

# Financial market developments in Chile

Joaquín Vial<sup>1</sup>

## Abstract

The paper reviews the financial development of the Chilean economy in recent decades, including some references to economic reforms dating back to the 1970s and 1980s, and then examines the interaction between the financial sector and the implementation of fiscal and monetary policies. The final section analyses these interactions in the crises of 2007–09 and 2019, together with the policy response and its economic impact.

JEL classification: E32, E52, E58, E61, F31, F41.

Key words: Chile, financial development, exchange rate policy, monetary policy, fiscal policy, financial crisis.

<sup>1</sup> Deputy Governor, Central Bank of Chile.

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## Introduction

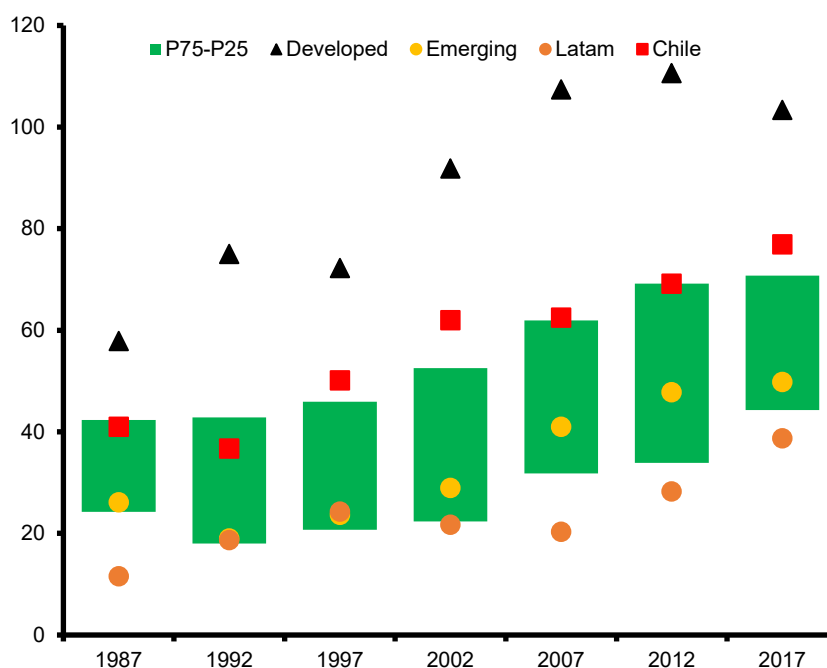
The development of financial markets in Chile has proceeded from the financial reforms that started in the mid-1970s. A rapid financial liberalisation started in the second half of the 1970s, which was followed by a major financial and economic crisis in the early 1980s. The banking system was restructured, a new banking law was enacted in 1986, and several financial market modernisations were introduced in the ensuing decades. The Banking Law set strict standards and regulations, and much of the ensuing legislation in the 1990s and 2000s introduced gradual relaxations. The most recent revision of the Banking Law was approved in 2017, and is currently being implemented. It was designed to update regulations to the Basel III standards and makes deep changes to the financial regulation and supervision of the financial system, merging the existing Banks Superintendency with the Securities and Insurance Superintendency into the new Financial Markets Commission headed by a board of five members.

In a parallel development, a new pension system was introduced in 1981, replacing a fragmented and very unfair pay-as-you go-system, which was already in deficit in the early stages of the demographic transition, for a fully funded privately managed system of individual accounts in privately managed pension funds (AFP). The volume of financial assets managed by these institutions gradually rose from zero to about 70% of GDP over the decades, becoming a driving force behind the development of the financial system.

This note is organised in three sections: the first describes the main characteristics of the Chilean financial system, the second discusses its role in the operation of monetary policy as well as the monitoring of financial stability, and the final one compares the interaction between the financial sector and the evolution of the economy during the global financial shocks of 2007–09 and the recent crisis.

## A brief description of the Chilean financial system

Chile has a relatively large and well developed financial system, compared with countries with similar levels of per capita income as well in comparison with the rest of Latin America (Graph 1). This is reflected in the depth of the financial system, as measured by the ratio of domestic credit to the private sector, as well as in people's access to financial products, such as bank accounts. Since most international capital controls were phased out at the end of the 1990s, the market is well integrated into the global financial system, with the active participation of Chilean firms investing in foreign financial assets, either directly or via institutional investors, as well as foreigners participating in the Chilean market.



<sup>1</sup> The financial resources provided to the private sector by domestic banks as a share of GDP. Domestic banks comprise commercial banks and other financial institutions that accept transferable deposits, such as demand deposits. Countries included in the sample: Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Hong Kong SAR, China, Iceland, Ireland, Italy, Japan, Luxembourg, Holland, New Zealand, Norway, Portugal, Singapore, Slovakia, Spain, Sweden, Switzerland, the United Kingdom and the United States; Argentina, Brazil, Bulgaria, Chile, China, Colombia, Croatia, Czech Republic, Ecuador, Egypt, El Salvador, Estonia, Gabon, Georgia, Ghana, Hungary, India, Indonesia, Iraq, Israel, Jamaica, Jordan, Kazakhstan, Korea, Lebanon, Lithuania, Malaysia, Mauritius, Mexico, Morocco, Nigeria, Pakistan, Panama, Peru, the Philippines, Poland, Russia, Saudi Arabia, Slovenia, South Africa, Sri Lanka, Thailand, Tunisia, Turkey, Ukraine, the United Arab Emirates, Uruguay, Venezuela and Vietnam.

