates that its price will gradually decline from its current levels. Thus, the Brent and the WTI should average US$70 in 2018, US$68 in 2019 and US$64 in 2020. This contrasts with the prices of US$63, US$59 and US$56 that were considered in March for the same years. About copper, at the statistical closing its price showed a significant rise, which is estimated to respond to transitory factors. For this reason, the projected average prices for 2018, 2019 and 2020 are virtually unchanged: US$3.10; US$2.95 and US$2.85 per pound, respectively. This combination of the oil and copper prices, coupled with other prices of Chilean exports, depicts a terms of trade trajectory that is less favorable in the policy horizon; that is, between 2018 and 2020, the terms of trade will accumulate a reduction of around 3% (-2% in March).

As for global activity, the growth projections for 2018-2020 continue to indicate that, on average, world economic growth will outperform the last three years. Also, comparing the baseline scenarios of this and the previous *Report*, shows no big changes in the expected growth for most of the regions. Although the short-term data has worsened somewhat in Europe and Japan, the medium-term vision has not been materially modified. The opposite is true of Latin America, where activity forecasts have again been revised downward, particularly in Argentina and Brazil.

On the inflation side, the annual variation of the CPI and the CPIEFE remains near or slightly below 2%, showing no great differences with the March estimates. As has been the trend in recent quarters, the evolution of core inflation has been dominated by the appreciation of the peso over the last two and a half years, an economy that still has capacity gaps and a process of indexation to lower inflation rates. In the baseline scenario, it is still expected that core inflation will have a slow convergence to 3%—not very different from what was expected in March—while headline inflation will reach that number sooner than projected then. For the former, this is consistent with an economy that, beyond recent data, will close its capacity gaps over the next two years and with a real exchange rate that over the course of the policy horizon will return to values around its fifteen- to twenty-year averages. For headline inflation, its faster arrival to 3% is explained by the higher oil prices as measured in Chilean pesos. Anyway, considering the evolution of the macroeconomic scenario, the evaluation of medium-term inflation's convergence, reflected especially in the CPIEFE trajectory, has remained fairly stable since March.

Regarding monetary policy, the Board estimates that the monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

INTERNATIONAL BASELINE SCENARIO ASSUMPTIONS

	Avg. 00-07	Avg. 10-16	2017	2018 (f)	2019 (f)	2020 (f)
	(annual change,. percent)					
Terms of trade	8.2	1.1	9.0	0.4	-2.5	-1.0
Trading partners GDP (*)	3.7	4.0	3.7	3.8	3.6	3.4
World GDP at PPP (*)	4.5	3.8	3.8	3.9	3.8	3.6
World GDP at market exchange rate (*)	3.3	3.1	3.2	3.3	3.1	2.9
Developed economies' GDP at PPP (*)	2.4	1.7	2.2	2.3	2.0	1.7
Emerging economies' GDP at PPP (*)	6.5	5.2	5.1	5.2	5.0	4.8
External prices (in US$)	4.6	0.4	3.6	4.8	1.4	1.6
	(levels)					
LME copper price (US¢/lb)	154	316	280	310	295	285
WTI oil price (US$/barrel)	44	79	51	66	63	60
Brent oil price (US$/barrel)	42	87	54	73	73	69
Gasoline parity price (US$/m^3) (*)	366	657	466	573	570	545
Libor US$ (nominal, 90 days)	3.6	0.4	1.3	2.3	3.4	3.9

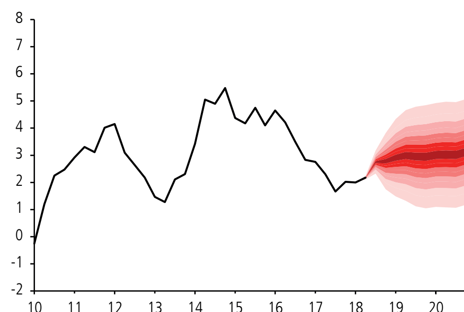
(*) For definitions, see glossary,
(f) Forecast.
Source: Central Bank of Chile.

INFLATION

	2017	2018 (f)	2019 (f)	2020 (f)
	(annual change, percent)			
Average CPI inflation	2.2	2.4	3.0	3.0
December CPI inflation	2.3	2.8	3.0	3.0
CPI inflation in around 2 years (*)				3.0
Average CPIEFE inflation	2.0	1.8	2.8	3.0
December CPIEFE inflation	1.9	2.3	3.0	3.0
CPIEFE inflation in around 2 years (*)				3.0

(f) Forecast.
(*) Corresponds to inflation forecast for the second quarter of 2020.
Source: Central Bank of Chile.

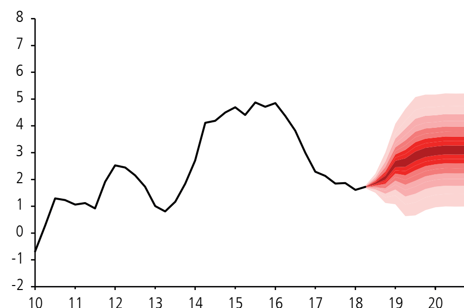
CPI INFLATION FORECAST (*)
(annual change, percent)



(*) The figure shows the confidence interval of the baseline projection over the respective horizon (colored area). Confidence intervals of 10%, 30%, 50%, 70% and 90% around the baseline scenario are included. These intervals are calculated using the RMSE of the MAS-MEP models for the 2009-2017 average and summarize the risks on future inflation as assessed by the Board. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

Source: Central Bank of Chile.

CPIEFE INFLATION FORECAST (*)
(annual change, percent)



(*) The figure shows the confidence interval of the baseline projection over the respective horizon (colored area). Confidence intervals of 10%, 30%, 50%, 70% and 90% around the baseline scenario are included. These intervals are calculated using the RMSE of the MAS-MEP models for the 2009-2017 average and summarize the risks on future inflation as assessed by the Board. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

Source: Central Bank of Chile

As usual, there are internal and external elements that could modify these projections. Just as in March, from the standpoint of its impact on local activity, the balance of risks in the external scenario is downwards biased. The main risk on this front continues to be the possible abrupt deterioration of external financial conditions, especially in a context in which markets seem to be more responsive to negative news. Whatever happens with the U.S. economy is relevant in this area, particularly because a sharper increase in inflationary pressures could require an abrupt increase in the federal funds rate. Nor can it be ruled out that in an environment of lower appetite for risk, news of different signs could trigger an increase in volatility. Risks coming from the trade policy measures adopted in the U.S. also persist, considering the renewed tensions with its main trading partners. Likewise, China continues to be a source of risk, as it has yet to solve imbalances in several of its markets. And there is also the evolution of the oil price. If it rises or stays constant for longer than expected, it could have higher effects on global growth and inflation.

The bias and probabilities of external risk scenarios underscore the need to maintain strong macroeconomic fundamentals, especially in a small, open economy like Chile. Actually, recent events have had a greater impact in those countries with larger debt, and fiscal and/or current account deficits.

About the domestic economy, the Board estimates that the risks on activity are upwards biased. The data of the last few months has exceeded expectations and a scenario where this greater dynamism persists cannot be ruled out, in particular if investment shows better figures than projected. Part of this risk is mitigated by the possibility that the labor market, and in particular private salaried employment, could take longer than expected to respond to the higher growth.

Regarding inflation, the Board estimates that the risks are unbiased. The downside risks to its 3% convergence have moderated. However, it is projected that core inflation will remain below 2% for a while longer, consistent with determinants of the convergence of inflation to 3% in the medium term being similar to those outlined in March. In this context, the Board considers that monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%. Accordingly, it reaffirms its commitment to conduct monetary policy with flexibility, so that projected inflation stands at 3% over the two-year horizon.

MONETARY POLICY DECISIONS IN THE LAST THREE MONTHS

MARCH MEETING

In March, output growth had increased, in particular in the nonmining sectors. The review of the national accounts data showed that nonmining growth was more dynamic than in the second half of 2017, after a slow start to the year. This meant that while 2017 growth was in line with the forecast on average, the sectoral composition put the economy in a better starting point for 2018, which affected the forecast for the year underway. Thus, the GDP growth forecast for 2018 was revised up to 3.0–4.0%, from 2.5–3.5% in December. In the first half of the year, there would be a significant effect from the low basis for comparison—due to the strike at the *Escondida* mine in 2017 and the shorter number of business days—which would diminish over the course of the year. Going forward, GDP was projected to grow in a range of 3.25–4.50% in 2019 and 3.0–4.0% in 2020. The forecast of a gradual recovery of GDP growth rates was founded on a favorable external scenario, a clearly expansionary monetary policy, the end of the adjustment in mining and residential investment, and the absence of significant macroeconomic imbalances.

The external boost to the Chilean economy had consolidated around more dynamic levels than previously forecast, with favorable financial conditions, higher world growth than in recent years, and commodity prices that had remained above the levels of a year ago. There was a period of heightened volatility in early February, with declining risky asset prices and greater global uncertainty. This period was short-lived, however, and the effects had not been very persistent.

Domestically, inflation was in line with the forecast, holding at around 2%. Nevertheless, in the new baseline scenario, inflation was expected to converge to 3% more slowly than projected in December, due to the additional appreciation of the peso in the past few months. Inflation would pick up in 2019 and 2020, largely because the economy would steadily close the output gap while growing above potential, on average, in the 2018–2020 period.

With regard to monetary policy, the Board had held the monetary policy rate (MPR) at 2.5% over the past several months. In the baseline scenario, the monetary stimulus was expected to stay around its current levels until macroeconomic conditions began consolidating the convergence of inflation to 3%.

At the March meeting, all the Board Members agreed that given the economic conditions outlined in the baseline scenario of the *Monetary Policy Report,* the convergence of inflation to 3% within the usual horizon was consistent with maintaining an expansionary monetary policy, in line with expectations captured in the different surveys—that is, holding the MPR around its current level throughout this year and then gradually normalizing the rate to its neutral level going forward. Some Board Members felt that reducing the MPR was still a valid option, because while the risk for inflation convergence had clearly diminished, it was still present. Inflation was expected to stay below the target for some time, and the output gap would remain in negative territory.

Specifically, all the Board Members agreed that the option of holding the MPR at 2.5% was consistent with the monetary policy strategy outlined in the March *Report* and was also in line with market expectations for the macroeconomic context over the coming months. This option thus ensured credibility and effectiveness, while also providing room for a timely reaction in the event that some of the more probable risk scenarios materialized.

With regard to the option of reducing the MPR by 25 basis points (bp), to 2.25%, some Board Members argued that it could be justified from a risk-management perspective, especially while core inflation remained below the target range and the forecast was low for some time. However, taking this option would be very difficult to explain given the Bank's previous decisions and the latest news on the macroeconomic scenario. In particular, the absence of additional downside shocks to inflation and the consolidation of the growth scenario clearly pointed to a reduction in the risks for convergence to the target within the policy horizon. Moreover, given the evolution of the macroeconomic scenario, it was very probable the decision to lower the rate would have to be reversed in the short term, which would undermine the effectiveness of the action and make it more confusing and difficult to justify. Thus, the Board voted unanimously to hold the MPR at 2.5%.

MAY MEETING

For the May meeting, the economy had developed in line with the baseline scenario in the March *Monetary Policy Report,* both domestically and internationally. However, the risks were still present and had even changed on some fronts.

Internationally, the world growth outlook had stabilized at a higher level than a year ago. Global financial conditions remained favorable from a historical perspective for most economies, despite some episodes of volatility. The oil price had risen, although oil futures suggested that this would be temporary. With regard to risks, there was some debate on the inflation outlook in the United States and how an upswing could lead to a faster increase in U.S. interest rates, with an impact on global financial conditions. Given that the Bank had long considered that the risk of interest rate hikes in the developed economies had disruptive effects on financial conditions for emerging economies, the current trends were not unusual. It was therefore important to focus not on the possible emergence of disruptions in the financial markets, but rather on analyzing how it could affect financial conditions in Chile. In fact, the strengthening of the dollar had had a stronger effect on the currency in emerging economies with some specific vulnerabilities. The discussion also addressed the appearance of new risks that were more difficult to assess or anticipate, including trade issues and some geopolitical risks that could put upward pressure on the oil price. Finally, the European economy had been somewhat more dynamic than expected, but the latest data had weakened, with a decline in optimism.

Domestically, output and inflation data were not far off from the forecast. Thus, the data continued to point to a scenario in which the economic recovery would be more visible in the second half of this year, fostering a gradual closing of the output gap and bringing inflation back into the target range within the policy horizon. With regard to the labor market, the discussion focused on the origin of the lower wage growth and its consequences for output and inflation. It was necessary to determine how much of the lower growth of nominal wages was due to supply versus demand factors. Supply-side factors included the higher participation of women and increased immigration. On the demand side, technological changes and increases in productivity in recent years could have an impact on hiring once the economy had more clearly recovered to growth rates near potential.

Thus, all the Board Members considered that the two monetary policy options analyzed at the last meeting were still on the table: (i) hold the MPR at 2.5%, while signaling that there were still concerns regarding the potential impact of low inflation on convergence; or (ii) reduce the MPR by 25 bp, to 2.25%, with a possible downward bias.

With regard to the former, all the Board Members agreed that, to the extent that the baseline scenario of the March *Monetary Policy Report* was materializing, holding the MPR would provide an adequate monetary stimulus to ensure the convergence of inflation to the target within the policy horizon. Additionally, some Board Members pointed out that, if anything, the news suggested that the MPR would probably remain around its current level for longer than previously forecast. There was general agreement that, given market expectations and the Bank's recent actions, this option did not carry any communication risks, which would strengthen the predictability of monetary policy and thus support the efficacy and efficiency of monetary policy decisions.

The Board Members were all in agreement that the second option limited the risks to inflation convergence described in the March *Report*, which were still fully present. In particular, inflation was low—and would be for some time—while the output gap would remain negative. It was thus necessary to analyze preventive actions to mitigate the ongoing risk to inflation convergence. According to one Board Member, this was now a stronger option with a more solid justification, because the news of lower short-term inflation came despite the higher economic growth of the past few quarters. Some Board Members added that the doubts regarding the evolution of wages provided further justification for this option. All the Board Members agreed that the main argument against this option was the difficulty of communicating it, since it implied a change in criteria relative to the Board's recent decisions under similar circumstances, when it had decided that it was not necessary to take preventive actions to mitigate the risks to inflation convergence and had signaled that monetary policy was adequately expansionary. As a result, almost no one in the market expected a rate cut. One Board Member further noted that the combined evolution of the various factors did not significantly change the March baseline scenario, such that the medium-term forecasts continued to point to convergence of inflation to the target within the policy horizon. While some factors put downward pressure on inflation (namely, the wage slowdown), others could push it up (such as a faster closing of the output gap, more dynamic investment, and the recent increase in the exchange rate). Thus, the Board voted unanimously to hold the MPR at 2.5%.

