

José De Gregorio: Inflation targeting and financial crises

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Thank you so much for this invitation. It is an honor to return after so many years to speak at a conference organized by Banco de la República and FOGAFIN. The subject this time around, *Financial Crises*, is particularly timely, with the world struggling through a crisis whose effects are still difficult to predict and that has propagated through the world with unprecedented strength and synchrony (Figure 1).

Macroeconomic policies face major challenges in trying to cushion the effects of a crisis. Its origin, magnitude and degree of propagation make stabilizing the economy a particularly complex task. High uncertainty and, in some cases, poor functioning of key aspects such as credit markets, have affected the monetary policy transmission channels in a number of countries.

The current crisis is providing a unique opportunity to continue fostering the design of economic policy frameworks that permit us to react to different shocks in the best way possible while at the same time reducing the vulnerability of our economies.

The current situation raises many questions, some of which we had already been discussing at the theoretical level. Meanwhile, it contributes the necessary evidence to dig into such questions more deeply. Although we must detect the flaws and fix them to prevent episodes like this to happen again, we must also identify what has operated properly and should continue to be part of our macroeconomic and financial policies. In particular, a proposition that permeates my presentation today is that the current turmoils have shown the advantages of inflation targeting regimes committed credibly with an inflation anchor.

As the crisis we are going through keeps reminding us, price-level stability must occur hand in hand with proper regulation of the financial system. Our region has learned these lessons the hard way, after severe crises that were created when we lost sight of macroeconomic and financial stability.

In this juncture, the region has withstood like never before the effects of the international crisis. In the past, when the world got a cold, the region got pneumonia; today it is the other way around, our countries suffering just a cold while the developed world is with pneumonia (Figure 2). This comparatively good performance is no reason for complacency, as in our countries it is more urgent to avoid large cycles that affect disproportionately the poorest members of society, especially those most detached from the social safety nets.

Today, I intend to address two very important aspects of the discussion about monetary and financial policy making. First I want to refer to the origin of this financial crisis and its linkage with monetary policy. Some arguments point out that the current crisis was originated by monetary policy mistakes, particularly in the United States, where low interest rates are blamed for the housing bubble and subsequent financial meltdown. Some have even claimed that inflation targeting regimes are inadequate, because monetary policy should also aim at controlling asset price inflation. And this is precisely the second point in my presentation, that is, whether interest rates should react to asset price movements or not, and what is the role played by the exchange rate.

To sum up, and insisting on a point I have made before, there are many cases of countries that lowered their interest rates substantially without triggering any housing bubbles. There are also cases of countries with very low interest rates where home prices soared, but still their financial systems did not end up in a financial disaster like they did in some developed economies.

This crisis, or at least the magnitude it has reached, is the result of financial fragility and we, in Latin America, are well aware that when a cyclical downturn is combined with a financial crisis, the impact is magnified. Central banks generally have two objectives: price-level stability and financial stability. Recent history reminds us that we cannot pursue both with one single instrument, the interest rate. We also need a regulatory framework that ensures financial stability, a feature that countries like Chile and Colombia have succeeded in preserving in the actual juncture.

The causes of the crisis: was it monetary policy or was it financial fragility?

The argument attributing a leading role in the current crisis to monetary policy claims that low interest rates combined with large current account surpluses in emerging economies, particularly Asian and oil-exporting ones, created an abundance of liquidity that triggered excessive increases in asset prices (bubbles). This was particularly important in the value of real estate assets. When the bubble burst, the crisis erupted. Then, this argument claims that the housing bubble was caused by monetary policy, which failed to act opportunely and permitted severe imbalances to accumulate. Nonetheless, one must bear in mind that soaring asset prices do not necessarily end up in a crisis like this one. Closer attention must be paid to the financial fragility that accompanied this process, whose main culprit was the unrestrained financial innovation that generated deep distortions that neither markets nor regulators were able to predict.

An expansionary monetary policy can undoubtedly induce an excessive increase in the prices of assets and credit. The role of monetary policy, in our case carried out through an inflation targeting regime, is to smooth the business cycle. Therefore, it is possible to think that a very expansionary monetary policy can exacerbate an economic boom. Likewise, such a policy will have serious consequences on output once the monetary impulse is withdrawn. However, an expansionary monetary policy could not explain by itself the severity of the financial collapse the world is seeing today.