Sources: Central Bank of Chile; World Bank, Global Financial Development Database.

One specific feature of the Chilean financial system is the large volume of securities indexed to past inflation, as measured by a daily unit of account (UF). This is used in medium- and long-term debt (public and private) including mortgages. This provides "insurance" against inflation risks, a legacy from the previous century. Institutional investors, especially AFPs and life insurance companies providing annuities are big players in this market, since pensions are indexed to the UF. Since these investors mainly buy and hold, liquidity in this segment of the market is lower than what might otherwise be expected. The fraction of sovereign Chilean debt held by foreigners is relatively small, and has been growing only in the last few years, as this debt grew and special measures were taken in the auctioning of new debt (eg larger amounts distributed into fewer auctions) in order to make it more attractive to large foreign investors. These investors prefer peso-denominated bonds with medium-term maturities (two to five years)

Financial assets by institutions, percent of GDP (2018)

Table 1

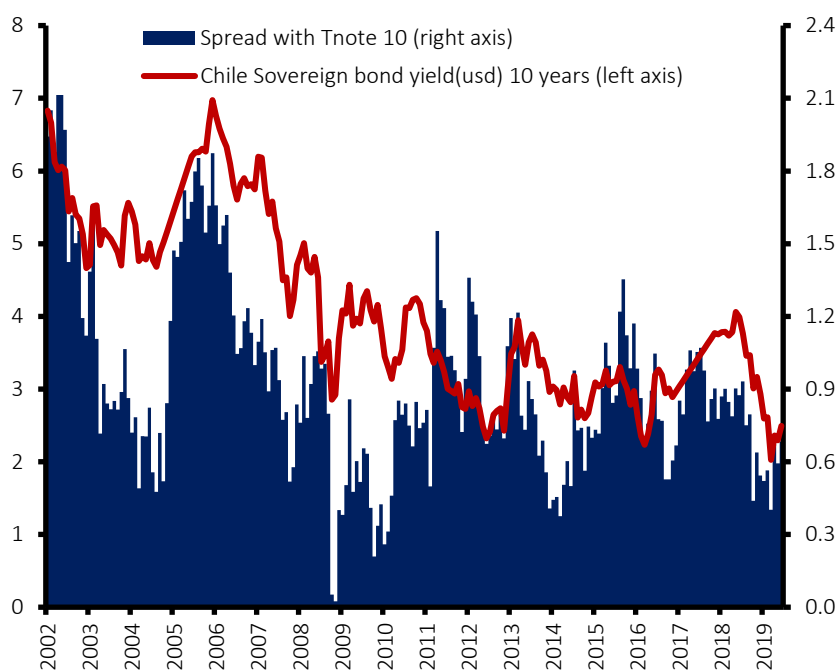
	Central Bank	Commercial Banks	Mutual and Investment funds	Insurance Companies	Pension Funds	Total Financial assets (Domestic)	Non resident financial investors
Cash and Deposits	1.8	9.6	10.7	0.9	5.4	28.4	1.0
Securities short term	0.0	2.6	0.4	0.0	0.3	3.3	0.0
Securities long term	12.4	5.8	11.7	14.2	32.8	76.9	25.5
Loans short term	0.1	9.7	0.6	0.0	0.0	10.4	2.1
Loans long term	0.2	75.0	2.5	4.7	0.0	82.4	34.9
Shares	0.1	3.1	66.8	3.1	36.3	109.4	86.8
Other	0.3	3.2	10.6	1.7	-0.3	15.5	4.7
<b>Total</b>	<b>14.9</b>	<b>109.0</b>	<b>103.3</b>	<b>24.6</b>	<b>74.5</b>	<b>326.4</b>	<b>155.0</b>

Source: Central Bank of Chile.

One important feature of the Chilean economy in recent decades is the combination of economic growth and a stable macroeconomic and financial environment. These factors have translated into low and stable interest rates, allowing for a significant development of the local financial market, as well as providing medium- and long-term funding for households and companies at an affordable cost.

Interest rates and spreads of Chilean sovereign debt (%)

Graph 2



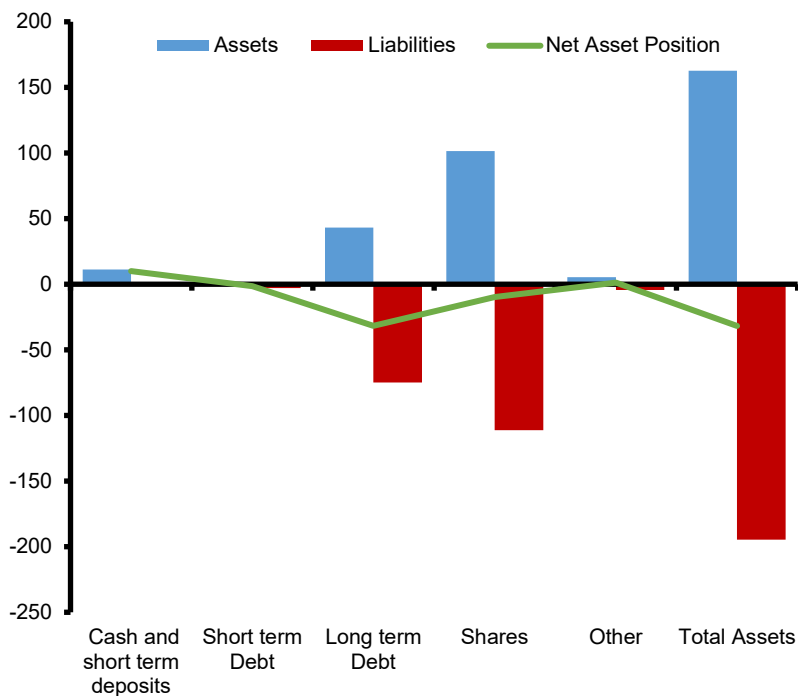
Sources: Central Bank of Chile; Bloomberg.