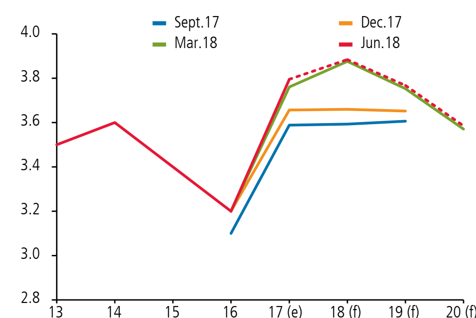
I. INTERNATIONAL SCENARIO

This chapter analyzes the recent evolution of the world economy and the outlook for the next two years. It also describes the most probable scenario and the main risks.

The external boost to the Chilean economy over the next two years is expected to be slightly lower than projected in the March *Report*. This assessment is based on a faster adjustment in financial conditions (due to a steeper increase in the U.S. federal funds rate and a lower appetite for risk) and less favorable terms of trade (due to the higher oil price). The world growth forecast and the growth of trading partners are in line with earlier projections, at above the average of the last three years. The external balance of risks, from the perspective of its effects on domestic output, remains skewed to the downside. The main risk is still a sharp deterioration in financial conditions, in a context of lower risk appetite and greater concern for the evolution of monetary policy in the developed world. Finally, in addition to the risks identified for the external scenario in recent months, there is the possibility of that the oil price will not decrease as projected, which would have an impact on world inflation and growth.

The world growth forecast for the 2018–2020 period has not changed substantially since March, with growth rates above the average of the last three years. Thus, world growth is expected to average 3.7% between 2018 and 2020 (figure and table I.1). Among the developed countries, the United States has recorded relatively stronger growth. The forecast for this year is 2.7%, considerably above potential, in a context in which the output gap has already closed, the most recent data are solid, and the fiscal stimulus package will put pressure on the economy. The economic recovery has been slower in the Eurozone and Japan, which still register significant gaps (figure I.2). The Eurozone is projected to grow 2.2% this year, which is similar to last year and in line with the March forecast. Although the growth rates of the different economies in the region are fairly synchronized, there are still important differences in terms of the size of the output gap. Short-term data have been below market expectations, which has generated greater uncertainty on the region's performance, while political events in some countries have triggered episodes of volatility in the financial markets. For Japan, the growth forecast is 1.0% for this year (versus 1.3% in March). This change reflects both a

FIGURE I.1
Evolution of world growth forecasts in the *Monetary Policy Reports*
(annual change, percent)



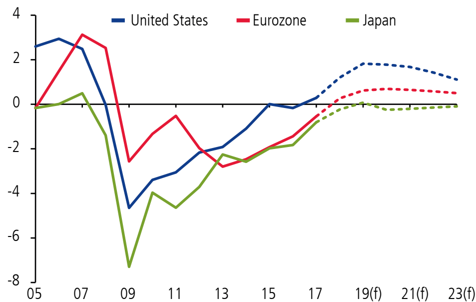
(e) Estimate.
(f) Forecast.
Source: Central Bank of Chile.

TABLE I.1
World growth (*)
(annual change, percent)

	Ave. 00-07	Ave. 10-16	2017 (e)	2018 (f)	2019 (f)	2020 (f)
World at PPP	4.5	3.8	3.8	3.9	3.8	3.6
World at market FX	3.3	3.1	3.2	3.3	3.1	2.9
Trading partners	3.7	4.0	3.7	3.8	3.6	3.4
United States	2.7	2.1	2.3	2.7	2.3	1.9
Eurozone	2.2	1.1	2.4	2.2	1.9	1.7
Japan	1.5	1.5	1.7	1.0	0.8	0.5
China	10.5	8.1	6.9	6.6	6.3	6.2
India	7.1	7.3	6.7	7.3	7.6	7.6
Rest of Asia	5.2	4.6	4.4	4.3	4.3	4.2
Latin America (excl. Chile)	3.6	2.2	1.1	2.1	2.5	2.6
Commodity exporters	3.1	2.4	2.7	2.3	2.2	2.2

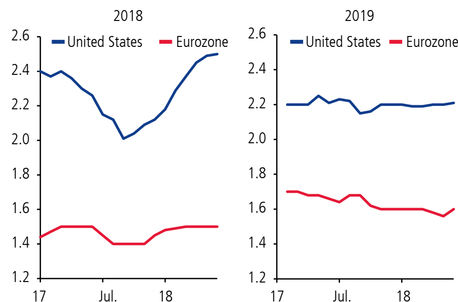
(*) See glossary for definitions.
(e) Estimate.
(f) Forecast.
Sources: Central Bank of Chile, IMF, and statistics offices of each country.

FIGURE I.2
Real and expected output gap
(percent of potential GDP)



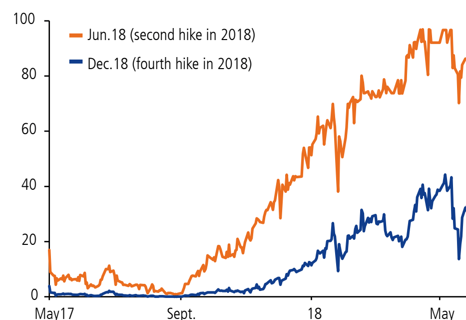
(f) Forecast.
Source: IMF.

FIGURE I.3
Market inflation expectations
(percent)



Source: Bloomberg.

FIGURE I.4
Probability of an increase in the FFR (*)
(percent)



(*) Calculated based on the effective rate.
Source: Bloomberg.

substantial downward revision of the historical data and a slowdown at the start of the year—from 1.8% annually in the fourth quarter of 2017 to 0.9% in the first quarter. The downturn affected all sectors fairly equally. At the margin, the data are mixed. Labor income grew significantly, while household expenditures and consumer confidence both fell.

Differences in the cyclical position of the main developed economies are reflected in the inflationary pressures they face. In the United States, the CPI and the PCE have continued to rise, hitting 2% or higher depending on the indicator. Wage growth has also been higher, reflecting a tighter labor market, and inflation expectations for this year have increased, due to the cyclical factors mentioned above and the increase in the oil price. In the Eurozone, the most recent data show a significant increase in headline inflation (1.9% in May) deriving from the more volatile prices, while core inflation continues to fluctuate around 1% annually. The outlook for the year has not changed significantly (figure I.3). In Japan, inflation remains low, at under 1%.

In this context, the central banks of the main developed economies have been managing their monetary policy in line with their announcements. The U.S. Federal Reserve (Fed) increased the federal funds rate (FFR) at the March meeting and has continued to signal a gradual increase over the coming months. The ECB has been cutting back its asset purchases since January, a process that is expected to end in September of this year. Nevertheless, the evolution of the macroeconomic scenario has affected market expectations on how the central banks will act going forward. In the case of the Fed, in addition to the increase expected at the June meeting, there is talk in some quarters of a possible fourth rate hike for this year and next (figure I.4). In Europe, political tensions are rising, and first-quarter data were below projections.

This change in the market's outlook on inflation rates in the United States has had an important impact on interest rates and the evolution of the dollar at the global level, triggering sharp movements in the financial markets (figure I.5). In the emerging world, currencies have depreciated significantly against the dollar, albeit with fluctuations, and capital outflows have increased (figure I.6). Long-term interest rates have risen in a large number of countries, and sovereign and corporate spreads have increased, although they remain low relative to the averages of the past few years (figure I.7). The stock markets have also suffered to a degree. These trends peaked in May, however, and have tended to ease up since the cutoff date of this *Report*.

Thus far, these movements have not generated changes in the growth forecasts for the emerging bloc, although the risks have certainly increased for the available financial conditions. Thus, the baseline forecast in this *Report* has not changed significantly vis-à-vis the one of the last *Report*, and the Board still considers that the balance of risks is skewed to the downside. For China, the

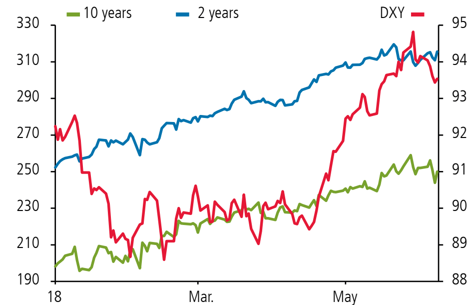
growth forecast for 2018 is 6.6%, based on annual first-quarter growth of 6.8% and indications in the most recent data of a gradual slowdown going forward. In the rest of Asia, the 2018 forecast remains 4.3%, due to improvements in industrial production and the volume of exports. In emerging Europe, the market has also maintained its growth forecast. In contrast, forecasts for Latin America have decreased, in part because a number of economies continue to present idiosyncratic risk factors and/or will be more severely affected by less favorable external financial conditions. The latter is the case in Argentina, where the economy's vulnerabilities have become increasingly evident. The country reached an agreement with the IMF for a stabilization loan that stipulated a number of conditions for receiving support, including the reduction of inflation and the fiscal deficit, the implementation of a floating exchange rate regime, and greater autonomy for the central bank. In Brazil, the output slowdown in the first quarter was exacerbated by increased political uncertainty, the difficulty of implementing a fiscal adjustment, and a transport strike. In Peru, annual GDP growth in the first quarter was higher than in the fourth quarter of last year, but the steady decline in consumer and business confidence is expected to slow the economy down going forward. For the rest of the countries in the region, the growth forecasts were stable.

With regard to monetary policy, most emerging central banks did not alter their interest rates. However, a small group did implement significant rate hikes (for example, Argentina and Turkey) or stopped the process of increasing the monetary stimulus (for example, Brazil), in response to concerns about depreciation, inflation expectations, and currency volatility. Here, it is important to bear in mind that these countries tend to have weak macroeconomic fundamentals (indebtedness, fiscal deficit, current account, and so forth)—in some cases, worse than before the 2008 global financial (figure I.8). Some countries have tried to reduce currency volatility by intensifying their intervention in the foreign exchange market.

One surprise since the last *Report* is the increase in the price of crude oil and oil derivatives, as geopolitical tensions have increased and inventories have been drawn down more than projected. In May, the crude oil price reached a peak of the last four years—close to US$70 a barrel for the WTI and US$80 for the Brent—but then receded somewhat following announcements of production increases by the largest OPEC members (figure I.9). As a result, the average price forecast for WTI and Brent oil was revised upward, to US$70 in 2018, US$68 in 2019, and US$64 in 2020 (versus US$63, US$59, US$56, respectively, in March). Thus, the oil price is expected to follow a downward trend over the forecast horizon, largely because of the expected response of crude oil production in the United States and in line with futures prices (box IV.1).

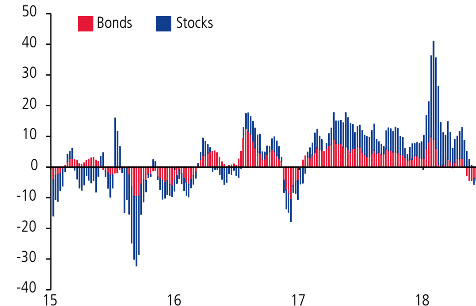
The copper price forecast has not changed significantly, to the extent that there has been no major change in its fundamentals. China's copper imports remain

FIGURE I.5
Rate differential between the United States, and Germany and the multilateral dollar



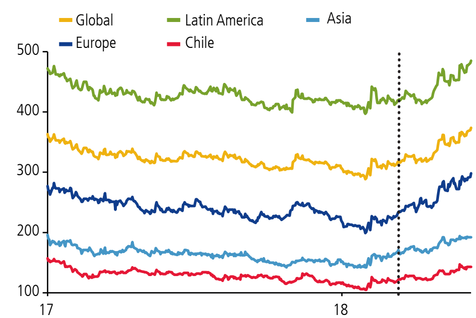
Source: Bloomberg.

FIGURE I.6
Capital flows to emerging economies
(US$ billion, moving month)



Source: Emerging Portfolio Fund Research.

FIGURE I.7
Spreads (*)
(basis points)



(*) Measured by the EMBI. Vertical dotted line marks the cutoff date of the March 2018 *Monetary Policy Report.*

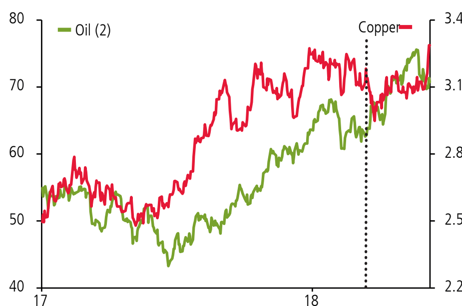
Source: Bloomberg.

FIGURE I.8
Macroeconomic fundamentals (*)

(*) Simple average of Argentina, Brazil, China, Colombia, Rep. Korea, India, Indonesia, Malaysia, Mexico, Peru, Poland, Russia, South Africa, Thailand, and Turkey.

Sources: IMF and IIF.

FIGURE I.9
Commodity prices (1)
(US$/barrel, US$/lb)



(1) Vertical dotted line marks the cutoff date of the March 2018 *Monetary Policy Report.*
(2) Simple average of the Brent and WTI prices per barrel.

Source: Bloomberg.

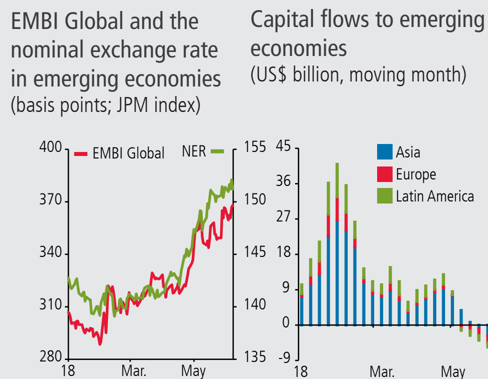
strong, while inventories are still high, despite some drawdown in the most recent period. At the same time, the recent announcements of protectionist measures triggered some price volatility. In this context, the average price forecasts remain practically unchanged: US$3.10 a pound for this year, US$2.95 for next year, and US$2.85 for 2020. Just before the cutoff date, the copper price rose to nearly US$3.30 a pound—due, according to market reports, to uncertainty surrounding labor strikes—but this increase is expected to be temporary. If this risk materializes, It could be necessary to revise the price forecast and other macroeconomic variables.

