Central Bank of Chile: Monetary Policy in an Inflation Targeting Framework

BANCO CENTRAL
DE CHILE

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* This is a translation of a document written in Spanish. In case of discrepancy or difference of interpretation, the original prevails.

Preface

The Central Bank of Chile started using a partial inflation targeting framework for its monetary policy in 1990, moving to full adoption, in combination with a flexible foreign exchange regime, in September 1999. Inflation targeting has several advantages over the alternatives and requires high standards of transparency and communication regarding both policies and actions. To this end, the Central Bank regularly publishes its *Monetary Policy Report (Informe de Política Monetaria, IPOM), Financial Stability Report (Informe de Estabilidad Financiera, IEF)*, press releases and minutes from monetary policy meetings. This document forms part of this general initiative.

This document presents the institutional framework within which the Central Bank conducts monetary policy, together with the Board of the Central Bank's views about this policy framework, including objectives, monetary policy transmission, its management and operation; and the role of transparency and communication. After over seven years of experience with full-fledged inflation targeting, the Board considers it timely to offer these reflections, to foster understanding of the rationales guiding monetary policy decisions among the general public and economic agents.

The contents of this document reflect the Central Bank's views on how monetary policy works. It presents the cumulative experience since inflation targeting came into full effect at the end of the past decade; the relevant institutional developments in other spheres of economic policy; and the lessons learned from other countries. Above all, as economic history suggests, the more we know, the more we must improve our monetary policy. There is no doubt that the Central Bank's monetary policy will evolve as our knowledge in this field expands.

This document supersedes *Monetary Policy of Central Bank of Chile: Objectives and Transmission*, published by the Bank in May 2000.

January, 2007

Executive Summary

The Central Bank of Chile has adopted an inflation targeting approach to monetary policy, complemented by a floating exchange rate regime. This requires high standards of transparency and ongoing communication of policies and actions, which is the purpose of publication of this document.

Legal and institutional framework

The Central Bank is an autonomous organization, of constitutional rank, technical in nature, with legal status, its own capital and indefinite duration, as set forth in Article One of its Basic Constitutional Law *(Ley Orgánica Constitucional, LOC)*. Its objectives include "safeguarding the stability of the currency and the normal functioning of the internal and external payment systems." (Section 3).

Keeping Chile's currency stable means preventing it from losing its value due to price inflation. This is achieved to the degree that prices remain stable, as shown by low, stable inflation, sustainable over time. Similarly, the normal functioning of payments involves guaranteeing the essential functions of intermediation between credit and saving, provision of payment services, and ensuring appropriate allocation of risk by financial markets.

The law empowers the Central Bank to use monetary and foreign exchange policy instruments and with some aspects of financial and capital market regulations to meet its objectives. With full autonomy in its management and policy decisions, the Central Bank reports to the President of Chile and the Senate.

Central Bank autonomy is the first of four pillars sustaining Chile's macroeconomic and financial institutions, which in turn provide the foundations for its monetary policy framework. The second is a responsible, predictable fiscal policy approach. The third is a regulatory and supervisory framework for the financial system, to ensure it meets high standards for management and solvency. Chile's financial and trade integration into the rest of the world is the fourth pillar.

The Central Bank is governed by a Board that is entrusted with its direction and senior management. The Board's five Members are appointed, one at a time, by the President of Chile and approved by the Senate. Appointments are made every two years and last for ten years. The Governor of the Board is also appointed by the President of Chile from among Board Members, and holds this position for five years or the remainder of the appointee's term, whichever is less.

The law includes a series of mechanisms for coordinating monetary and fiscal policies, and safeguarding the independence of the respective authorities. The Central Bank must keep in mind "the general orientation of the Government's economic policy" (Section 6). Moreover, the Minister of Finance participates with a right to speak in Central Bank Board meetings and is empowered to suspend implementation of a Board resolution for no more than 15 days, unless Board Members unanimously insist on its implementation (Section 19).

Monetary policy and inflation targeting

The Central Bank's monetary policy is based on inflation targeting and a floating exchange rate regime. It is committed to using the necessary instruments to keep annual CPI inflation around 3% most of the time, within a tolerance range of plus or minus one percentage point. This commitment guides the expectations of economic agents and makes the midpoint of the target range the economy's nominal anchor.

Under the inflation targeting framework, the main goal of monetary policy is price stability. However, provided inflation remains near the target over a medium–term horizon, monetary policy is countercyclical, thus helping to reduce volatility in inflation and output. In other words, the presence of an inflation target does not mean that its short- and medium-term effects on economic activity are ignored.