In terms of financial integration with international markets, the Chilean economy has evolved from being a closed capital account economy between the Great Depression and the late 1970s into a very open one, with significant assets and

liabilities in all major classes of assets, as shown in Graph 3. Two issues must be noted in that chart, though: one is that the classification of maturity is based on the original one at issuance and not actual duration. The other has to do with investment in foreign stocks (shares of public companies): some are portfolio investments (unmanaged) and the rest are FDI (managed). In the past, almost all Chilean assets abroad were unmanaged, but as Chilean companies began to expand abroad in the 1990s and 2000s, FDI began to gain importance. In any case, investment abroad in all asset classes has risen with the expansion of Chile’s pension funds and the gradual relaxation on their investment limits abroad.

International assets position of Chilean economy in 2018 as percentage of GDP

Graph 3

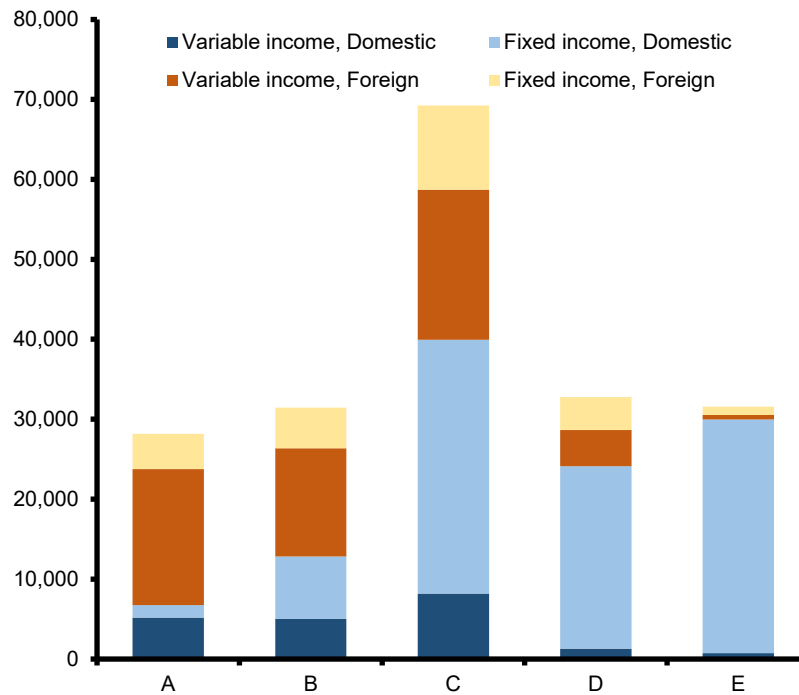


Source: Central Bank of Chile.

Given the size of the pension funds, changes in their portfolio have become increasingly significant for the operation of the financial system. They can be originated by the decisions of fund managers, and also from switches between different funds by affiliates of the system. Since 2003 there have been five classes of funds, ranging from Fund A, invested mostly in variable income assets, with a large fraction of them invested abroad, to Fund E, invested mostly in fixed income assets in Chile. In the last 10 years, recommendations by unregulated “advisers” operating through websites have resulted in significant switches between funds. Graph 4 shows the composition of the five funds in December 2018, expressed in US dollars.

Composition of the different types of pension fund by major asset class in December 2018 (millions of US dollars)

Graph 4



Source: Chilean Pensions Supervisor.

These funds have been labelled according to the regulators perception of risks, Fund A being marketed as the “riskiest” and Fund E as the “safest” fund, based on the assumption that variable income is riskier than fixed income. Another assumption was that investing abroad was riskier than investing at home, given that pensions will be paid in pesos, and foreign investments are exposed to exchange rate risk. As recent events show, this perception concerning the currency composition breaks down when there are large idiosyncratic domestic shocks.

Given that the local financial market is relatively small and less liquid than foreign markets, massive switches between extreme funds (A to E or vice versa) or between the large middle Fund C and the extremes (E or A) might cause liquidity problems in specific segments of the domestic financial market or in the foreign exchange market (more on this later).

## The financial system and the implementation of monetary and financial stability policies

Since 2001, Chile has had a fully-fledged inflation targeting policy, combined with a free-floating exchange rate and a fiscal policy based on a cyclically adjusted deficit

target.<sup>2</sup> The inflation target is 3%, and monetary policy is calibrated to achieve this forward-looking target within the next two years, which is a prudent way to do so given the lags involved in the transmission of monetary policy into actual inflation figures. Average inflation for this period has been 3.2% and deviations of two-years-ahead inflation expectations from 3% have been few and small, despite large fluctuations in the monthly figures for actual annual inflation.