There are countries where the monetary policy was expansionary, with interest rates at their minimum, and no housing bubble occurred. A couple of examples are Canada and Chile, two inflation targeters where, consistently with this policy framework, interest rates hit very low levels not so different from the Fed Funds rate (Figure 3). Still, housing prices generally did not experience increases comparable with those of other economies, and their financial systems have remained sound.

Furthermore, in some cases housing prices did go up high, with clear signals of a bubble being formed. However, their financial systems made it through and remained stable and, despite the current difficulties including very recessive episodes, have avoided acute financial crisis. This is the case with, for example, Australia and Spain.

Naturally, when facing disproportionate increases in the price of housing, both the level of borrowing and the building boom associated with it are symptoms that the downturn that comes with the cycle will be severe. This is because of the deleveraging that households will have to undertake and the contraction of the building activity. Still, this need not result in a systemic financial crisis.

In any case, monetary policy can and does help in the creation of bubbles, although not so much by the level of the interest rate but by the monetary policy strategy with which financial turmoil is dealt with. In the United States, the strategy of turning a blind eye to the period of soaring asset prices and then cleaning the mess when it was already there used to be long

considered appropriate (Blinder and Reis, 2005). The cleansing consisted in cutting the interest rates and granting all the necessary liquidity for the market to continue operating. This approach was first used on the “Black Monday” of October 1987, then with the breakdown of *Long-Term Capital Management* (LTCM) and later with the bursting of the high-tech bubble. In all these occasions, once the asset prices reversed down, there was an abrupt relaxation of the monetary policy.¹ This implicit insurance, popularly known as the *Greenspan put*, certainly makes the creation of bubbles more likely. Sadly, having worked for some earlier episodes, it lost its power with the biggest collapse in decades. A monetary policy strategy that used to provide insurance to speculation in episodes of limited financial turbulence proved incapable of confronting a systemic financial crisis. And it is possible that the very “risk management” strategy had as a consequence that a great collapse was bound to happen sooner or later.

The final verdict is yet to be seen. This strategy certainly contributed to increase liquidity, but low interest rates need not result in a financial crisis as I have illustrated with these few examples. An inflation-targeting policy that in some circumstances determines an extraordinary monetary impulse is perfectly compatible with preserving financial stability.

An overview to the experience of several economies suggests that the culprit of the current crisis was related more closely with the functioning of financial systems than with monetary policy. One issue that will have to be carefully examined in the future is the cause of the real estate boom and the housing crisis, and why it occurred in the United States. At this point it is clear that lending standards were excessively lowered. Ellis (2008) shows that in the U.S., households had strong motivation to increase their leverage through tax, legal and regulatory incentives.

One key element of financial innovation was the creation of structured instruments. With them, banks could reduce their individual risk levels and expand their operations into formerly unexplored market segments. Recent evidence proves that the risk of these instruments was wrongly evaluated by rating agencies and by credit originators. Credit structuring also debilitated the central role of banks in the selection of their clients.² Securitization did not maintain the incentives for banks to properly screen their customers or for them to meet payments. The compensation structure was based on the number of operations rather than on their quality.

This is a clear example that, if not accompanied by credit risk management measures at the individual level and proper systemic prudential regulation and supervision, encouraging access to mortgage loans by formerly excluded sectors, a praiseworthy goal without a doubt, may end up substantially weakening the financial positions of not only the ones being intended to help in the first place but also the financial system at large.

Inflation targeting and asset prices

A corollary of those blaming monetary policy is that, apart from focusing on the variation of the prices of goods and services, it should also have asset prices in mind.

Under inflation targeting regime, increased lending and asset prices can generate demand increases with repercussions on inflationary perspectives. This would require a monetary policy adjustment to prevent a persistent rise in inflation. Hence, in an inflation targeting

¹ Interestingly and, according to Blinder and Reis (2005), using *Taylor rules* as from the first quarter of 1988, the residuals indicate that in all the mentioned episodes the Federal Reserve set the interest rates significantly below those prescribed by the rule.

² There is evidence for the United States that securitization caused a relaxation of risk evaluation in the subprime segment and increased the rate of acceptance of mortgage applications (Loutschina and Strahan, 2006; Keys et al., 2009).

regime, asset prices and the level of credit aggregates affect the monetary policy decision to the extent that they affect the inflation perspectives (Bernanke and Gertler, 1999).

However, some argue that monetary policy should react directly to asset prices, for example by including them in the *Taylor rule*. Cecchetti et al. (2000) are perhaps the best representatives of this position, claiming that any inflation-targeting central bank should react to asset price misalignments *beyond* their implications on expected inflation over the policy horizon.