Thus, the risks deriving from the external scenario remain skewed to the downside in terms of their impact on local output, although, taken together, the probability that these negative events will materialize has increased since the last *Report*. The events of the past few months have pointed to a significant change in perceptions on the Fed's rate path. In particular, changes deriving from surprises in the data or larger-than-expected effects of the fiscal package on an economy operating at nearly full potential could lead to sharp increases in the federal funds rate, causing an abrupt deterioration in financial conditions for the emerging world. Some countries have underlying macroeconomic vulnerabilities that limit the implementation of countercyclical policies, which underscores the importance of having solid foundations, in particular for a small open economy like Chile. As in past years, China's need to resolve its market imbalances is still a risk. Stumbling in this process could have major effects on global financial asset prices and commodity prices. Another concern is the evolution of the oil price, in particular whether it will continue to rise or persist at high levels, which would increase global inflationary pressures and have a larger effect on growth. There are also risks deriving from the protectionist measures being pushed by the United States, which have recently been expanded to cover additional countries. This could trigger reactions in kind, with negative consequences for world trade and trend growth. Finally, there are still risks surrounding the United Kingdom's exit from the European Union, and political factors, such as the recently events in Italy, could trigger excessive market volatility.

BOX I.1
THE ADJUSTMENT IN GLOBAL FINANCIAL CONDITIONS AND ITS EFFECTS ON EMERGING MARKETS

Starting in mid-April, there was a change in risk appetite in the financial markets, which has led to capital outflows from emerging economies. In this period, emerging currencies have depreciated over 5% against the dollar, on average, and spreads, measured by the EMBI Global, have risen approximately 50 basis points (bp) (figure I.10). Changes in expectations on the speed of monetary policy normalization in the United States have been a key factor in these events. How sensitive are the different emerging economies to episodes of financial stress, in the context of a monetary normalization process? What particular dimensions affect this sensitivity? This box reviews empirical evidence to shed light on these questions, analyzing specific cases.

FIGURE I.10



Sources: Bloomberg and Emerging Portfolio Fund Research.

Several academic papers analyze the importance of institutional characteristics and macroeconomic fundamentals in the response of local financial variables to a tightening of global financial conditions. With regard to institutional characteristics, Obstfeld et al. (2018) confirm that in emerging economies, global financial shocks are transmitted more severely under fixed exchange rate regimes. Ananchotikul and Zhang (2014) show that in the event of financial stress, rate volatility is higher in economies where the currency is not allowed to fluctuate freely, because the exchange rate is not able to act as a shock absorber (see box II.1 of the March 2018 *Monetary Policy Report* for a discussion of his channel). Georgiadis (2016) suggests that trade integration, the development of the domestic financial market, and a more flexible labor market could also contribute to mitigating an emerging economy's vulnerability to monetary policy shocks in the United States.

With regard to macroeconomic fundamentals, Bowman et al. (2015) show that when external conditions tighten, countries with high inflation, high interest rates, or a large current account deficit are more likely to suffer significant adjustments in their asset prices. Saravia (2018) presents empirical evidence showing that an increase in the Federal Reserve's interest rate has a larger impact on countries with a worse solvency and liquidity position, in accordance with their external asset position[1]/.

In general, emerging economies have made progress in improving their risk-management institutions. Monetary policy authorities have been granted autonomy, and they have increasingly implemented flexible exchange rate regimes and

[1]/ While there is a degree of consensus, these relationships are not free from controversy. For example, Dedola et al. (2017) is unable to identify a systematic relationship between macroeconomic fundamentals and/or institutional characteristics and the asset price response of different economies, in the specific case of a monetary shock in the United States.

created financial stability committees. Several countries have adopted some type of fiscal rule, although this has not always been sufficient to keep public spending in line with revenues and thus prevent the growth of government debt levels. Alfaro et al. (2017) warn that external debt has ballooned in several emerging economies, especially at the corporate level. China, which plays an increasingly systemic role, is a clear example of this growth trend in corporate debt. The growth of corporate and government debt in emerging economies represents a risk in the event of an increase in foreign currency interest rates (table I.2).

The most recent sell-off illustrates the effects of greater macroeconomic vulnerability (figure I.11). In May, both Argentina and Turkey suffered capital outflows, steep exchange rate depreciation, and an increase in spreads, to a much greater degree than other emerging economies. Both of these economies had significant fiscal and current account imbalances and high inflation, in line with the results reported by Bowman et al. (2015) and others. Given the magnitude of the exchange rate fluctuations, both economies raised their monetary policy rates sharply in response to the currency depreciation. This prevented a further spike in inflation, but at the cost of a smaller monetary stimulus, in a context of a deteriorating growth outlook. Last week, details were released on Argentina's agreement with the IMF, which calls for strengthening both institutional aspects and macroeconomic fundamentals. The former centers on reinforcing the autonomy of the Central Bank of Argentina and eliminating transfers to the Treasury. For the latter, the program aims to reduce the fiscal deficit and rein in inflation. The amount of financing from the program will allow the implementation of these adjustments while limiting financial market exposure.

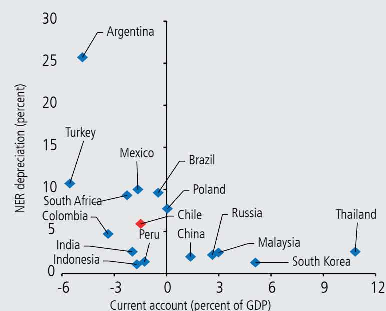
Chile compares well to other emerging economies in terms of the strength of its institutions. It has an independent Central Bank, which is committed to a floating exchange rate regime. On the fiscal side, a structural balance rule was implemented in response to proposals by the Fiscal Advisory Council. This, in part, translates into well-anchored inflation expectations, which provides more room to maneuver for monetary policy.

Nevertheless, changes in global financial conditions can still pass through strongly to the local economy, depending on household and corporate debt levels, currency mismatches, and the share of variable interest rates. As highlighted in the *Financial Stability Report*, in Chile these potential sources of weakness are ameliorated by the current regulations and/or financial product development. Consequently, firms, banks, households, and the government have moderate levels of exposure to currency and financial risks. For example, in the case of household debt, the largest share corresponds to bank installment loans with a fixed interest rate. For the banking sector, stress tests show that market risk, which includes interest rate risk, is low in comparison to credit risk. The situation is similar for the corporate sector, which in addition has reduced its debt level in recent quarters. With regard to the government, the mitigation of interest rate risk is tied to the investor base in the economy, which is largely made up of the pension funds and mutual funds.

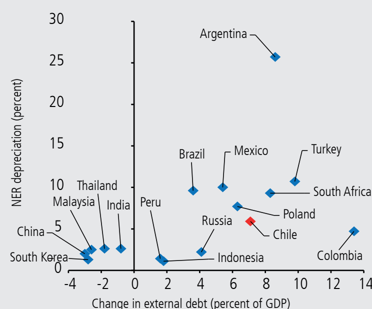
The risks of the external scenario and their probability make it necessary to shore up the cushions that underpin Chile's macroeconomic policy framework. In this regard, it is especially important to maintain sustainable public debt levels, to adopt a framework for capitalizing the banking industry, and to ensure a sustainable evolution of household debt.

FIGURE I.11

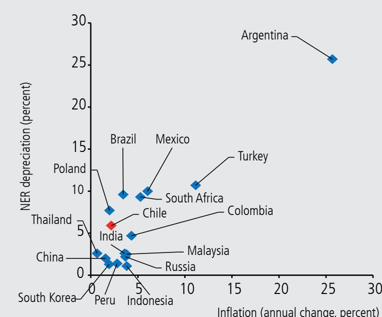
Current account and the nominal exchange rate (1)



Change in external debt and the nominal exchange rate (2)



Inflation and the nominal exchange rate (1)



(1) 2017 data for current account and inflation.
(2) Change from 2014 to 2017.

Sources: Bloomberg, IMF and IIF.

TABLE I.2

Macroeconomic and financial indicators (1)

	Inflation	Current account	Gross debt	External debt	Change in external debt (2)	Total reserves	Fiscal deficit	NER (%)	5-year CDS (bp)	10-year rate (bp)
	IMF	IMF	IMF	IIF	IIF	IIF, WB	IMF	Change: 19 April to 08 June 2018		
Argentina	25.7	-4.8	52.6	36.6	8.6	6.6	6.5	25.7	84	--
Brazil	3.4	-0.5	84.0	32.6	3.6	18.2	7.8	9.6	85	190
Chile	2.2	-1.5	23.6	65.5	7.1	13.3	2.7	5.9	11	18
China	1.6	1.4	47.8	14.0	-3.0	27.6	4.0	2.0	-2	8
Colombia	4.3	-3.4	49.4	40.2	13.4	15.4	3.1	4.7	23	18
South Korea	1.9	5.1	39.8	27.3	-2.8	25.3	-1.9	1.3	26	7
India	3.6	-2.0	70.2	22.4	-0.8	16.3	6.9	2.6	16	32
Indonesia	3.8	-1.7	28.9	34.7	1.8	12.5	2.5	1.1	32	61
Malaysia	3.8	3.0	54.2	65.0	-2.6	32.5	2.9	2.5	26	19
Mexico	6.0	-1.6	54.2	37.9	5.4	15.0	1.1	10.0	45	39
Peru	2.8	-1.3	25.5	35.7	1.6	29.0	3.1	1.4	19	51
Poland	2.0	0.0	51.4	71.8	6.3	21.6	1.7	7.7	20	12
Russia	3.7	2.6	17.4	32.9	4.1	28.3	1.5	2.2	0	6
South Africa	5.3	-2.3	52.7	49.6	8.3	14.5	4.5	9.3	42	96 (3)
Thailand	0.7	10.8	41.9	33.0	-1.8	41.7	0.6	2.6	2	13
Turkey	11.1	-5.5	28.5	53.2	9.8	12.7	2.3	10.7	77	78

(1) In the first columns, except for inflation, the measures are relative to nominal GDP and take the latest available data.
(2) Change from 2014 to 2017.
(3) 9-year rate.

Sources: World Bank, Bloomberg, IIF, and IMF.

II. FINANCIAL MARKETS

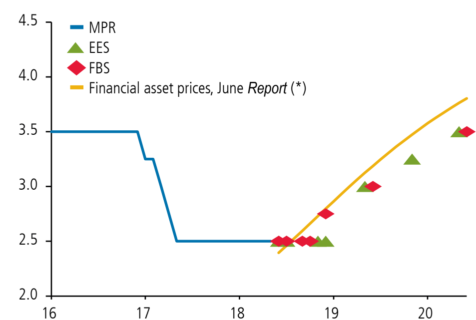
This chapter reviews the evolution of local financial markets in connection with the transmission of monetary policy.

MONETARY POLICY

The risks for inflation convergence to 3% in the policy horizon have diminished. In the first quarter of the year, output grew somewhat more than expected, combining surprises in supply sectors (which are probably temporary) and more dynamic investment and durable consumption. However, several indicators suggest that there are still gaps, including the evolution of the labor market, core inflation, and measures of capacity utilization. The external boost to the Chilean economy in the forecast horizon will be slightly lower than projected in the last *Monetary Policy Report,* due to somewhat less favorable financial conditions and terms of trade, given the higher oil price. Thus, in the baseline scenario, headline inflation will return to 3% sooner than predicted due to the direct impact of the higher oil price, while the projection for core inflation has not changed significantly and is expected to reach 3% in late 2019.

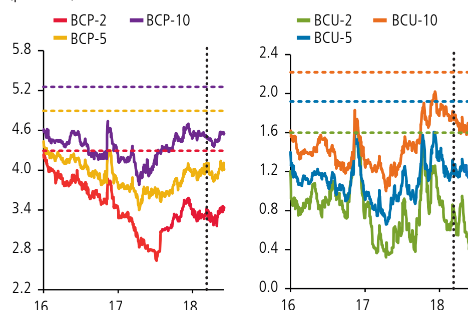
The Board has held the monetary policy rate (MPR) at 2.5% since May of last year. The different expectations measures—specialist surveys and financial asset prices—indicate that the MPR will stay at this level through late 2018 or early 2019, at which point the first increase will be implemented. Two years ahead—in the second quarter of 2020—the MPR is expected to be between 3.5 and 3.8% (figure and table II.1). The Board considers that the monetary stimulus will be kept around its current level and will only be lifted to the extent that macroeconomic conditions continue to promote the convergence of inflation to 3%. As a working assumption, the MPR is expected to follow a path in the short term in line with projections in the Financial Brokers Survey available on the cutoff date of this *Report*. For the medium term, the Board continues to project that the MPR will be around its neutral level towards 2020, which is still estimated at 4.0 to 4.5%.

FIGURE II.1
MPR and expectations
(percent)



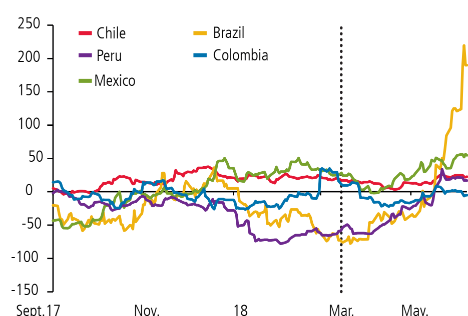
(*) Constructed using interest rates on swap contracts up to 10 years.
Source: Central Bank of Chile.

FIGURE II.2
Interest rates on Central Bank of Chile bonds (1) (2)
(percent)



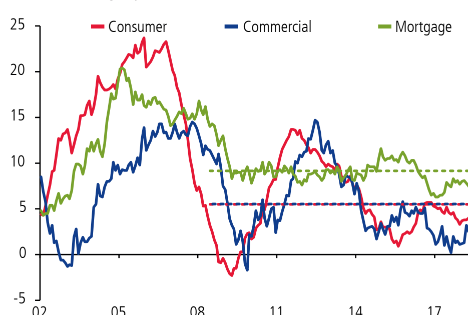
(1) The vertical dotted line indicates the cutoff date of the March 2018 *Monetary Policy Report.*
(2) Horizontal slashed lines indicate the average of the last 10 years for each series.
Source: Central Bank of Chile.