Monetary policy is conducted through open market operations in the overnight funding rate in the interbank market. The aim is to keep this market rate aligned with the Monetary Policy Rate, which is the rate charged by the central bank in that market. The central bank is allowed to provide liquidity in pesos only to commercial banks. Given the large role of commercial banks in the short-term financial market (see Table 1), this is a powerful instrument. However, large portfolio switches, especially by institutional investors, who are mostly buy-and-hold investors, may have a temporary effect on other market participants, especially mutual funds and even on some banks, where these investors tend to “park” assets for liquidity reasons.

As regards financial stability policy, the mandate of the Central Bank of Chile is limited to ensuring the smooth operation of the payments system, including the role of lender of last resort to the banking system. The supervision and regulation of banks is the responsibility of the Financial Markets Commission (FMC), a separate entity created two years ago by combining the former bank supervisor and the securities and insurance supervisor. The recent reform of the Banking Law set up a number of coordination arrangements between the central bank and the FMC, including cross-reports on specific sets of regulations. One such instance is the activation of the countercyclical buffer established by that law, which is determined by the central bank, subject to a favourable report by the Ministry of Finance.

Given the systemic nature of the central bank mandate, the main policy instrument for financial stability purposes is the monitoring of financial system participants, as reported twice a year in the Financial Stability Report. This includes top-down aggregate stress tests for the banking system, as well as for other main participants in the financial system. Given the variety of participants in the system, there has been a major effort to explore the sensitivity of their financial positions to changes in the exchange rate, interest rates and real macroeconomic shocks in Chile and abroad. What these exercises show is that financial and exchange rate risks have only a limited impact in the financial system in Chile, but there are vulnerabilities to either short but very deep recessions, or shallower but prolonged ones. Even though capital seems sufficient to address these vulnerabilities at the aggregate level, the central bank has noted for some time that these ratios have not kept pace with the increases we have seen in Latin America and the advanced economies. In the coming years, banks will have to raise capital in order to comply with the new Banking Law.<sup>3</sup>

<sup>2</sup> The adjustment is applied both on the domestic activity cycle and to the price of copper, which is the main export of Chile and represents a significant fraction of the government budget.

<sup>3</sup> The financial system has been able to absorb two major shocks in less than nine months. First the social upheaval that took place in the last quarter of 2019 when GDP went from a 3.4% annual growth rate in the third quarter to -2.1% in the final one. More recently, the negative impact of the pandemic that began affecting the economy in the second half of March 2020 and was reflected in a 14.1% annual drop in April of the IMACEC (the monthly GDP indicator). This resilience is consistent with our stress tests results, but it reflects in part the effect of different policy measures taken by the central bank and authorities to provide liquidity in the emergency.

In terms of liquidity concerns, the central bank has also noted that overreliance on funding from mutual funds and institutional investors might be a vulnerability for the financial sector.

One issue of special interest in Chile is the interaction between monetary policy, exchange rate fluctuations and financial stability considerations. A free-floating exchange rate is a prerequisite for an effective monetary policy in a small open economy. This is especially true for a country like Chile, which is subject to large terms of trade shocks given the concentration of exports in copper (about 50% of total). Copper prices are subject to medium- and long-term cycles, while experiencing high short-term volatility, due to very low price elasticities both of supply and demand. In addition, as shown in Graph 3, this is a country with a very open financial account. As discussed in previous meetings in this forum (Naudon and Vial (2016)), this has been a useful instrument in the case of Chile, and one of the main reasons we have been able to focus on inflation control, while allowing short-term adjustments of the exchange rate as an external shock absorber. One reason for that success is that the government has built up sovereign funds to self-insure against copper price volatility, while holdings of foreign assets in pension funds have protected households' (future) incomes from adverse external shocks. Of course, the central bank also holds international reserves, of 13–15% of GDP, to provide foreign exchange liquidity to the economy as a whole (Vial (2019)). However, there are two conditions for a successful free-floating exchange rate in such an economy: first, domestic agents, including the financial sector, should be well prepared to cope with exchange rate volatility, and second, in the occasional cases in which the central bank has to intervene in the FX market, monetary policy should be conducted in a consistent manner. This might call for a more active role of fiscal policy in short-term macroeconomic stabilisation during these events.

The vulnerability of domestic actors (banks, other financial institutions, corporations and households) to exchange rate fluctuations is addressed regularly in the biannual Financial Stability Report. In recent years, concerns have been raised about the private sector's external debt. Our analysis shows that the situation looks more normal once allowance is made for the large debt of Chilean subsidiaries of multinationals with their matrices (a common way to finance FDI in capital-intensive sectors like mining). Other factors also mitigate currency risks: most corporations issuing external debt are involved in FDI abroad or exports, so that they have a natural hedge, and the rest tend to make use of financial derivatives to hedge against short- and medium-term fluctuations in the exchange rate.<sup>4</sup>

Regarding the mix of fiscal and monetary policy, tensions might arise if inflation requires a more expansionary stance, while the central bank feels it should intervene to prevent excessive volatility of the peso. Our experience shows that central bank credibility and monetary policy effectiveness could be compromised in the absence of coordinated policies (more on this in the last section of this note). If the government has the resources and the ability to act quickly, then coordination between these two sets of policy might help solve the problem. In 1998, Chile had a dual target of preventing excessive depreciation and following a crawling band, while at the same time pursuing an inflation target. When the Russian crisis broke out, the Bank decided to adhere to the exchange rate commitment at the cost of amplifying

<sup>4</sup> See Chapter IV in Central Bank of Chile, *Financial Stability Report, Second Semester 2019*, for further details.



the negative external shock. Ten years later, when inflation was climbing due to an overheated economy during the global commodity boom and the exchange rate was deemed overvalued, the central bank started to accumulate reserves, and a few months later inflation expectations began to diverge from the inflation target. The September 2008 events in the global financial markets solved these tensions for the central bank, even though high inflation and deviations of expectations from target delayed the reaction of monetary policy to these events, but when it came, it did so forcefully.