The inflation target is defined for the annual 12-month change in the Consumer Price Index (CPI), prepared by the National Statistics Bureau (*Instituto Nacional de Estadísticas*, INE), an indicator considered highly representative and reliable. The Central Bank of Chile has set the midpoint of the inflation target range at 3% annually. That is, monetary policy focuses on keeping the average and expected CPI variation at around 3% annually. The choice of this quantitative midpoint was made after evaluating the costs and benefits of different inflation levels for the Chilean economy.

The width of the target range is set at plus or minus one percentage point. This range sends three main signals: tolerance to temporary deviations of actual inflation away from the 3% target; symmetrical concern about deviations below target and above target; and the level of normal variability of inflation along the business cycle.

The operating objective of monetary policy is to keep annual inflation projections at around 3% annually over a horizon of about two years. This is the maximum period for which the Central Bank normally attempts to bring inflation back to 3%. It reflects the average lag between changes in the policy instrument and their impact on output and prices, and accommodates concerns about the volatility of output and other variables, as well as the presence of temporary or one-off shifts in some CPI components. Projections over other periods also influence decision-making, because analyzing them contributes to evaluating the sustainability of inflation control.

The floating exchange rate regime enables conduct of an independent monetary policy, allowing the Bank to adopt a monetary stance that may differ from that applied by the main economies. This helps to prevent extreme misalignment in the foreign exchange rate and speculative attacks on the currency.

Under its floating exchange rate regime, the Central Bank reserves the option to intervene in the market—through foreign exchange operations and/or by providing hedging instruments—, under exceptional circumstances involving excessive depreciation or appreciation of the peso, which could hurt the economy. Consistently with the possibility of managing the foreign exchange rate, and in line with the objective of external payments stabililty, the Central Bank holds a stock of foreign currency reserves. The reserves' holdings and composition are regularly monitored.

Monetary policy conduct

The Central Bank's Board makes monetary policy decisions at monetary policy meetings, which normally occur monthly and are announced six months in advance, although special sessions can also be called. The Board determines the value of a reference interest rate referred to as the monetary policy rate (MPR). Considering the lags in inflation pressures and monetary policy effects, decisions are based on projections used to evaluate the most likely future inflation path. Projection tools include statistical and economic models, complemented by judgment.

At every monetary policy meeting, participants review the main economic changes in the world economy and in Chile since the previous meeting, analyze their effects on inflation projections, and

evaluate policy alternatives. Then, in a well-argued vote, the Bank's Board decides the course of policy action. At the end of the meeting, an official Board press release is prepared to summarize its decision and the main considerations.

There are two main reasons for changing the MPR at any given time. One is when, in the most likely scenario, inflation projections are moving persistently away from the target or when events since the previous meeting are likely to change the future path of inflation, and therefore make it prudent to correct monetary policy. The change must be such that the resulting path for expected inflation converges toward the midpoint of the target range over the policy horizon.

Second, even when there have been no relevant news since the previous meeting, it may be desirable to change the MPR in order to validate the expected path of the monetary stimulus assumed in projections. Given that expectations regarding future inflation depend on future policy interest rates expected by economic agents, that gradual corrections are preferable and that the policy horizon moves continually, the simple passing of time may make a change in the MPR advisable.

Particularly significant risks influence how and how intensely the Central Bank responds to important developments. Some scenarios may not be the most likely, but could nonetheless occur, and given their potential consequences may merit special consideration.

Monetary policy implementation

The Central Bank carries out its monetary policy by influencing the daily interbank interest rate, that is, the rate at which commercial banks grant credit to each other from one day to the next (overnight). As in any other market, the price (in this case, the overnight interest rate) is determined by the equilibrium between the supply of and demand for funds or liquidity. The Central Bank of Chile conducts monetary policy by controlling the supply of liquidity or monetary base, so that the resulting interest rate is close to the MPR. Thus, the MPR reflects the target interbank rate sought by the Central Bank.

The monetary base consists of Central-Bank-issued banknotes and coins and the deposits that banks hold at the Central Bank. Two factors determine commercial banks' demand for liquidity: the need for funds to meet legal reserve requirements and to settle obligations between banks in the interbank market. The reserve requirement is the fraction of deposits that banks must have on hand or deposit in the Central Bank. The supply of liquidity is affected by maturing Central Bank's bonds and promissory notes, and by its new debt issues, thereby giving the Bank significant control over liquidity.