FIGURE II.3
Latin America: 10-year interest rates (*)
(deviation from the 2017–2018 average, basis points)



(*) The vertical dotted line indicates the cutoff date of the March 2018 *Monetary Policy Report*.
Sources: Central Bank of Chile and Bloomberg.

FIGURE II.4
Real loans (1) (2)
(annual change, percent)



(1) Real data constructed by splicing the 2013 base year CPI.
(2) Horizontal lines indicate the average of the last 10 years for each series.
Source: Central Bank of Chile, based on SBIF data.

TABLE II.1
MPR expectations
(percent)

	One year ahead		Two years ahead	
	March Report	June Report	March Report	June Report
EES (1)	2.75	3.00	3.50	3.50
FBS (2)	2.75	3.00	3.50	3.50
Financial asset prices (3)	2.99	3.19	3.59	3.80

(1) March and June 2018 surveys.
(2) Surveys prior to the March and June 2018 monetary policy meetings.
(3) The March and June *Monetary Policy Reports* use the average of the last ten business days as of 15 March 2018 and 08 June 2018, respectively.
Source: Central Bank of Chile.

In the local fixed-income market, interest rates in pesos are around the same level as on the cutoff date of the last *Report*, while rates on UF-denominated securities declined at two- and ten-year maturities (around 40 and 15 basis points, respectively). The shift in the BCU-2 largely reflects the change in the inflation forecast, which increased in the period. The BCP-10, in turn, has stayed at the margin of the trend in long rates at the global level and in other economies in the region (figures II.2 and II.3). As mentioned, the greater stability of local long-term rates reflects the flexible exchange rate: many studies show that in countries with a more flexible exchange rate regime, financial markets react less strongly to global financial shocks. In this sense, Chile stands out among emerging economies for implementing a floating exchange rate policy (*Monetary Policy Report,* March 2018, box II.1). With regard to issues, there were some private bank issues and UF-denominated General Treasury bond auctions in the period, which did not trigger any significant changes in the market. Among holders, the pension funds continue to predominate, while foreign holders of sovereign debt increased.

FINANCIAL CONDITIONS

Local financial conditions continue to be favorable, with no major changes since the beginning of the year. Domestic credit continues to be characterized by moderate loan growth and low interest rates from a historical perspective (figures II.4 and II.5). Mortgage loans continue to post a higher annual growth rate than the other portfolios, although the commercial and consumer portfolios picked up in the period[1]/. Residential mortgage rates have been relatively stable, while consumer and commercial loan rates declined slightly, largely due to seasonal factors.

[1]/ The increase is largely explained by a lower basis of comparison due to the change in the business line of Rabobank, to a nonbank financial company, in May 2017; the depreciation of the peso-dollar exchange rate; and a single loan operation to ENEL, an essential event reported to the Financial Market Commission on 28 March 2018 in an essential event (www.bolsadesantiago.com/Paginas/Descarga.aspx?attach=Noticias%2Fhechos+esenciales%2Fhes_2018030055602.pdf%20).

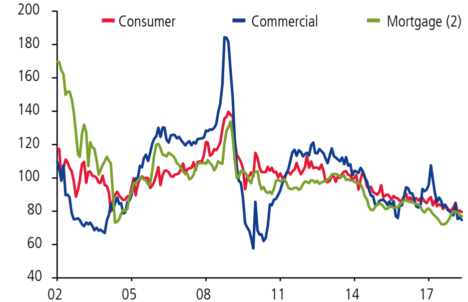
The Bank Lending Survey for the first quarter of 2018 reported a strengthening in demand for consumer loans and for commercial loans to large firms and real estate companies, together with a loosening of credit conditions for large firms. The interviews carried out for the May *Business Perceptions Report* indicated that interest rates are still favorable, while the banks that were surveyed mentioned an increase in requests for loan simulations, although not all simulations resulted in actual loans. The interviewees also signaled that lending conditions remain very tight for sectors that are perceived as riskier. With regard to default and payment terms, the interviewees said that concerns had lessened in most of the country, although this is still an issue in the north due to the increase in recent years.

The stock market fluctuated over the past three months, although the IPSA is currently around the level of the last cutoff date (–1.5% between the cutoff of the March *Report* and the current *Report*). At the same time, local risk indicators have been relatively stable compared with similar markets overseas. The performance of the IPSA contrasts with the steeper declines in stock indices in other emerging economies (MSCI), as well as in Latin America.

Internationally, financial conditions have deteriorated somewhat since the cutoff date of the last *Report*, in particular for emerging economies. This reflects a lower risk appetite and a heightened concern for the evolution of monetary policy in the developed world, in the face of increased inflationary pressure in the United States. As a result, long rates have shifted, and the dollar has strengthened at the global level. In recent weeks, the impact has been particularly evident in the emerging world, which has recorded significant currency depreciation and fluctuation, falling stock indices, and capital outflows, especially in economies that are perceived as more vulnerable. At the same time, geopolitical conflicts and announcements of protectionist measures have triggered additional volatility to global markets.

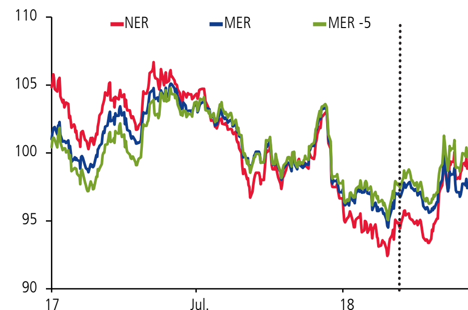
The Chilean peso has tracked the global trend of a strengthening dollar, depreciating since the cutoff of the March *Report*. On the cutoff date for this *Report*, the peso-dollar exchange rate was around $630 (+4,7% in the period). The generalized appreciation of the dollar is evident in multilateral measures, where the MER, MER-5, and MER-X depreciated more moderately (figure II.6). The depreciation of the peso has been in line with the trend of other commodity exporters and on the low end for other Latin American economies (figure II.7 and table II.2). Among the financial factors, there was a sharp increase in nonresident purchases over several weeks, which ratcheted up the depreciation pressure on the peso/dollar exchange rate.

FIGURE II.5
Interest rates by type of loan (1)
(index: 2002–2018=100)



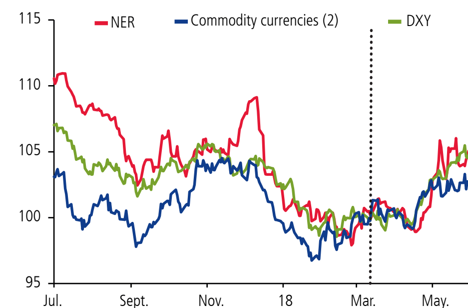
(1) Weighted average rates on all operations in the month.
(2) UF-denominated loans.
Source: Central Bank of Chile, based on SBIF data.

FIGURE II.6
Nominal and multilateral exchange rates (*)
(index: 2017–2018=100)



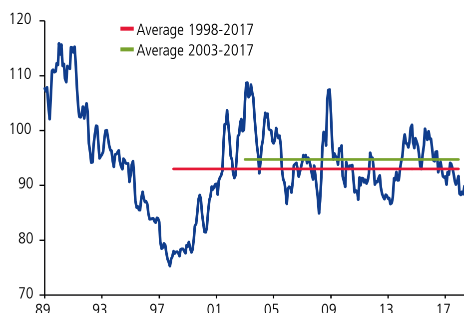
(*) The vertical line indicates the cutoff date of the March 2018 *Monetary Policy Report.*
Source: Central Bank of Chile.

FIGURE II.7
Exchange rate, multilateral dollar, and commodity currencies (1)
(cutoff of the March 2018 *Report*=100)



(1) The vertical line indicates the cutoff date of the March 2018 *Monetary Policy Report.*
(2) Includes Australia, Canada, New Zealand, and South Africa. Constructed using the weights in the April 2018 WEO.
Sources: Central Bank of Chile, Bloomberg, and International Monetary Fund.

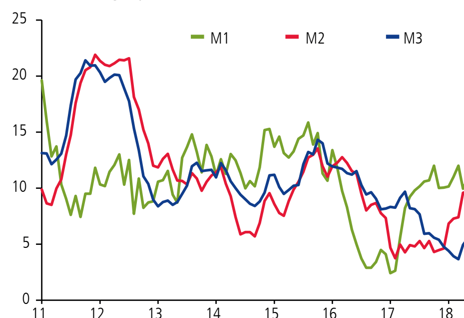
FIGURE II.8
Real exchange rate (*)
(index: 1986=100)



(*) Preliminary estimate for May 2018; June 2018 includes data through the cutoff date.

Source: Central Bank of Chile.

FIGURE II.9
Nominal monetary aggregates
(annual change, percent)



Source: Central Bank of Chile.

In this context, the real exchange rate (RER) was around 90 on the cutoff date of this *Report* (fixed-base index: 1986=100), which represents a moderate increase since the beginning of the year and a real depreciation in line with other comparable economies (BIS) (figure II.8). As a working assumption, the baseline scenario of this *Report* considers that the RER will return to a level around the average of the last fifteen to twenty years over the course of the policy horizon.

With regard to the nominal monetary aggregates, comparing the cutoff dates of this and the last *Report*, the annual growth rate of M1 was relatively stable (11.0% in February versus 10.9% in May). There was a larger increase in the annual growth rate of M2, which jumped from 7.3% in February to 9.7% in May, mainly due to time deposits in local currency and bank bond issues. In the case of M3, the annual growth rate rose in the period, largely due to the trend in M2, together with General Treasury and corporate bonds (figure II.9).

TABLE II.2
Exchange rates against the U.S. dollar (1)
(percent)

	Change in NER, June 2018 *Report*			
	Mar.18 *Report*	Dec.17 *Report*	Sept.17 *Report*	Jun.17 *Report*
Latin America (excl. Chile) (2)	**10.0**	**9.0**	**13.3**	**10.0**
Brazil	15.9	15.7	19.4	16.1
Chile	**4.7**	**-0.6**	**-1.9**	**-6.1**
Colombia	0.3	-4.5	-3.4	-1.3
Mexico	7.4	6.4	13.2	7.7
Peru	0.4	0.9	0.9	-0.1
Commodity exporters (2)	**2.7**	**-1.3**	**2.3**	**-3.0**
Australia	3.0	0.1	4.4	-1.8
Canada	0.3	1.6	3.1	-4.1
New Zealand	4.1	-1.9	3.9	-0.2
South Africa	7.4	-9.5	-3.2	-2.9
Developed economies (2)	**4.8**	**-0.1**	**0.3**	**-3.6**
Eurozone	5.6	1.0	1.2	-4.4
Japan	3.0	-2.4	0.0	-1.9
United Kingdom	4.1	-0.7	-3.6	-3.0
Other emerging economies				
China	1.2	-3.2	-3.7	-6.9
South Korea	0.3	-2.2	-5.2	-4.2
India	3.5	3.6	5.0	4.3
Indonesia	1.1	2.9	4.2	4.6
Poland	8.0	2.7	1.8	-2.1

(1) Positive (negative) sign indicates depreciation (appreciation) of the currency against the U.S. dollar. The comparison is based on the last ten business days before the cutoff date of each *Monetary Policy Report*.
(2) Includes the currencies of the economies included in this table, using the weights in the April 2018 WEO.

Sources: Central Bank of Chile, Bloomberg, and IMF.

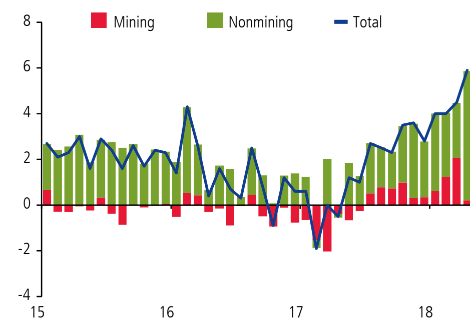
III. OUTPUT AND DEMAND

This chapter reviews the recent evolution of output and demand and their short-term outlook, in order to examine possible inflationary pressures.

Data for the first quarter of 2018 and the early second quarter reveal a consolidation of the economic recovery process begun in the second half of 2017. In this period, GDP growth was somewhat higher than forecast in the March *Report*, due to both higher-than-expected increases in supply sectors, which are probably transitory, and more dynamic investment and durable goods consumption. At any rate, the higher annual growth rate of the economy in the first half was expected, given the low basis of comparison from early 2017 in mining and the greater number of business days in 2018, especially in April (figure III.1). In terms of velocity, after a strong acceleration in the third quarter of last year, the output growth rate has eased thus far in 2018. A considerable share of the aggregate growth rate in the first quarter came from fishing and electricity, gas, and water, which are among the more volatile more volatile and less persistent sectors, and generally have sectors and generally have a more limited relation with other sectors of the economy than the main nonmining sectors[1]/ (figure III.2).

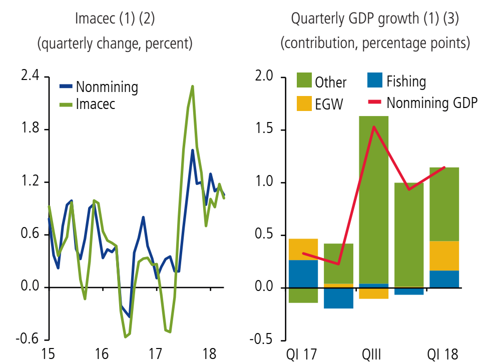
Several factors suggest that the economy still has significant excess capacity, despite the fact that first-quarter data show a partial closing of the output gap. These include the evolution of indicators such as capacity utilization, core inflation, and the labor market. With regard to the latter, private wage jobs jobs have not recorded any major changes, and the growth rate of nominal wages declined, which affects the growth of the wage bill and the outlook for consumption. The Board still estimates that in the 2018–2020 period, the economy will grow at a rate that will close the existing output gap and push inflation convergence to 3% in the policy horizon. Thus, the economy is projected to grow in a range of 3.25 to 4.0% this year, 3.25 to 4.25% in 2019, and 3.0 to 4.0% in 2020. Internationally, the external boost is greater than in past years, while locally, confidence levels confidence levels have risen to their highest levels in several quarters, lending conditions remain favorable, and monetary policy will remain expansionary for several more quarters. Private GDP growth forecasts have been revised upward since the last *Report*, to 3.8% for this year and next (3.5 and 3.7% in March, respectively) and 3.9% for 2020 (3.8% in March).