## Financial markets performance during crisis periods<sup>5</sup>

The Chilean economy has experienced two major economic shocks since the introduction of the current policy framework, based on inflation targeting, a flexible exchange rate and a fiscal policy based on a structural budget target.<sup>6</sup> The first was the 2007–09 global financial crisis, and the second, the recent period of social unrest and economic turmoil in Chile starting in the last quarter of 2019. In both cases, economic activity deteriorated sharply, the peso depreciated and asset prices slumped. In both cases, the financial system came under stress and the central bank had to act to prevent a crisis. Interestingly, these episodes differed in two key dimensions: the first one was a purely external shock, with local consequences, while the more recent crisis was a purely domestic shock, related to the role of the financial sector. In 2007–09, the (international) financial sector was one of the principal channels of transmission into the Chilean economy. The second crisis originated in a real shock and the financial sector had to be supported in order to assure an adequate flow of credit to firms and households.<sup>7</sup> In what follows, I will further compare these events:

1. Background (initial situation): in 2008, copper prices were extremely high, causing an appreciation of the currency. The economy had been growing fast and inflation was on the rise in spite of the peso's appreciation. The central bank started to accumulate reserves at the beginning of 2008, but shortly afterwards began to hike the Monetary Policy Rate to curb inflation, which was running well above target and causing some deviations of expectations from the two-years-ahead target. The fiscal position was solid, after a solid accumulation of resources in the sovereign funds, thanks to the application of the Fiscal Rule. In 2019, the economy had been growing below potential for more than four years, and the modest recovery that started at the end of 2017 was stalling. Inflation had been below target for more than two years and monetary policy had been quite expansionary for several years. Part of the explanation was a positive supply

<sup>5</sup> I do not discuss the current coronavirus crisis. A summary of central bank actions (in Spanish) can be found at [www.bcentral.cl/en/web/banco-central/medidas-excepcionales](http://www.bcentral.cl/en/web/banco-central/medidas-excepcionales). Fiscal policy measures and budgetary projections (in Spanish) can be found at [www.dipres.gob.cl/598/w3-propertyvalue-24862.html#recuadros\\_articulo\\_5520\\_group\\_pvid\\_25190\\_0](http://www.dipres.gob.cl/598/w3-propertyvalue-24862.html#recuadros_articulo_5520_group_pvid_25190_0).

<sup>6</sup> The current coronavirus crisis began to unfold in Chile in mid-March, after the initial draft of this paper was written. However, the policy reactions to the so-called social crisis that took place at the end of 2019 were similar to the current ones, but on a smaller scale. The coronavirus is a global crisis, but one in which the financial sector did not originate the shock.

<sup>7</sup> The coronavirus crisis is a global crisis caused by a real shock disrupting all economic activities, sharing much in common with both of the previous crises.

shock caused by a massive immigration flow that eased pressures on the labour market. The currency was stable and close to average historical values. Even though the government had been in deficit for a number of years, the fiscal position was solid, but instead of a positive net asset position, the government was now a net debtor, with gross public debt close to 28% of GDP.

Initial conditions at the onset of the two critical events

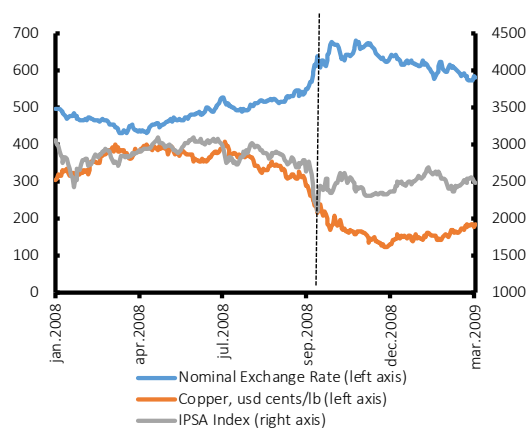
Table 2

	Crisis 2008-2009	Crisis 2019
Average growth of the last 5 years (%)	5.7	2.2
Output Gap (%)	0.6	-0.8
Inflation Rate (ann.%)	9.2	2.5
Monetary policy rate (%)	8.15	1.75
Government gross debt (% of GDP)	4.2	26.8
Government net debt (% of GDP)	-17.8	6
International Reserves (% of GDP)	14.2	14.3

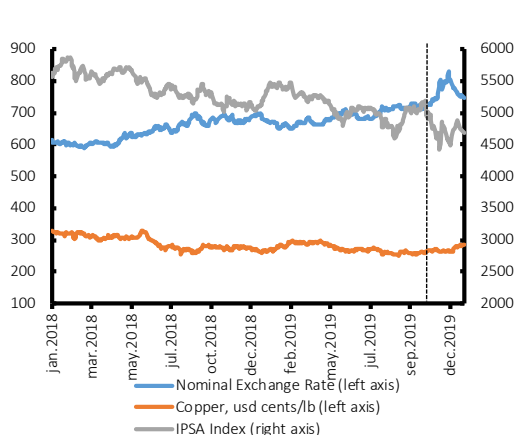
Source: Central Bank of Chile.