In my view, there are three reasons why monetary policy, in general, should not react to asset prices beyond their impact on projected inflation. First, it is not clear that an increase in interest rates will be capable of stopping an increase in asset prices. The required adjustments might be so large that they could end up unnecessarily generating high unemployment and an unwelcome drop in inflation. Second, what matters here is to safeguard the stability of the financial system. An excessive interest rate aiming at controlling asset prices could even trigger financial instability, which is precisely what it is meant to avoid, especially if the increase in asset prices is accompanied by higher financial fragility. Finally, under inflation targeting, any interest rate movements that are inconsistent with inflation converging to the target may undermine the credibility of monetary policy, and we know inflation expectations are critical in the functioning of the regime. To apply a policy that is inconsistent with the inflation target would end up weakening it as the inflation anchor. This is particularly important in the case of emerging economies with a shorter record of monetary stability.

Another reason that has been put forward to not try to affect asset prices through monetary policy is simply that it is impossible to determine when prices are significantly misaligned with their fundamentals. Cecchetti et al. (2000) point out that asset price misalignment with their equilibrium level is what must be incorporated in the monetary policy rule. However, it is difficult to know with precision the precise level, so it may be impossible to manage the degree of uncertainty. Still, I believe it is possible to know when asset prices are fundamentally misaligned in specific episodes. This takes me to the role played by the exchange rate in monetary policy, something as important as or more important than asset prices in emerging economies.

An inflation-targeting regime, where the policy instrument is the interest rate, must operate within a context of a flexible exchange rate. This solves efficiently and unambiguously the well-known impossible trinity problem and allows the control of interest rates at a level consistent with the inflationary objective. Adding an exchange rate objective weakens the capacity to manage the interest rate and affects the ability to meet the inflation target.

This is no hindrance for the exchange rate to generally have a significant effect on monetary policy decisions, if persistent movements of this variable do affect inflation. In this case, the natural result is a *leaning against the wind* behavior. When the interest rate appreciates substantially, it prompts a fall in inflation, which will result in a reduction in the interest rate with subsequent pressures to depreciate. However, one must recognize that these are not very significant effects because, in a floating regime, the pass-through coefficient from the exchange rate to inflation is limited. It occurs primarily because of the usual transitory nature of exchange rate fluctuations, due to changes in their fundamentals and their relationship with the stage of the cycle.

Emerging economies may feel tempted, after a long history of crises caused by exchange rate lags, to handle it to keep it depreciated, due to *fear of floating* (Calvo and Reinhart, 2002). Handling the exchange rate is, apart from hardly feasible in the medium to long term, risky. In the first place, in less flexible exchange rate regimes, the transmission coefficient to inflation increases, because the level of the exchange rate may become a coordinator of price expectations, given the policymakers' commitment to price stability. This, in turn, feeds back to increased pressures to keep the exchange rate stable, thus aggravating the problem. Secondly, a commitment of the authority to exchange rate stability may create perverse

incentives to take financial risks, by artificially lowering the cost of external borrowing. This reinforces fear of floating, creating a *spiral towards exchange rate rigidity*, and deriving in the much feared currency mismatches and exchange rate delays that were intended to prevent in the first place.

I am not saying that attention must not be paid to the exchange rate beyond its effects on inflation. Excessive deviation from its long-term fundamentals may create problems in terms of resource allocation and the business cycle. The exchange rate should be influenced through accumulating or reducing reserves. Some conditions must be met, however, in order for this to be effective and convenient. In the first place, it must be consistent with the inflation target, in order for the intervention not to threaten the credibility of the monetary policy. Secondly, to safeguard monetary policy independence, once the intervention is announced it must be implemented mechanically. All this shields the conduct of monetary policy, typically carried out in regular pre-established meetings, from the extraordinary decision of buying or not buying foreign currency. In particular, the sterilization of intervention decisions permits to preserve both the credibility and the independent management of monetary policy. Finally, and because of this sterilization requisite, the cost of intervention must be properly considered, because it entails a quasi-fiscal component that could be significant.

In any case, to the extent that the decision to intervene is taken because of evident real exchange rate misalignments, the risk of suffering quasi-fiscal costs should be limited. Intervention would occur within the context of an extraordinary episode where the central bank would estimate that there are sufficient elements to evaluate that the current exchange rate dynamics are unsustainable and the market is not properly internalizing the long-term prospects of the real exchange rate. If there is no evidence of misalignment, and the issue is simply about hoarding reserves, the probability of the intervention having any effects on the exchange rate is smaller, while the possibility of incurring in quasi-fiscal costs increases.