FIGURE III.1
Annual growth of the Imacec
(contribution, percentage points)



Source: Central Bank of Chile.

FIGURE III.2



(1) Seasonally adjusted series.
(2) Moving quarters.
(3) Other includes trade, industry, financial and business services, construction, agriculture, transport and communications, residential services, personal services, public administration, VAT, and import duties.

Source: Central Bank of Chile.

[1]/ *Monetary Policy Report*, December 2017, box III.1.

TABLE III.1
Gross domestic product
(share of GDP; real annual change, percent)

	Share 2017	2016	2017				2018
			I	II	III	IV	I
Agriculture, livestock, and forestry	3.1	3.7	-3.9	-1.5	-2.7	-0.7	-2.3
Fishing	0.7	-12.3	43.6	11.5	23.9	4.6	-6.5
Mining	10.1	-2.8	-17.4	-5.5	8.3	6.8	19.3
Industry	10.2	-2.4	0.1	0.5	2.6	3.5	2.8
EGW and waste management	3.1	2.0	1.0	2.5	3.8	5.4	5.7
Construction	6.5	2.8	0.1	-4.7	-5.3	-0.1	3.2
Trade	9.2	2.5	2.9	2.3	4.6	4.7	6.0
Restaurants and hotels	2.1	0.3	-0.2	1.3	1.5	2.1	3.6
Transport	5.1	3.3	1.0	1.4	3.3	3.8	4.9
Communications and information services	2.6	2.6	2.3	3.8	4.6	4.9	3.1
Financial services	4.5	3.9	2.6	3.8	5.1	3.3	4.1
Business services	9.7	-2.6	-5.7	-3.0	-0.4	1.2	3.5
Residential and real estate services	7.8	3.0	3.5	2.7	2.9	2.3	2.2
Personal services (*)	11.9	4.9	3.3	2.8	2.8	4.1	4.6
Public administration	4.7	3.1	1.4	2.4	1.9	1.9	3.3
Total GDP	**100.0**	**1.3**	**-0.4**	**0.5**	**2.5**	**3.3**	**4.2**
Nonmining GDP	**89.9**	**1.6**	**1.1**	**1.1**	**2.0**	**2.9**	**3.1**
Mining GDP	**10.1**	**-2.8**	**-17.4**	**-5.5**	**8.3**	**6.8**	**19.3**

(*) Includes education, health, and other services.
Source: Central Bank of Chile.

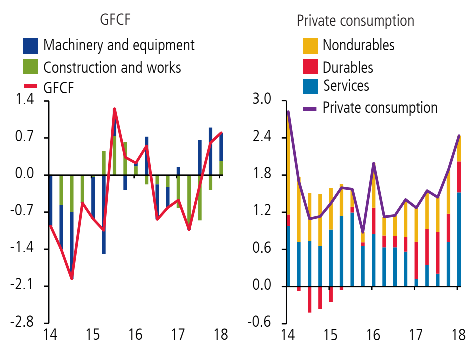
TABLE III.2
Domestic demand
(share of GDP; real annual change, percent)

	Share 2017	2016	2017				2018
			I	II	III	IV	I
Domestic demand	**98.3**	**1.3**	**2.5**	**3.6**	**2.2**	**4.0**	**3.8**
Domestic demand (excl. inventory change)	97.8	2.1	1.3	1.1	1.8	3.0	3.6
Gross fixed capital formation	21.6	-0.7	-2.3	-4.6	-0.9	2.7	3.6
Construction and works	13.7	-0.7	-4.7	-6.7	-5.9	-1.7	2.0
Machinery and equipment	7.9	-0.8	1.8	-0.8	8.1	10.8	6.5
Total consumption	76.2	2.9	2.4	2.8	2.5	3.1	3.6
Private consumption	62.3	2.2	2.0	2.5	2.2	3.0	3.9
Durable goods	5.7	4.8	11.5	10.9	12.2	7.8	8.8
Nondurable goods	26.3	1.8	2.0	2.3	2.1	2.7	1.5
Services	30.3	2.1	0.4	1.1	0.7	2.4	5.0
Government consumption	14.0	6.3	5.0	4.3	3.7	3.4	2.7
Change in inventories (*)	0.5	-0.7	-0.4	0.2	0.3	0.5	0.6
Goods and services exports	28.7	-0.1	-4.4	-4.4	2.7	2.5	7.2
Goods and services imports	27.0	0.2	5.6	6.3	2.0	5.2	6.1
Total GDP	**100.0**	**1.3**	**-0.4**	**0.5**	**2.5**	**3.3**	**4.2**

(*) Change in inventories as a percent of GDP, at average prices of the previous year, accumulated in the last 12 months.

Source: Central Bank of Chile.

FIGURE III.3
GDP contribution, by final demand component
(percentage points)



Source: Central Bank of Chile.

OUTPUT

GDP grew 4.2% annually in the first quarter of the year (3.3% in the previous quarter). Mining, in particular, recorded an annual growth rate of 19.3% in the period (table III.1). As expected, this sector saw a significant increase in its growth rate (on the order of 13 percentage points) due to the effect of the low basis for comparison left by the strike at the *Escondida* mine in the first quarter of 2017, combined with greater productive capacity in the sector.

Nonmining GDP grew 3.1% annually in the period (2.9% in the previous quarter). Investment-related sectors continued to improve, mainly in construction and business services (figure III.2). The former posted positive growth after contracting for three straight quarters; the more dynamic performance was recorded in both specialized activities and residential and nonresidential construction. Within the latter, architecture and engineering services grew after several years of decline. The May *Business Perceptions Report* (BPR) also emphasized an increase in the contracting of this type of service by numerous businesses. Even so, consumption-related sectors continued to lead the increase in nonmining GDP. Trade recorded its biggest increase in four years, in particular in wholesale segments, where the main contribution came from machinery and equipment sales.

DOMESTIC DEMAND

Domestic demand enjoyed a stronger boost from investment in construction and works and from durables and services consumption (table III.2 and figure III.3). Gross fixed capital formation (GFCF) grew 3.6% annually in the first quarter (2.7% in the previous quarter), where the construction and works component recorded positive growth rates for the first time in almost two years. Machinery and equipment are still the most buoyant segment of GFCF, and capital goods imports (excluding unusual transport vehicles) continued to improve as of May. Business expectations (IMCE) have returned to optimistic territory on aggregate. Nevertheless, there are signs that it is still early to count on dynamic investment. Various construction indicators point to a degree of stabilization in the most recent period, including construction material sales and sectoral employment. Moreover, the most recent survey by the Capital Goods and Technological Development Corporation (*Corporación de Desarrollo Tecnológico y de Bienes de Capital, CBC*) included a downward revision of the investment forecast for construction and engineering works for this year, due to the postponement of some projects. On the residential side, the latest data from the CChC show that home sales have been stable, while the available stock is generally still high. Finally, the May BPR reports disparate views on business investment plans, signaling that some firms still have significant idle capacity, especially in the northern regions of the country and in specific sectors.

Private consumption grew 3.9% annually in the first quarter of the year (3% in the previous quarter), led by the services component, which had an annual growth rate of 5% in the period—around 2.5 percentage points higher than at year-end 2017. Nondurables consumption remains sluggish. On the durables side, the biggest push came from the car sector, where sales and imports remained near the peak of recent years. In general, consumer goods imports remain high. Qualitatively, the BPR interviews described weak sales of consumer nondurables, with some saying they had been hurt by the lower tourism from Argentina, while others confirmed the boom in the car sector.

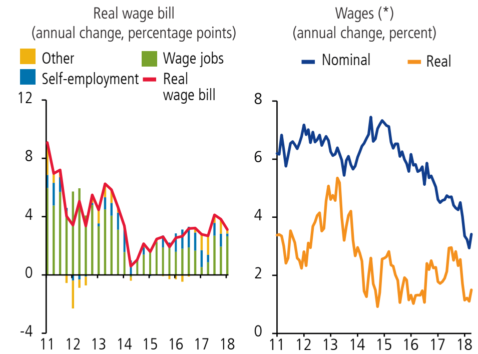
With regard to the determinants of consumption, the annual growth rate of the real wage bill decreased in the first months of this year, from an average of 4% in the second half of 2017 to just over 3%. The main factor in this trend was the lower growth of nominal wages, which, according to different measures, was around 3.5% in annual terms on the cutoff date—substantially below the 6% annual average of the last decade[2]/ (figure III.4). Some alternative sources to the INE wage data suggest a less pronounced decline, albeit with a longer lag and a little more volatility (figure III.5).

Although the labor market—jobs and wages—regularly reacts with a lag to the evolution of output, the low growth of wages coincides with several developments in the supply and demand of labor. On the supply side, women's participation has risen substantially in recent quarters, growing faster than historical patterns, as have migrant flows. On the demand side, technological adjustments and changes in productivity could have a more noticeable impact on hiring once the economy recovers to near potential growth.

Qualitatively, the majority of the interviews for the BPR show a perception of low wage pressure. Several interviewees reported that the low output level of recent years reduced the growth of wages, which in many cases have been frozen for several quarters. Others added that inflation adjustments have only been given in cases where it was previously negotiated. On the other hand, they mentioned that the arrival of immigrants has alleviated the scarce labor supply in some sectors, such as agriculture, thus reducing the upward pressure on wages.

Private wage job creation has been slow. This contrasts the public sector, which continues to post high growth rates and leads the expansion of wage jobs (figure III.6). Finally, in April, the annual growth rate of self-employment was lower than the 2017 average.

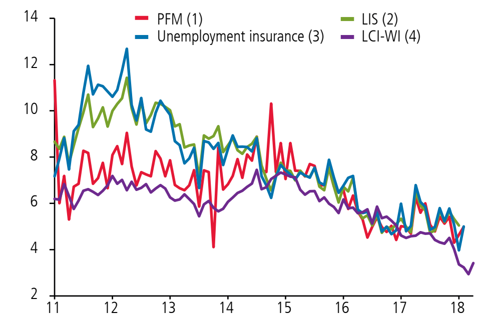
FIGURE III.4



(*) Simple average of the WI and the LCI.

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

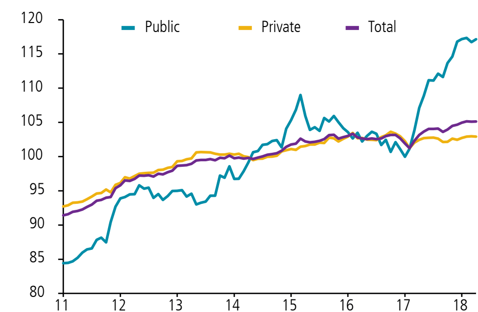
FIGURE III.5
Nominal wage indicators
(annual change, percent)



(1) Average taxable income.
(2) Labor Information Service, Ministry of Labor. Based on national unemployment insurance.
(3) Average taxable income of employees who make unemployment insurance contributions.
(4) Simple average.

Sources: Central Bank of Chile, National Statistics Institute, Ministry of Labor, and Superintendence of Pensions.

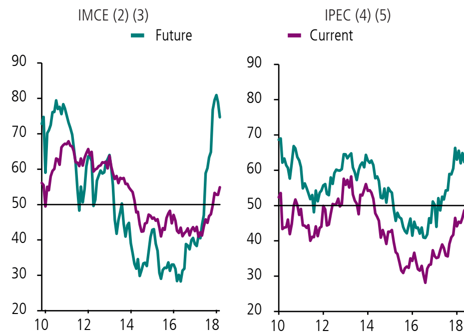
FIGURE III.6
Wage jobs, by component
(index 2011–2018=100, seasonally adjusted series)



Sources: Central Bank of Chile and National Statistics Institute.

[2]/ These data are based on a different series from the benchmark (2016=100) published by the National Statistics Institute (INE). However, the latest data also show a more modest increase in wages in the most recent period, in line with the averages described above.

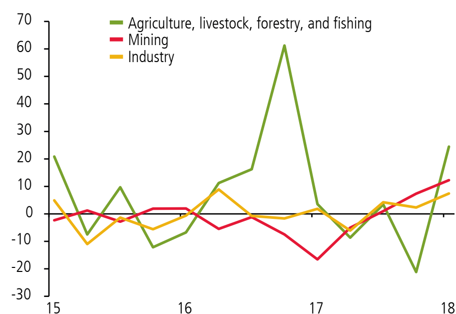
FIGURE III.7
Business and consumer expectations (1)
(original series)



(1) A value over (under) 50 indicates optimism (pessimism).
(2) Simple average of trade, construction, and industry.
(3) Expectations for the future are the simple average of the overall future outlook of the country and the general business situation. For the construction sector, expectations on the companies financial situation.
(4) Expectations on the current situation are the simple average of the current personal and national economic situation.
(5) Expectations on the future situation are the simple average of the outlook for the economic situation of the country in 12 months and the family.

Sources: Adimark and Icare/Adolfo Ibáñez University.

FIGURE III.8
Volume of exports
(annual change, percent)



Source: Central Bank of Chile.

Consumer and business confidence (the IPEC and the IMCE excluding mining, respectively) have been in optimistic territory in recent months. In both cases, expectations for the future continue to exceed perceptions of the current scenario (figure III.7). This is in line with the BPR interviews, where a large majority foresee a more substantial economic recovery starting in the second half of this year.

The local credit market has not recorded any major changes. Interest rates remain favorable and loan growth low from a historical perspective, led by the mortgage segment. According to the Bank Lending Survey, lending conditions have adjusted somewhat for the corporate sector, while demand has strengthened in several portfolios.

With regard to foreign trade, exports and imports increased in the first quarter, recording annual growth rates of 7.2 and 6.1%, respectively (2.5 and 5.2% in the previous quarter). In both cases, the increase was in the goods component. With shipments, the higher growth was associated with mining, due to the low basis for comparison for copper exports as a result of the strike in the sector in 2017. Fruit exports also posted a high growth rate, again due to a basis effect from the early harvest of crops like cherries and blueberries last year, as well as increased production of these same fruits this season (figure III.8). Imports, in turn, were fairly dynamic in general, with a particularly strong performance of cars and industrial machinery. The trade balance recorded a surplus in the period. This contributed significantly to reducing the current account deficit, which was 1.1% of GDP in the moving year ending in the first quarter (1.5% in the fourth quarter of 2017).