- Initial events: in 2007–09, the shock originated in the international financial markets, with a sudden stop in interbank lending after the Lehman crisis. As confidence deteriorated, economic activity fell off sharply in the advanced economies, rapidly eroding global trade and economic growth. Commodity prices and financial conditions deteriorated across the globe. In Chile, this was felt immediately through a sudden stop of short-term bank credit from international lenders (something that did not happen in the debt crisis of the 1980s), copper prices fell sharply and domestic confidence sank, with a major impact on consumption and investment decisions. The peso depreciated by 23% in nominal terms, putting additional pressure on short-term inflation. However, the real effective depreciation was much more modest due to the fact that almost all currencies were depreciating against the US dollar. In 2019, the crisis resulted in domestic social unrest, characterised by massive popular protests all over the country, triggered by a rise in Santiago’s subway fares, which quickly escalated into a wide range of demands on a diverse range of issues. These protests were accompanied by civil unrest, widespread looting and arson with destruction of private and public property and infrastructure, lasting for more than a month. There was a political crisis followed by an agreement to write a new constitution over a period of two years with a set calendar and requiring super-majorities (two thirds) for each article of the new text. Two referendums were agreed upon: one at the start to ratify or reject the decision to write a new constitution and the composition of the constitutional body, the other at the end to ratify or reject the proposed text. Although the crisis was overcome, there are still regular protests by smaller groups, resulting in severe confrontations with the police.

Graph 5a: Crisis 2008–09



Graph 5b: Social crisis 2019

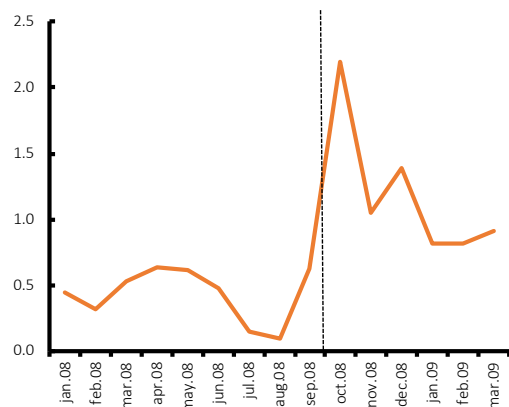


Sources: Bloomberg; Central Bank of Chile.

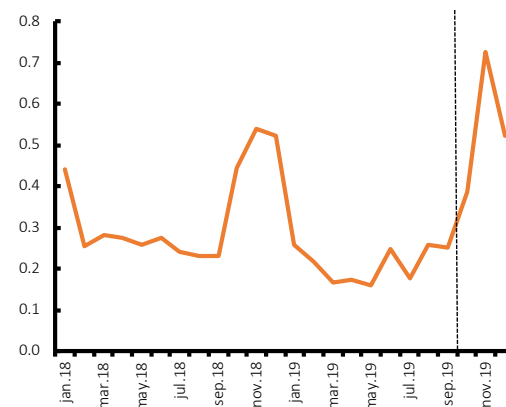
The transmission mechanisms: In 2008, there was a sharp drop in copper prices and a sudden stop in short-term lending by international banks, while confidence indicators plummeted. The financial sector experienced severe liquidity problems in the US dollar market. Domestic asset prices fell (IPSA index and pension funds brought funds back to the country). In 2019, there was a strong drop in economic activity (an instantaneous supply shock) and confidence indicators also fell sharply. Domestic portfolios, including pension funds, moved away from peso-denominated assets. This movement was exacerbated by recommendations from online (unregulated) advisers, creating liquidity tensions for non-banking financial intermediaries as well as in the FX market, since pension funds were forced to quickly sell off positions in the domestic fixed income market to buy variable income assets abroad. In both cases, there were massive drops in domestic asset prices, nominal depreciations of the peso and sharp contractions in investment and domestic demand, especially for durables. In 2019, the initial reaction was milder, but shifts in portfolios by pension funds caused liquidity tensions for mutual funds and a few smaller banks, followed by FX market stress as the political crisis deepened. During the period, net flows from foreigners were positive.

<sup>8</sup> A rise in the exchange rate reflects a depreciation of the peso.

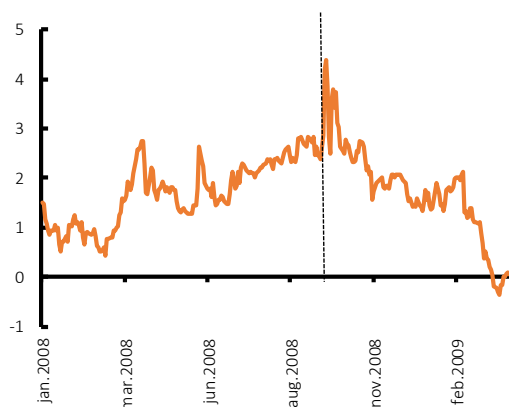
Graph 6a: Cost of domestic liquidity in 2008. (Spread DAP-Swap six months)



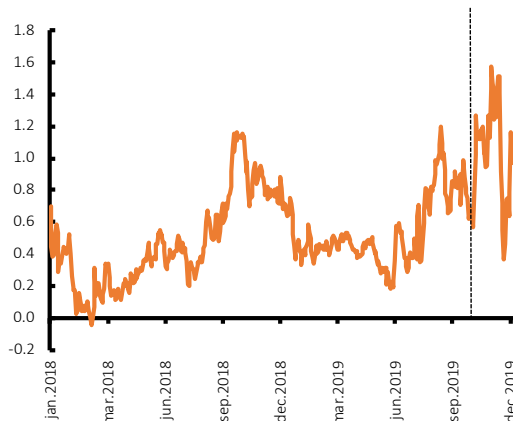
Graph 6b: Cost of domestic liquidity in 2019. (Spread DAP-Swap six months)



Graph 6c: Cost of USD liquidity in 2008. (Spread onshore six months)



Graph 6d: Cost of USD liquidity in 2019. (Spread onshore six months)



Sources: Bloomberg; Central Bank of Chile.