The Chilean experience last year was in line with the aforesaid principles. It was done in a moment where there was clear evidence of misalignment with respect to the levels consistent with long-term fundamentals. It was also totally consistent with the inflation objective, and started at a moment – April 2008 – in which there were rather benign inflation figures that revealed a smaller risk of unwanted inflationary propagation. Towards midyear it was even possible to raise the interest rate substantially to tackle an inflation rate that was much deviated from the target. This was thanks to the fact that the purchase of dollars was being carried out mechanically and despite a significantly depreciated exchange rate after the intervention. The purchase of foreign currency was concluded prematurely due to global tensions in global liquidity in dollars in September of last year. The capacity of the Chilean economy to subsequently deal with a significant exchange rate depreciation scenario, with monetary easing prospects and reduced inflationary pressures is proof that there was no inconsistency between the decision to intervene and the conduct of monetary policy (Figure 4).

Intervention can occur only under special circumstances, because it is not easy to assess whether the prices of domestic assets are really in a bubble. If the slightest exchange rate movement will prompt an intervention persistently, the market's perception of this greater stability of the exchange rate may limit the power of monetary policy. For example, fighting an asset price bubble, by raising the interest rate while intervening at the same time to prevent a larger appreciation, may be counterproductive, because the incentives for carry trade positions may exacerbate the bubble and the exchange rate appreciation itself.³

³ This may explain the results about exchange rate instability presented in Batini and Nelson (2000), when the exchange rate is subject to bubbles which are dealt with via the interest rate.

Final remarks

Financial stability must be preserved with an adequate regulatory system. Agencies must analyze the strength of institutions, while central banks must evaluate the system's overall stability. Regulators and central banks must closely cooperate and work in the effort of maintaining the integrity of the financial system.

Regulating specific institutions is not enough, because interconnections exist that could derive in a systemic crisis. The current crisis proves that the regulatory scope must encompass every agent with a systemic importance. So a proper macro-prudential regulatory system is needed. This is a system still in debate, particularly regarding the instruments that must be applied to achieve this function.

A first set of instruments has to do with capital adequacy. However, this is not enough, and it is no trivial to judge the soundness of the financial system by its capital and leverage levels. Higher levels of capital will certainly have to be required in the future, particularly as banks gradually assume higher levels of risk. Such is the spirit of the Basel II standards, but this crisis has proved they do are not enough. It will be necessary to examine how capital requirements and accounting norms may have amplified the financial crisis, and what must be done to avoid the excessive procyclicality of the banking activity. Fortunately this has not been a problem in the financial systems of Colombia, Chile and the rest of the region, where regulatory schemes worked. Banks are adequately matched in terms of currencies, an aspect that used to be the Achilles heel of our banks.

Central banks must strengthen and perfect the models with which they carry out their stress tests. They should take into account the interconnections within the financial system and detect vulnerabilities opportunely. We have seen how the U.S. investment banks, insurance companies and other non-banking agents of the financial system played a leading role in the origin and spread of the crisis, but were not at the heart of the banking supervision network.

Of the many aspects that may be debated with respect of the financial system, there is one that should be singled out, especially to the extent that banking systems of emerging economies continue along the lines of financial innovation. It is important to allow securitization, but establishing incentives for both credit screening and monitoring of payments to remain at the banks and that the process of transferring credit risk away from individual institutions' balance sheets does not escape the authority's eye. The current crisis should not become a hindrance to financial development, but a sign of alert in favor of prudence and rigor when assessing the innovations.

Thank you very much.