In the first quarter of 2018, the annual change in inventories reached 0.6% of GDP, which largely reflects an increase in manufacturing and mining stocks. The assessment of the current situation (IMCE) shows that inventories have gradually moved closer to their optimal level in the different sectors, although they are still perceived as being a little on the high side.

IV. PRICES AND COSTS

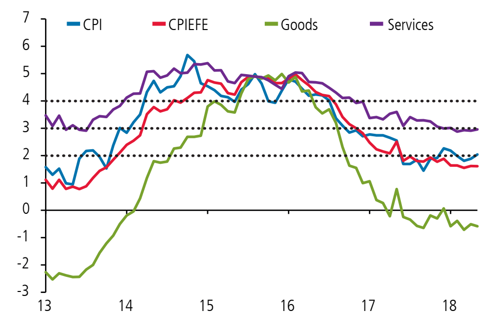
This chapter analyzes the recent evolution of the main components of inflation and costs, identifying the current sources of inflationary pressure and their likely evolution in the future.

RECENT EVOLUTION OF INFLATION

Over the past three months, inflation dynamics have continued to be dominated by the appreciation of the peso, of the peso, an economy that has maintained capacity gaps for several quarters, and for several quarters, and indexation to lower inflation rates. None of the inflation indicators contain any surprises relative to the forecasts in the March *Report*. In May, annual CPI inflation was 2%, while CPIEFE inflation was 1.6%, reflecting CPIEFE services inflation of 3% and slightly negative CPIEFE goods inflation (figure IV.1). With regard to the more volatile components, food and energy continued to contribute positively to annual inflation, with no big surprises relative to the March forecast (figure IV.2). Since the last *Report*, the macroeconomic scenario has seen a reduction in the risks for inflation convergence to 3% within the policy horizon. The economic recovery is gaining strength, and inflation expectations two years ahead are at 3%. In addition, the increase in the international oil price and its direct impact on the more volatile components of the CPI basket have pushed up the forecast for short-term inflation. Thus, in the baseline scenario, headline inflation will return to 3% sooner than projected in the March *Report*. However, the future path of core inflation has not changed significantly, and it is expected to reach 3% in late 2019. The economy still has significant excess capacity, which is expected—as in March—to gradually close over the course of the next two years.

Annual CPIEFE goods inflation continued to make a small negative contribution to headline inflation, influenced in part by the appreciation of the peso relative to a year ago—around 8% comparing the January-May average of this year and last (figure IV.3). Some product prices have fallen over the past few months, including new car prices (4% of the CPI basket), which have declined more in recent quarters than would be expected based on the historical relationship between these prices and the exchange rate (figure IV.4). According to opinions expressed in the *Business Perceptions Report* (BPR), this could reflect strong competition in the automobile market to maintain or increase market share, which has led dealers to offer substantial sales discounts.

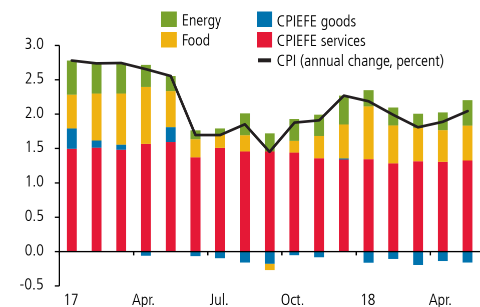
FIGURE IV.1
Inflation indicators (1) (2)
(annual change, percent)



(1) See glossary for definitions.
(2) Starting in January 2014, calculations are based on the new indices with base year 2013=100, so they may not be strictly comparable with earlier figures.

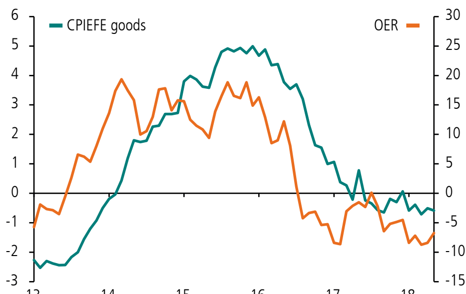
Sources: Central Bank of Chile and National Statistics Institute.

FIGURE IV.2
Contribution to annual inflation
(percentage points)



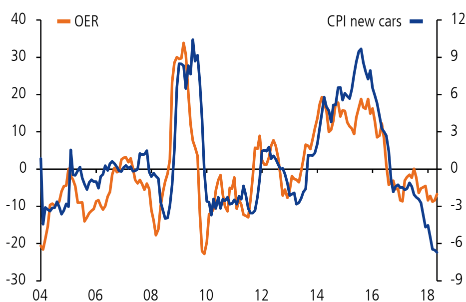
Sources: Central Bank of Chile and National Statistics Institute.

FIGURE IV.3
Exchange rate and CPIEFE goods
(annual change, percent)



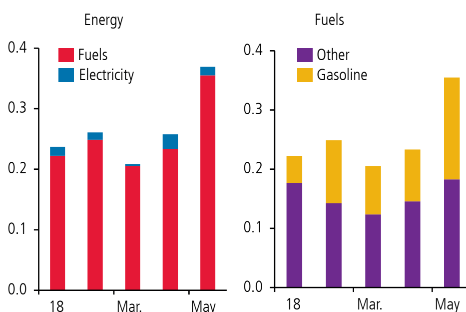
Sources: Central Bank of Chile and National Statistics Institute.

FIGURE IV.4
CPI new cars and the exchange rate
(annual change, percent)



Sources: Central Bank of Chile and National Statistics Institute.

FIGURE IV.5
Annual contribution of energy prices to headline inflation
(percentage points)



Sources: Central Bank of Chile and National Statistics Institute.

Thus far in 2018, annual CPIEFE services inflation has been relatively stable, consistent with signs that cost pressures are not too intense, given that the economy is characterized by ample excess capacity, as mentioned earlier. In particular, output has picked up again without much growth in wage employment, which has led to an increase in average productivity. At the same time, nominal wage growth, measured by the labor cost index (LCI) and the wage index (WI), has fallen below the average of the last decade. Both phenomena should translate into lower cost pressure.

Although the labor market regularly reacts with a lag to changes in output, the low growth of nominal wages coincides with an increase in supply (greater female participation and immigration) and a shift in demand due to technological adjustments and changes in productivity in recent years. However, some alternative measures (with longer lag and a little more volatility) suggest a less pronounced decline.

Qualitative information also points to low inflationary pressures. Most of the BPR interviews indicated that sales prices will be relatively stable for some time, even if output growth accelerates. While many interviewees perceive a recovery of output, they emphasize that it is still in the early phases and competition remains high, so they do not see an opportunity to raise prices in the coming months. At the same time, options are also limited in terms of lowering prices to reflect decreased costs, for example due to an appreciation of the peso. Consequently, interviewees have been focused on margin recovery for some time, mainly through efficiency improvements, after margins shrank due to the reduction in sales prices in response to the weak economic performance of the past few years. With regard to wages, the BPR interviews indicate that wage pressure has been low in the recent period.

In terms of external prices, the annual growth rate of imported consumer goods in dollars (IVUM) fell from 3% in the last quarter of 2017 to 2% in the first quarter of this year. The external price index (EPI) measured in dollars continued to post high annual growth rates, although the upward trend has eased off since the start of the year (7.5% in January versus 6.7% in April).

The more volatile items in the CPI basket have followed a path in line with projections in the March *Report*. The contribution of food prices to annual inflation decreased since the beginning of the year, especially in the case of fresh fruits and vegetables (F&V), which dropped from 7% annual growth in February to 3.9% in May. This mainly reflects a higher basis of comparison, as the usual price increases were not applied this year, and to a lesser extent a decline in prices relative to February. As in the last *Report*, F&V prices deviated from their usual seasonal patterns in some months, as was the case throughout much of 2017. Other food prices recorded an increase in annual inflation, from 1.9% in February to 2.3% in May. The contribution of energy prices to annual headline inflation was higher in May, due to the increase in international fuel prices, in

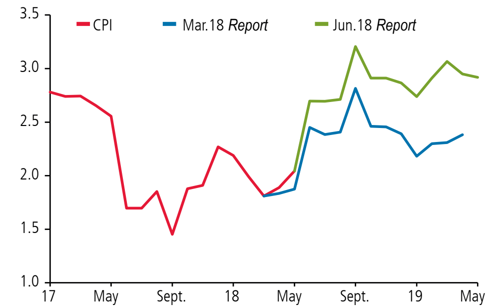
particular gasoline (figure IV.5). As usual, there is a lag in the pass-through to domestic prices, mainly due to the application of the fuel price stabilization mechanism (MEPCO). Therefore, the higher fuel prices are expected to continue affecting local inflation in the coming months (box IV.1), together with the recent depreciation of the peso. Electricity rates increased in April due to an increase in transmission costs following the entry into effect of the new rate schedule for electricity transmission charges[1]/, which was not fully offset by the approval of a new decree reducing the node price based on past appreciation[2]/.

INFLATION OUTLOOK

In the baseline scenario, the short-term forecast for annual inflation has been revised upward, mainly due to the aforementioned increase in fuel prices in pesos. Thus, in the baseline scenario, annual CPI inflation will be 2.8% in December (2.3% in the March *Report*). CPIEFE inflation, in turn, is still expected to slowly converge to 3%—with almost no change in the forecast since March. This is consistent with an economy that, over and above the most recent data, will gradually close the output gap over the course of the next two years and with an exchange rate that will return to the average of the last fifteen or twenty years in the same period. As a result, the assessment of inflation convergence in the medium term, as reflected primarily in the CPIEFE path, has not changed significantly since March.

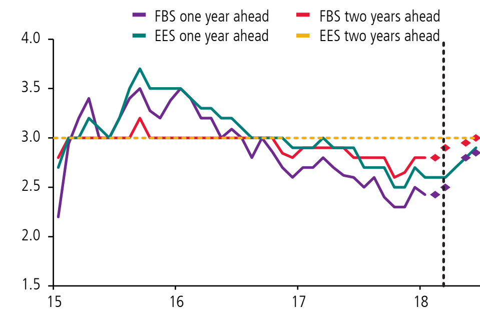
Market inflation expectations have increased for the short term. Inflation insurance anticipates annual CPI inflation of 2.9% in December 2018, 50 basis points higher than on the cutoff of the March *Report* (figure IV.6). Similarly, the June Economic Expectations Survey (EES) revised the December forecast upward to 2.8% annually (2.6% in March). One year ahead, the different expectations measures rose, to 2.9% annually. Two years ahead, the last Financial Brokers Survey (FBS) available on the cutoff of this *Report* raised its forecast one-tenth, to 3.0% annually, while the June EES held at 3% (figure IV.7).

FIGURE IV.6
Actual inflation and inflation insurance
(annual change, percent)



Sources: Central Bank of Chile and National Statistics Institute.

FIGURE IV.7
Inflation expectations surveys (1) (2)
(annual change, percent)



(1) The FBS is for the first half of each month through January 2018. As of February (marked with diamonds), the survey is published two working days after the publication of the minutes of the monetary policy meeting and three working days before the monetary policy meeting.
(2) The vertical dotted line indicates the cutoff date of the March 2018 *Monetary Policy Report.*

Source: Central Bank of Chile.

[1]/ Exempt Resolution 239, of 03 April 2018.

[2]/ Decree 12T.

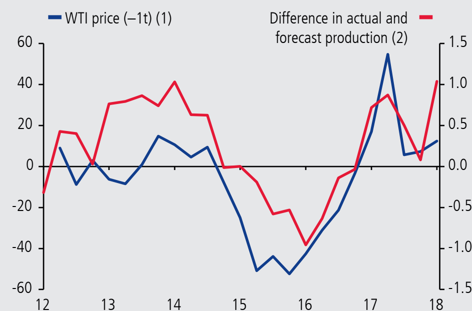
BOX IV.1
THE RELEVANCE OF OIL IN THE CHILEAN ECONOMY

The oil price has increased significantly and unexpectedly in the last few months. Consequently, in the baseline scenario of this *Report*, the 2018–2020 forecast for the average Brent/WTI price is just over 10% higher than in March. This change affects the baseline scenario in several ways. Most immediately, it has a direct affect on short-term inflation that largely explains the upward revision for December of this year. In the medium term, the effects are channeled through lower terms of trade, lower disposable income, and an impact on output. These effects, while significant, are smaller than in the past, because oil is less important in the international and national energy matrix, resulting in a smaller impact on growth. In addition, world oil production today is more elastic to price changes, due to the extraction of shale oil, so price increases tend to revert sooner than they would have in the past. Regardless, persistent changes in the oil price and its expected path must be taken into account for the configuration of the macroeconomic scenario. As such, changes in energy costs have always been a focal point in the Central Bank's analysis[1]/.

In the second quarter, the oil price rose significantly, going over the maximum of the last four years in May. This trend is largely associated with geopolitical tensions in the Middle East, combined with stable global demand, controlled production by OPEC and Russia, and a return of global inventories to the average of the last five years.

In the baseline scenario, prices were projected to fall, in line with oil futures as of the cutoff date. This is consistent with the fact that the extraction of shale oil in the United States has increased the price elasticity of supply. It has thus been the case in recent years that as prices rise, the quantity of oil produced using this technology increases, limiting the price hike (figure IV.8).

FIGURE IV.8
WTI oil price and the difference in actual and forecast production
(percent; millions of barrels per day)



(1) The annual change of the WTI oil price, lagged one quarter.
(2) The difference between actual production and the production forecast for the following year, in millions of barrels per day.
Source: Energy Information Administration.

While prices can be expected to fall in the medium term, in the short term there are factors that could generate deviations. On the one hand, the oil distribution capacity in the United States could create bottlenecks and stall shale oil production, causing the short-term response of supply to be lower than in the medium term. This could explain, in part, why WTI oil (which is sold in the U.S. market) has seen a smaller price increase than Brent oil (sold in European markets). On the other hand, geopolitical events in the Middle East—particularly in Iran—and Venezuela could represent an upside risk for prices, the consequences of which, in the medium term, will depend on how they evolve.