3. Policy reactions: Some of the reactions to the two events were similar. For instance, in both cases, large fiscal stimulus packages were put in place, even though with differences in funding: in 2008, the stimulus was funded mostly by drawing down the sovereign funds. In 2019, the sovereign funds were used in combination with borrowing (domestic and external) and tax increases. In both cases, there was provision of liquidity in US dollars, but in 2008 this was somewhat delayed, and was initiated by the government through the State Bank, and followed up by the central bank. In the more recent episode, the central bank was the only player, reacting quickly.<sup>9</sup> Early provision of liquidity in pesos to

<sup>9</sup> The most recent crisis had a severe fiscal impact, due to the need to provide solutions for some short-term demands, as well as for the commitment of medium and long-term increases in social spending, particularly in pensions.

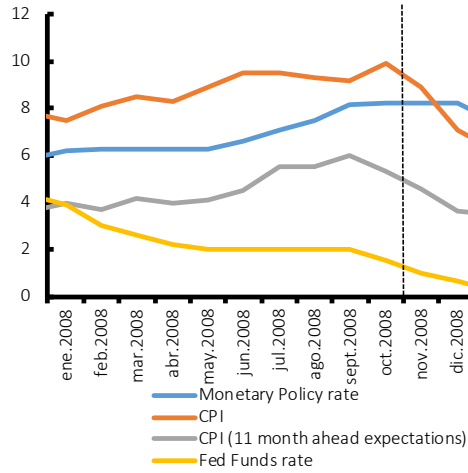
facilitate an orderly shift of portfolios by the pension funds was important to avert pressure on non-bank financial intermediaries. The speed of the monetary policy reaction was significantly different in each case, due to the differences in initial conditions. In 2008, the external crisis struck when the central bank was grappling with high and rising inflation. The cycle of increases in the MPR was ended on 4 September, at 8.25%, and kept at that level until January 2009, when a series of drastic cuts was started, bringing the MPR to 2.25% in March. This was followed by more moderate reductions that ended in July with the MPR at 0.5% when the central bank signalled that it had reached the minimum. It is important to recall that inflation as measured by the annual headline CPI reached a peak in October 2008 at 9.9%, falling to 8.9% in November and to 7.1% in December, despite the sharp depreciation of the peso after the September events. In 2019, the situation was different: headline inflation had been below target since the last quarter of 2016, partially due to low economic growth, but also due to a positive supply shock caused by massive immigration. Monetary policy had been expansionary during this period, and a moderate tightening began in 2018 after the economy showed some recovery, but it was reversed in 2019 when the economy slowed again. The MPR was brought down from 3% in May 2019 to 1.75% in October, just before the social crisis struck. Given the nature of the shock, it was clear that inflation was going to rise, at least in the short term, while domestic activity was going to contract. The medium-term effects, especially on inflation, were far less clear. Given that the central bank was selling dollars in the FX market, the Board decided in the December Monetary Policy Meeting to keep the MPR constant, since the rate was considered low enough to boost domestic demand without putting additional pressure on the peso. A factor in this decision was the fact that the government had already sent a proposal to Congress to modify the budget for 2020 to give it a significant countercyclical impulse. The December Policy Meeting was accompanied by the publication of the Quarterly Monetary Policy Report and a hearing in the Finance Committee of the Senate. This event attracted a lot of media attention, since the Bank had already announced a revision of its forecasts, taking into consideration the short-term impact of the events in October and November. The message was sobering, with projections showing a rise of inflation above the 3% target in the coming months, a fall in GDP in the short term followed by a significant slowdown in 2020, and a warning that unemployment could exceed 10% in the first half of 2020.<sup>10</sup>

<sup>10</sup> Even though the central bank includes labour market considerations in the Quarterly Monetary Policy Report, it seldom makes explicit projections of the unemployment rate.

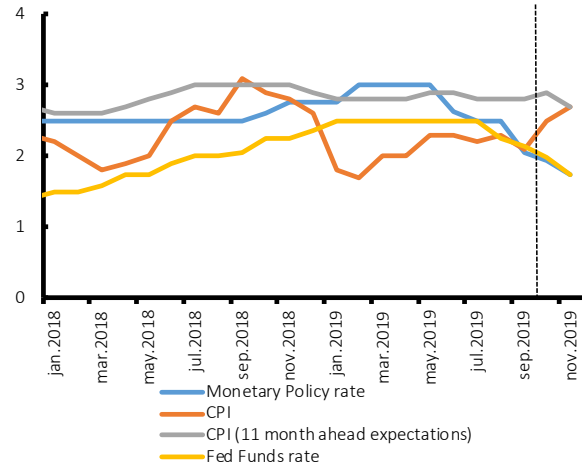
Monetary policy reactions in the two critical events (in per cent)