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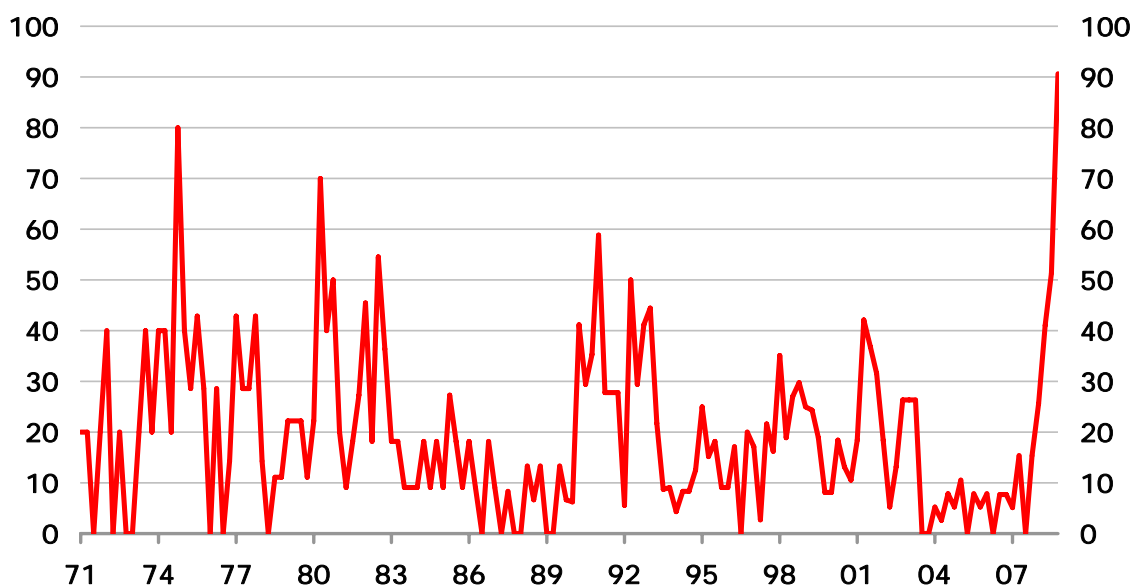
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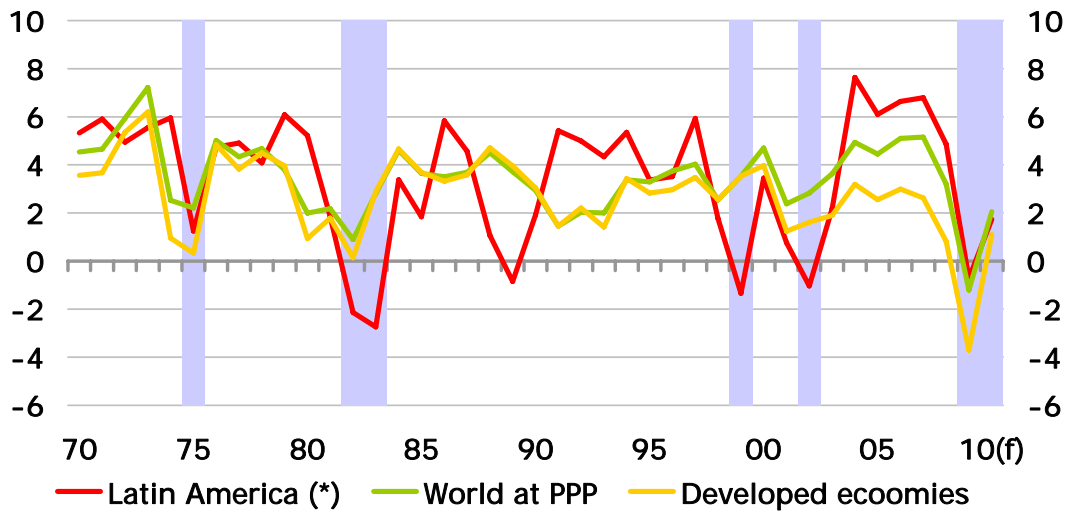
Figure 1
Countries experiencing drops in real GDP in the fourth quarter of 2008 (*)
(percentage of total sample)



(*) Using the annualized quarterly GDP for a sample of 29 developed and emerging economies.

Source: Central Bank of Chile.

Figure 2
GDP
 (annual change, percent)