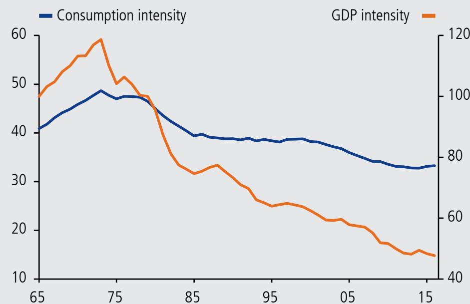
For a net importer like Chile, an increase in the oil price can be expected to reduce output and increase inflation. Conceptually, an increase in the oil price affects the economy through two channels: consumption and production. Through the former, a higher oil price reduces purchasing power, due to higher energy

[1]/ See, for example, *Monetary Policy Report*, March 2011 (box I.1); *Monetary Policy Report*, March 2012 (box IV.2); *Monetary Policy Report*, December 2013 (box V.1).

costs, and therefore reduces the demand for all consumer goods, due to the income effect (where energy consumption falls even more sharply due to an additional substitution effect). Through the latter, marginal costs increase, and the demand for all factors of production contracts (especially oil due to the substitution effect), causing a contraction of local aggregate supply and putting upward pressure on prices.

The magnitude of these effects will depend on the persistence of the oil price increase and the particular characteristics of a given economy, especially the intensity of oil use and consumption and the available substitutes. In Chile, the use of oil in production has fallen considerably in recent years, which curbs the effects of the current increase. A recent report by the World Bank shows that this is a global phenomenon, finding a downward trend in the intensity of use and consumption worldwide (figure IV.9)[2]. At the same time, in contrast to past events, the oil price hike could be expansionary in the United States given the exploitation of shale oil, which could change the output response of Chile's trading partners.

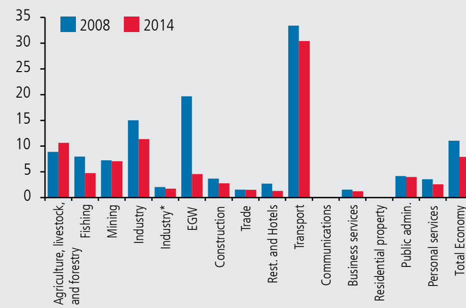
FIGURE IV.9
Intensity of oil use (*)
(percent; index: 1965=100)



(*) Consumption intensity is measured as oil consumption over total primary energy consumption. GDP intensity is measured as oil consumption over real GDP.
Source: World Bank (2018).

In line with the above discussion, the input-output matrices for the Chilean economy show that the weight of oil and oil derivatives in the cost of production has decreased in the last ten years. A comparison of the 2008 and 2014 matrices shows that the share in intermediate consumption fell from around 11% to close to 8% (figure IV.10)[3]. Relative to gross production value, the cost share declined from 6 to 4%.

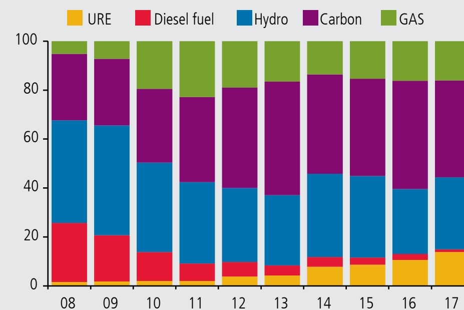
FIGURE IV.10
Intermediate consumption of oil and oil derivatives
(percent of total intermediate consumption)



(*) Excluding fuel production.
Source: MIP 2008 and 2014, Central Bank of Chile.

In recent years, the importance of oil for electric power generation has also declined considerably, as diesel and oil have been substituted with other sources, in particular unconventional renewable energy (URE) (figure IV.11).

FIGURE IV.11
Energy matrix: SIC and SING (*)
(percent)



(*) SIC: Central Interconnected System; SING: Far North Interconnected System.
Source: National Electricity Coordinator.

[2]/ See World Bank, "The 2014–16 Oil Price Collapse in Retrospect: Sources and Implications" (2018).

[3]/ While this ratio is calculated using nominal values, the drop in the ratio is not due to a drop in the average oil price (from 2008 to 2014), given that both the CPI fuels and the WTI in pesos are higher in 2014 than in 2008.

Consequently, oil imports have decreased as a share of total imports, falling, in real terms, from around 30% in 2003 to 10% thus far in the decade (figure IV.12).

FIGURE IV.12
Oil and oil derivatives imports
(percent of total imports, quarterly moving average)

Source: Central Bank of Chile.

In the absence of major changes in the weight of energy products in the consumption basket in recent years, the price impact for consumers will be mitigated by other mechanisms, such as the fuel price stabilization mechanism (MEPCO) and the indexation formulas for electricity tariffs. Consequently, the pass-through of an international oil price hike to local fuel prices or electricity rates is neither immediate nor direct. In the case of electricity rates, the pass-through is lower than in the past due to the diversification of the energy matrix. In the case of other prices in the consumption basket, the pass-through will depend on the importance of oil in production costs, which has decreased, as mentioned, and where the main channel is transport services (figure IV.10).

In this context, the recent shifts in the oil price can be expected to have an effect on output and inflation in the medium term, but to a lesser magnitude than in the past. Considering the assumptions of the baseline scenario, an oil price that is, on average, just over 10% higher in the 2018–2020 period causes an increase in inflation of 0.3–0.5 percentage points (pp) in December 2018 and reduces output growth by 0.1–0.3 pp in 2019.

The recent increase in the oil price is clearly relevant for the Chilean economy, but the impact on activity should be lower than in past episodes, due to the reduction in the use of oil in production processes and the stronger response of global oil production. The effect is somewhat larger on the short-term inflation forecast, and it is the most important factor explaining the change in the inflation forecast for December of this year.

V. INFLATION SCENARIOS

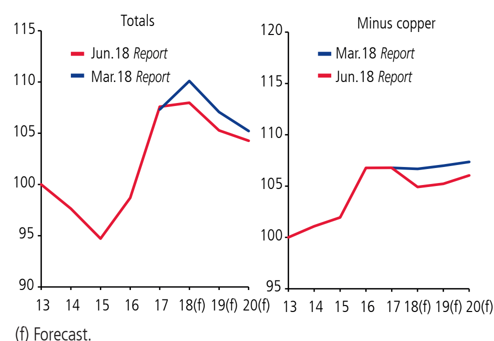
This chapter presents the Board's assessment on the Chilean economic outlook over the next two years. Projections of the most likely inflation and growth trajectories are included. As these trajectories are conditional on the assumptions in the baseline scenario, the Board's assessment of the risk balance for output and inflation is also provided.

BASELINE PROJECTION SCENARIO

The evolution of the macroeconomic scenario has reduced the risks that inflation could delay its convergence to 3%. Activity has strengthened the recovery process that started last year, growing somewhat above expectations in the first quarter of the year, combining greater dynamism in lines associated with investment and durable consumption, and probably transitory surprises in supply sectors. At the same time, the oil price hike has pushed up the short-term inflation forecast while inflation expectations have remained aligned with the target over the two-year horizon. However, the expected trajectory for core inflation is not far from the March estimates, and it is expected to gradually return to 3% during the next two years. This is based on the fact that the economy still has gaps that will not be closed at a very different pace than projected in March. Also, the external impulse that the Chilean economy will receive is slightly lower than the one considered in March, with financial conditions adjusting faster—with a global appreciation of the dollar and higher interest rates—and less favorable terms of trade, which owe mainly to the rise in the oil price. In this context, the Board has kept the MPR at 2.5%, and has announced that the monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%.

The external impulse that the Chilean economy will receive in the baseline scenario is slightly lower than contemplated in the March *Monetary Policy Report.* On the activity side, projections do not change on aggregate, except for some economies. Thus, it is still foreseen that in the 2018-2020 period our trading partners will grow above their average of the three previous years. In the developed economies, the greater dynamism in the U.S. stands out, in comparison with the Eurozone and Japan. For the U.S., an expansion of 2.7%

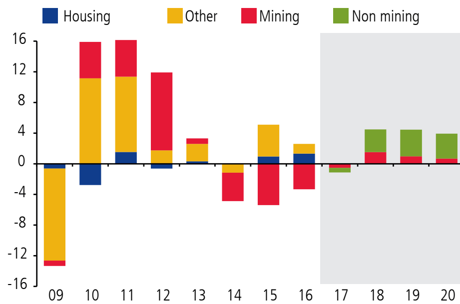
FIGURE V.1
Terms of trade
(index, 2013=100)



(f) Forecast.

Source: Central Bank of Chile.

FIGURE V.2
Real annual contributions to GFCF (*)
(percentage points)



(*) For 2017 mining investment is estimated using FECU information. Housing investment uses household investment data taken from the national accounts by institutional sector.. The other GFCF component is a residue. Reported projections for the years 2018, 2019 and 2020 are used forecasting models of the Central Bank and sectoral sources, including the Capital Goods Corporation (CBC)'s investment plans and cadastral surveys.

Source: Central Bank of Chile.

is expected this year and 2.3% and 1.9% for the next two. This, in a context of a tight labor market, high consumer confidence, investment plans at their highest of several years and an important fiscal package. For the Eurozone, an expansion a little slower than that of 2017 is still foreseen for the years ahead, with projections that do not change with respect to the March estimates (2% on average in 2018-2020). Thus, in line with expectations, the first quarter already saw a slowdown, and most of the short-term indicators continue to point towards a moderate expansion going forward. For Japan, expectations are of more limited and marginally lower growth rates than those projected in March, taking into account the actual figures in the year to date.

International financial conditions are still good from a historical perspective, but the baseline scenario assumes that they will adjust faster. In fact, this *Report* considers that the process of interest rate hikes in which the Federal Reserve is embarked will occur at a somewhat faster pace. This, considering the state of the gaps in the U.S. economy, both in the labor market and in growth and the inflation trajectory, in a context in which, furthermore, an important fiscal impulse is being injected. The contrast with developments in the Eurozone and Japan—where the process of closing gaps appears to be lagging behind and therefore so do the trajectories of normalization of its monetary policy—has triggered movements in the dollar, interest rates and capital flows in the global markets. Although the adjustment of external financing conditions for emerging economies had been anticipated in a number of previous *Monetary Reports,* the events of recent months seem to have sped it up. In this context, some economies that accumulated vulnerabilities in the past—high current account or fiscal deficits—and/or that are undergoing complex political or social situations, may face more severe financing difficulties. However, given that the Chilean economy does not present significant macroeconomic imbalances, the baseline scenario considers that the positive effects of the economic acceleration to which the adjustment of external financial conditions responds will dominate, without the occurrence of disruptive adjustments in conditions for Chile.

The terms of trade are less favorable compared to March, especially because of the recent behavior of the prices of oil and its derivatives (figure V.1). In the past few months its prices have risen and, in fact, Brent reached US$80 per barrel at some moments of the second quarter. Although the futures point to a price decrease going forward, considering that part of the lower supply could be covered by the OPEC and U.S. producers of shale oil, the higher starting point results in the baseline scenario projections for the Brent-WTI oil barrel rising to US$69, US$66 and US$61 in 2018, 2019 and 2020, respectively. Copper price has remained above US$3 per pound since the closing of the last *Report* and projections remain practically unchanged from March. This, in a context in which China's copper imports remain dynamic and inventory levels in the stock market show some depletion. Towards the statistical closing of this

Report its price rose to almost US$3.3, according to market reports due to the uncertainty surrounding downtimes due to labor negotiations. The baselines scenario considers that these spikes are temporary. The prices of other export products have shown dissimilar behavior, where the higher price of salmon and lower prices of a few fruits are worth noticing. With this, the terms of trade will have a reduction of the order of 3% in the projection horizon.

In Chile, so far this year activity has grown somewhat above the March estimates. Although rates of expansion of the order of 4% per year were expected for GDP in the first part of the year—considering the low comparison base left by downtime in the *Escondida* and the fewer days worked in early 2017—the effective data exceeded expectations. The main surprises came from the stronger dynamism of investment-related sectors and some items of durable consumption, better results in some mines and some specific issues in fishery and EGW. However, as anticipated in several previous *Reports*, for the second half of the year, as these factors fade away, the growth rates will be lower than those of the first half. This leads to project that this year GDP will grow between 3.25% and 4%, which compares with the 3.0%-4.0% range assumed in March[1]/. The ranges for 2019 and 2020 are unchanged from the March projections.

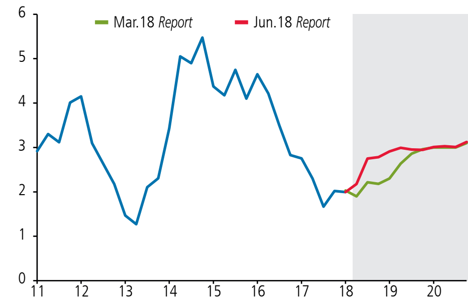
Considering these numbers, on average the economy will grow above potential in the 2018-2020 period, closing the activity gap within the policy horizon, similar as foreseen in the March *Report*. The Board continues to estimate the economy's growth potential between 2.5% and 3%, and that it will approach trend growth—between 3% and 3.5%—in as much as investment recuperates, short-term constraints fade out and resources are reallocated to more productive activities.

The projections of this baseline scenario are based on monetary policy maintaining its clearly expansionary stance over the projection horizon and the adjustment of mining and housing investment coming to an end. Projections also use as a working assumption that in 2018 the economy will receive a fiscal impulse in line with the current budget, including the adjustments announced by the Government. From that point onwards, fiscal expenditure is assumed to continue on its path of gradual consolidation as defined in the decree recently issued by the authority.

About the components of expenditure, the stronger dynamism of the early months of the year of gross fixed capital formation (GFCF) is key in explaining the GDP growth adjustment in 2018. Updated information that allows to calculate a sectoral decomposition of investment shows that after four years of contraction, the adjustment cycle of mining investment concluded at the end of 2017 (figure V.2). Particularly, at the end of that year a recovery process linked mainly to projects led by Codelco started—something that according to partial information continued this year. On the contrary, nor

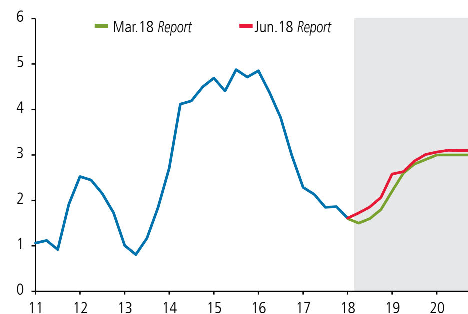
[1]/ In this *Report* the growth projection range for the current year is adjusted from one percentage point to 0.75 percentage points. See box V.1, *Monetary Policy Report*, March 2016.