Graph 7

Graph 7a: Monetary policy reaction in 2008



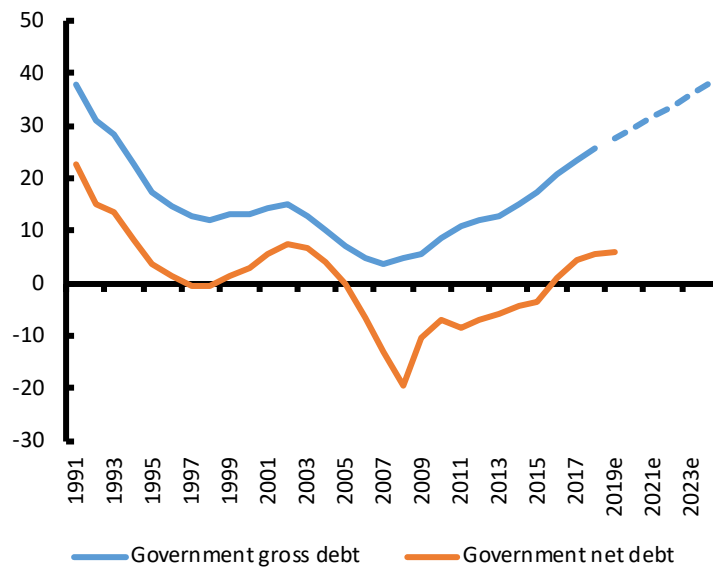
Graph 7b: Monetary policy reaction in 2019



Sources: Bloomberg; Central Bank of Chile.

Public debt as percent of GDP

Graph 8



Sources: Central Bank of Chile and Budget Office, Ministry of Finance.

- Resolution and medium-term effects: in 2009 the economy recovered quickly, helped both by the fiscal and monetary stimulus, but perhaps more importantly, because China's large fiscal stimulus caused a quick recovery in commodity prices, particularly for copper. This convinced almost everybody that the commodity price supercycle was still going strong and mining investment projects that were put on hold in 2008 came back quickly in 2009 and 2010. In addition, a very strong earthquake struck the central zone of the country in

February 2010. In the short term, this caused some disruption (loss of working days, damage to critical infrastructure etc) but the reconstruction costs added some additional impulse to investment in the ensuing quarters.<sup>11</sup> In the medium term, the most lasting effect was a deterioration of the public finances, since the medium-term forecasts for copper prices were slow to recognise that the supercycle in copper prices had ended in 2011–12. In the 2019 crisis, a sharp recovery started in December 2019 and, by mid-March, GDP had reached its pre-crisis level when the coronavirus pandemic hit Chile and lockdowns started. The medium- and long-term effects of the social crisis and the coronavirus will be difficult to disentangle. Perhaps the only thing that is clear is that the relatively prolonged period for discussing the specifics of the new constitution will bring about a lot of opportunities for shocks in business confidence (some negative, perhaps some positive), complicating a recovery in investment after the coronavirus crisis. An additional complication is the severe deterioration of confidence in all Chilean institutions that the social crisis has made evident, aggravated by political divisions. Lack of social discipline might have been a factor in the propagation of contagion during lockdown.

## Concluding remarks

The combination of a coherent and stable macroeconomic policy framework with a significant development of the financial market has served to support macroeconomic stability, cushioning the economy from external shocks. The contribution of a large and still rising pool of domestic financial savings originated by the pension system has been an important driver for the development of the financial system and its integration with the global markets. This combination proved effective in the event of large external shocks, such as the 2007–09 crisis and the copper price cycles, as well as during milder ones such as the “taper tantrum”. In these cases, the Central Bank of Chile was able to conduct an expansionary policy without significant effects on capital flows or long-term interest rates, and without the deviation of inflationary expectations from target.

The recent social crisis shows that things might work differently in the event of a major domestic stagflationary shock. The good news is that the pre-existing strengths already mentioned gave enough fiscal and monetary policy space to provide a major countercyclical impulse. The lessons from the 2007–09 episode were applied, and the central bank was quick to provide liquidity when needed. The tools for monitoring the health of the financial system helped greatly during this episode.<sup>12</sup> Good coordination with financial regulators and supervisors, especially the Ministry of Finance, was essential. At the same time, information-sharing and coordination with the fiscal authorities proved extremely useful.

<sup>11</sup> It is worth mentioning that most highways, airports, power plants and ports damaged were private or run under private concessions, and were insured against this type of event, so that they were not subject to fiscal constraints or lengthy budgetary processes.

<sup>12</sup> An important consequence of the autonomy of the central bank has been the fact that government changes and political shifts since 1990 had no discernible effect on personnel changes at the Bank, preserving valuable experience and providing a fruitful learning environment within the staff.

In spite of all these positives, the central bank had to draw on its international reserves to restore stability to the FX market, while at the same time the government had to redefine the Fiscal Rule targets. These actions made this crisis as challenging as the global crisis in 2007–09, or even more so, at least in terms of the short-term impact on the Chilean economy and the macroeconomic policy reactions.

One important consequence of these two events, combined with the protracted deficits after the end of the copper cycle boom, has been that most of the slack in public finances has been used up. The coronavirus crisis has further strained public finances and international reserves, forcing the government to commit its resources to the limit, and the central bank to seek for new (contingent) sources of international liquidity, while entering into the uncharted territories of unconventional monetary policy with a large expansion of its balance sheet.

## References

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