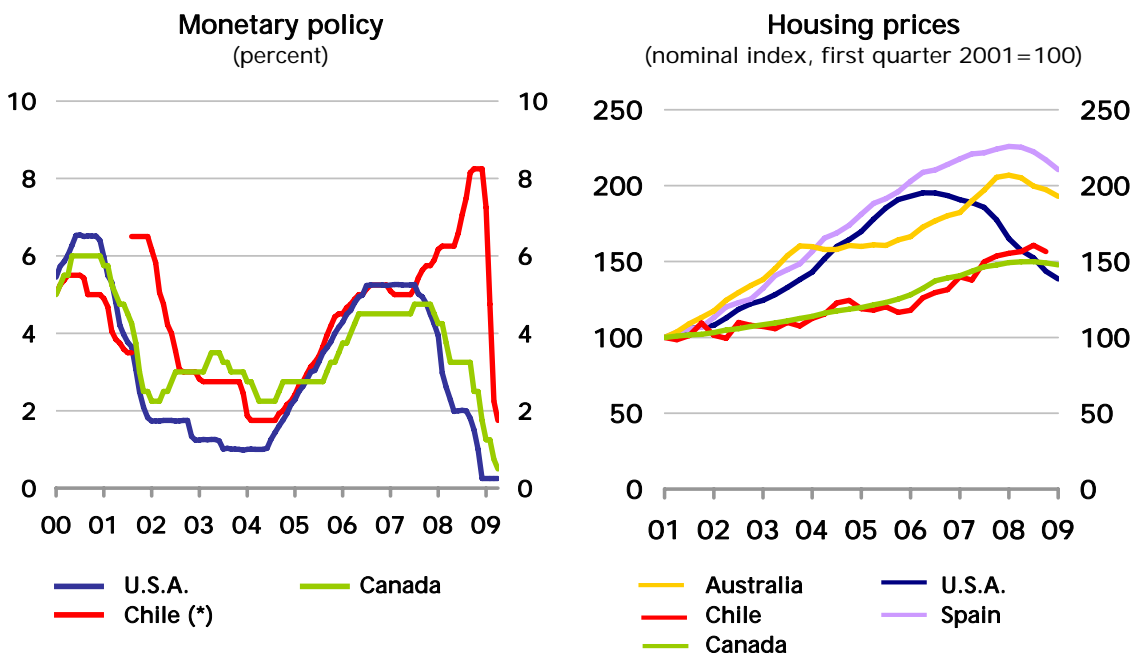


(*) Simple average of annual GDP change in Argentina, Brazil, Colombia, Chile, Mexico, Peru and Venezuela.

(f) Forecast.

Source: Central Bank of Chile based on data from investment banks, Consensus Forecasts, and IMF.

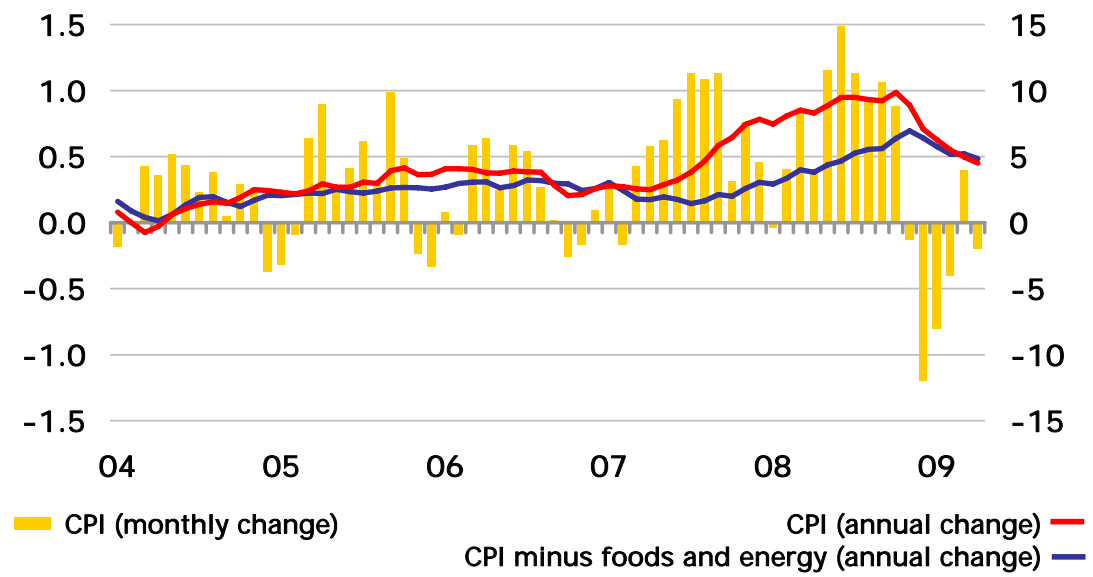
Figure 3
Monetary policy and housing prices



(*) As from August 2001, the monetary policy interest rate is set in nominal terms. Before that, it was indexed to the CPI.

Sources: Central Bank of Chile, Bank of Canada, Bloomberg and U.S. Federal Reserve.

Figure 4
Inflation
 (percent)



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