FIGURE V.3
CPI inflation forecast (*)
(annual change, percent)



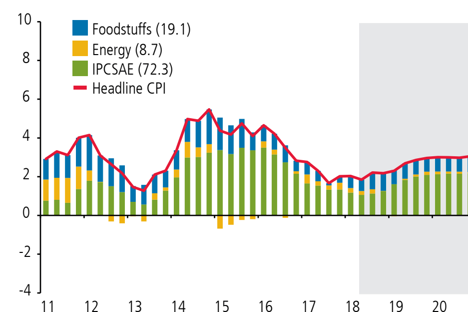
(*) Gray area, as from the second quarter of 2018, shows forecast.
Sources: Central Bank of Chile and National Statistics Institute (INE).

FIGURE V.4
CPIEFE inflation forecast (*)
(annual change, percent)



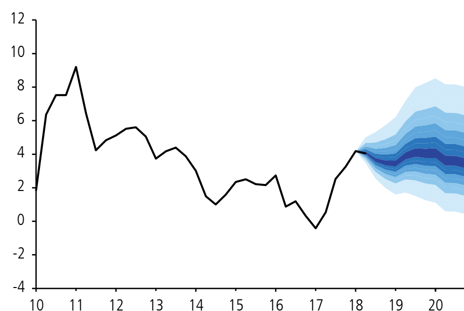
(*) Gray area, as from the second quarter of 2018, shows forecast.
Sources: Central Bank of Chile and National Statistics Institute (INE).

FIGURE V.5
Contribution to annual CPI inflation (*)
(percentage points)



(*) Starting in January 2014, calculations are based on the new indices with base year 2013=100, so they may not be strictly comparable with earlier figures. Gray area, as from second quarter of 2018, shows forecast.
Sources: Central Bank of Chile and National Statistics Institute (INE).

FIGURE V.6
Quarterly GDP growth (*)
(annual change, percent)



(*) The figure shows the confidence interval of the baseline projection over the respective horizon (colored area). Confidence intervals of 10%, 30%, 50%, 70% and 90% around the baseline scenario are included. These intervals are calculated using the RMSE of the MAS-MEP models for the 2009-2017 average and summarize the risks on future growth as assessed by the Board. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

Source: Central Bank of Chile.

surveys on investment projects nor information collected in connection with the *Business Perceptions Report* (BPR) reveal an evident acceleration of private mining. Regarding housing investment, new information reveals that the cycle originated by changes in tax policies was more marked. In 2016—the year with the strongest impulse on house sales without VAT—the sector's investment grew 8.9% annually, while in 2017 it had a bigger contraction than previously thought. Going forward, the downward correction in investment in construction included in the CBC Survey, the stabilization of house sales and on aggregate still high stock, lead to projections of stabilization of the investment cycle of this sector. Regarding productive investment, most of the interviews made for the BPR show that a more noticeable pickup will occur towards the end of the year. In terms of its components, investment in machinery and equipment will have special preponderance, whose higher growth is explained by necessary replacements after several years of limited growth. For 2019 and 2020, the GFCF growth projections have only minor changes. With this, in 2018 the GFCF as a percentage of GDP should be 21.7% and 21.6% in real and nominal terms, respectively, and then rise marginally in the years ahead.

On the consumption side, the revisions to this year's projections reflect the greater dynamism observed so far in the consumption of durable goods and some services, with which private consumption will expand marginally more than foreseen in March. However, going forward, the evaluation of the state of the labor market—one of its main fundamentals—leads to moderate this greater dynamism. The null creation of private salaried employment, and wages growing below their historical averages, together with the somewhat higher inflation projection, determine a downward correction of the real wage bill to 4% on average in the forecast horizon (4.5% in March), which will hold back the expansion of consumption.

In the baseline scenario, the current account will post a greater deficit than estimated in March, throughout the projection horizon, reflecting mainly the deterioration of the terms of trade and its impact on oil imports. At trend prices[2]/ the current account deficit will be in the vicinity of 3.5% of GDP.

The general outlook for core inflationary pressures shows no major changes from March. The annual variation of the CPI will reach the 3% target sooner, as a consequence of the higher international price of oil, to which the prices of some foods are added (figures V.3, V.4 and V.5). The effect of the sharper exchange rate depreciation—as compared to the March forecast—on import prices is partly offset by the impact that the slower growth in wages will have

[2]/ This measurement adjusts the value of mining exports and fuel imports considering the deviations of the prices of copper and oil from their long-term estimates. The same for rents and transfers associated with copper exports. The rest of exports and imports are valued using the current prices. It does not correct for possible changes in quantities exported or imported due to changes in the prices of copper or oil. The calculation uses long-term prices of US$2.7 per pound of copper and US$70 per barrel of oil (boxes V.2 in the September 2012 and December 2015 *Monetary Policy Reports*).

on the inflation of services. Going forward, the baseline scenario assumes that the real exchange rate will return to near its averages of the last 15 to 20 years over the course of the forecast horizon, this time the second quarter of 2020. In the baseline scenario, led by its more volatile component, the CPI will reach 3% in the first half of 2019, and will not deviate significantly before the end of the projection horizon. In any case, the possibility that during some months of 2018, headline inflation could temporarily reach 3% or somewhat above that figure should be considered. In the next few month some particular issues will affect some of the inflation components, with relevant effects in June and September. Among the most important, food prices will be affected by the low base of comparison that the unusual behavior of some of them had in the same months of 2017. Considering this, it should not surprise if the annual change of CPI or CPIEFE show marked increases in some of these months, which do not mean that the inflation tendency changed. The CPIEFE will remain below or around 2% for the remainder of the year and will only approach 3% by the end of 2019, thus following a path very similar to that contemplated in March.

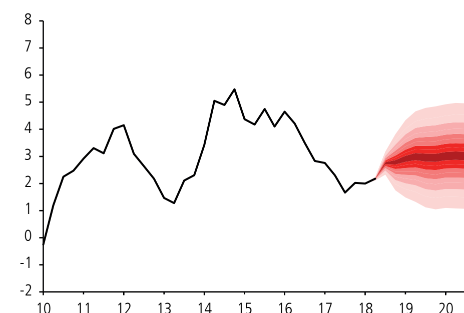
This trajectory is consistent with qualitative information taken from the BPR, where the respondents do not see themselves raising prices anytime soon. This is due to still intense competition and because the efforts of companies to recover margins have focused on cost reductions rather than price increases. In addition, the expected path for inflation is consistent with an economy that, beyond recent data, will close its capacity gaps over the next two years. Thus, the monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

RISK SCENARIOS

As always, monetary policy conduct and possible adjustments to the policy rate will be conditional on the effects of incoming information on the projected inflation dynamics (figures V.6, V.7 and V.8).

Just as in March, from the standpoint of its impact on local activity, the balance of risks in the external scenario is downwards biased. The main risk on this front continues to be the possible abrupt deterioration of external financial conditions, especially in a context in which markets seem to be more responsive to negative news. Whatever happens with the U.S. economy is relevant in this area, particularly because a sharper increase in inflationary pressures could

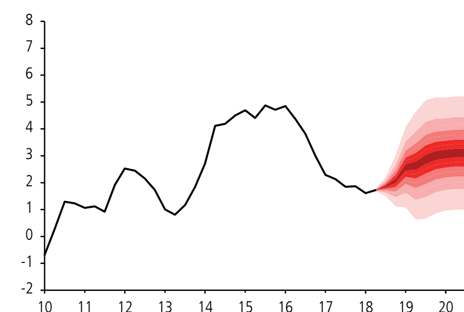
FIGURE V.7
CPI inflation forecast (*)
(annual change, percent)



(*) The figure shows the confidence interval of the baseline projection over the respective horizon (colored area). Confidence intervals of 10%, 30%, 50%, 70% and 90% around the baseline scenario are included. These intervals are calculated using the RMSE of the MAS-MEP models for the 2009-2017 average and summarize the risks on future inflation as assessed by the Board. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

Source: Central Bank of Chile.

FIGURE V.8
CPIEFE inflation forecast (*)
(annual change, percent)



(*) The figure shows the confidence interval of the baseline projection over the respective horizon (colored area). Confidence intervals of 10%, 30%, 50%, 70% and 90% around the baseline scenario are included. These intervals are calculated using the RMSE of the MAS-MEP models for the 2009-2017 average and summarize the risks on future inflation as assessed by the Board. As a working assumption for the MPR, its short-term trajectory should be similar to the one of the Financial Brokers Survey available at the statistical closing of this *Report*. For the medium term, the Board continues to estimate that the MPR will stand near its neutral level towards 2020, which it estimates between 4% and 4.5%.

Source: Central Bank of Chile.

require an abrupt increase in the federal funds rate. Nor can it be ruled out that in an environment of lower appetite for risk, news of different signs could trigger an increase in volatility. Risks coming from the trade policy measures adopted in the U.S. also persist, considering the renewed tensions with its main trading partners. Likewise, China continues to be a source of risk, as it has yet to resolve imbalances in several of its markets. And there is also the evolution of the oil price. If it rises or stays constant for longer than expected, it could have higher effects on global growth and inflation.

The bias and probabilities of external risk scenarios underscore the need to maintain strong macroeconomic fundamentals, especially in a small, open economy like Chile. Actually, recent events have had a greater impact in those countries with larger debt, and fiscal and/or current account deficits.

About the domestic economy, the Board estimates that the risks on activity are upwards biased. The data of the last few months has exceeded expectations and a scenario where this greater dynamism persists cannot be ruled out, in particular if investment shows better figures than projected. Part of this risk is mitigated by the possibility that the labor market, and in particular private salaried employment, could take longer than expected to respond to the higher growth.

Regarding inflation, the Board estimates that the risks are unbiased. The downside risks to its 3% convergence have moderated. However, it is projected that core inflation will remain below 2% for a while longer, consistent with determinants of the convergence of inflation to 3% in the medium term being similar to those outlined in March. In this context, the Board considers that monetary stimulus will be kept around its current levels and will start to decrease as macroeconomic conditions keep driving inflation convergence towards 3%. Accordingly, it reaffirms its commitment to conduct monetary policy with flexibility, so that projected inflation stands at 3% over the two-year horizon.

GLOSSARY

CEMBI: Corporate Emerging Market Bond Index. A corporate risk index maintained by JP Morgan. Measures the differential return on corporate bonds in dollars issued by banks and corporations in emerging economies, relative to U.S. Treasury bonds, which are considered risk free.

Commodity exporters: Australia, Canada, and New Zealand.

CPIEFE: CPI excluding food and energy prices, leaving 72% of the total CPI basket.

DXY: U.S. Dollar Index. An index of the value of the U.S. dollar relative to a basket of currencies, which includes the following countries: Canada, Eurozone, Japan, Sweden, Switzerland, and United Kingdom.

EMBI: Emerging Market Bond Index. A measure of country risk, calculated by J.P. Morgan as the difference between the interest rate on dollar-denominated bonds issued by emerging economies, and the interest rate on U.S. Treasury bonds, which are considered risk free.

EPI: External price index for Chile, calculated using the wholesale price index (WPI)—or the CPI if the WPI is not available—expressed in dollars, of the main trading partners included in the MER.

Excess capacity: A broader set of indicators for measuring inflationary pressures, which includes not only the output gap, but also labor market conditions, electricity consumption, and installed capacity utilization in firms.

Growth of trading partners: The growth of Chile's main trading partners, weighted by their share in total exports over two moving years. The countries included are the destination for about 94% of total exports, on average, for the 1990–2017 period.

IVUM: Import price index.

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

MER-5: MER against the following five currencies: Canada, the Eurozone, Japan, United Kingdom, and United States.

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

MER: Multilateral exchange rate. A measure of the nominal value of the peso against a broad basket of currencies, weighted as for the RER. For 2017, the following countries are included: Argentina, Belgium, Bolivia, Brazil, Canada, China, Colombia, France, Germany, India, Italy, Japan, Mexico, Netherlands, Paraguay, Peru, South Korea, Spain, Thailand, United Kingdom, and United States.

Output gap: A key indicator for measuring inflationary pressures, defined as the difference between the economy's actual output and its current production capacity in non-natural-resource sectors (other GDP).

Potential GDP: The economy's current production capacity. Also called short-term potential GDP.

RER: Real exchange rate. A measure of the real value of the peso against a basket of currencies, which includes the same countries used to calculate the MER.

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

Trend GDP: The medium-term growth potential of the Chilean economy, where the effect of shocks that usually alter production capacity in the short term have dissipated and the productive factors are thus used normally. In this context, growth depends on the structural characteristics of the economy and the average growth of productivity, variables that, in turn, determine the growth of productive factors.

World growth at market exchange rate: Each country is weighted according to its GDP in dollars, published in the *IMF World Economic Outlook* (WEO, April 2018). The sample of countries used in the calculation represent around 90% of world growth. For the remaining 10%, average growth is estimated at 2% for the 2018–2020 period.

World growth: Regional growth weighted by its share in world GDP at PPP, published in the *IMF World Economic Outlook* (WEO, April 2018). World growth forecasts for the period 2018–2020 are calculated from a sample of countries that represent about 85% of world GDP. For the remaining 15%, average growth is estimated at 3.6% for the period.

ABBREVIATIONS

BCP: Central Bank bonds denominated in pesos

BCU: Indexed Central Bank bonds denominated in UFs

BIS: Bank for International Settlements

BLS: Bank Lending Survey

BPR: *Business Perceptions Report*

CPIEFE: Consumer price index excluding food and energy

EES: Economic Expectations Survey

FBS: Financial Brokers Survey

IIF: Institute of International Finance

IMCE: Monthly Business Confidence Index

IPEC: Consumer Confidence Index

IPSA: Selective Stock Price Index

LCI: Labor cost index

MPR: Monetary policy rate

MSCI: Morgan Stanley Capital International

SBIF: Superintendence of Bank and Financial Institutions

SNA: System of National Accounts

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

WI: Wage index

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CENTRAL BANK OF CHILE
Institutional Affairs Division
Publications Department
JUNE 2018

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