There are two main mechanisms to regulate daily liquidity: the liquidity credit line and the liquidity deposit. For the first, commercial banks obtain funds from the Central Bank at the MPR plus 25 basis points (bp), an operation that requires collateral. The second mechanism involves holding commercial bank deposits at the Central Bank for one banking day, at the MPR minus 25 bp. These two rates establish a symmetrical automatic stabilization band of 25 bp plus or minus the MPR, within which the interbank lending rate operates.

Transparency and communication

The need for central banks' transparency and communication originates in two principles: accountability and effectiveness. Transparency is an implicit consequence of central bank autonomy, because the very action of informing the public requires transparency as a method. The Central Bank's Basic Constitutional Act (LOC) establishes specific forms of transparency, requiring it to report regularly to the national Senate (Sections 4 and 80).

For monetary policy to influence the paths of inflation and output, it must be well understood by economic agents. Most monetary policy transmission effects originate in agents' perceptions on the future direction the economy is most likely to take. It is therefore essential to ensure adequate understanding of where monetary policy is headed, and how it is likely to shift in response to new conditions, to ensure it has the desired effects.

Different aspects of monetary policy can be distinguished. First, the transparency of roles, responsibilities and objectives involves ensuring that monetary policy's explicit goals are made public. This obligation is enshrined in the Central Bank's Basic Constitutional Act, and this document is one example of the Central Bank's exercise of transparency.

The second aspect of transparency relates to how monetary policy decisions are made and reported. Policy decisions are informed to the public immediately after the respective monetary policy meeting, in an official news release. The Board's rationale for its policy decisions is published in the *Monetary Policy Report*, the minutes of the monetary policy meeting, and wide dissemination of Bank research, and of analytical and projection models. These reporting mechanisms are complemented by presentations made by the Governor and other Board Members and executives, presentation of the *Monetary Policy Report* to the Finance Commission or Plenary, of the Senate (as the case may be, and presentations in Central Bank meetings in Chile's regions.

Finally, information on monetary policy is available in Spanish and English, includeing economic data, the Central Bank of Chile's financial statements and policy meeting dates, all with pre-announced calendars.

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Figures, diagrams and tables

1. Introduction

As per its Basic Constitutional Act (*Ley Orgánica Constitucional*, LOC), the purpose of the Central Bank of Chile is "to look after the stability of the currency and the normal functioning of the internal and external payment systems." To achieve this, the Bank must prevent its value from being eroded by price inflation. From an operational perspective, this is achieved through price-level stability, as reflected in low, stable inflation, sustainable over time. The normal functioning of payments, meanwhile, involves guaranteeing the essential functions necessary for intermediation between credit and saving, payment services, and appropriate risk allocation by financial markets, both internally and externally. To meet its goals, the law empowers the Central Bank to use monetary and foreign exchange policy instruments and some aspects of financial and capital market regulation.

Monetary policy's focus in ensuring stable prices recognizes its powers, but also the limits regarding its influence over the rest of the economy. In the long run, monetary policy determines inflation and other nominal variables such as monetary aggregates, nominal interest rates and the nominal foreign exchange rate, but is incapable of systematically influencing real variables, such as output, employment and investment, and relative prices such as the real foreign exchange rate, real wages and real interest rates. International evidence and Chile's own experience demonstrate that monetary policy's main contribution to the country's development is achieving low, stable inflation that can be sustained over time. This in turn permits to rein in expectations regarding inflation, making it more predictable and less likely to produce distortions (box 1).

In contrast, in the shorter term, monetary policy does influence the value of real variables and relative prices, so appropriate management can cushion the volatility of output and employment when shocks occur. This ability to stabilize the business cycle makes this a powerful policy instrument in macroeconomic management. When faced with price shocks or troubled financial markets, this same power can, however, involve short-term tradeoffs for monetary policy, in particular between the volatility of inflation and output. These conditions may be more or less severe, depending on the policy framework, its credibility, and the structure of the economy.

Given all these factors and the experience of Chile and other countries, the Central Bank uses inflation targeting to manage monetary policy, and a floating nominal foreign exchange rate. The Central Bank's explicit objective is that annual CPI inflation remain within a range of one percentage point plus or minus the 3% target rate, most of the time.

This framework explicitly recognizes the powers and limits of monetary policy and therefore focuses on price stability as a fundamental objective. Moreover, it expressly recognizes that monetary policy can trigger different effects over different periods and be used to stabilize the business cycle. Thus, the policy framework is consistent with increasing monetary policy stimulus at weak points in the business cycle and reducing it at times of strength. Monetary policy affects different economic variables with lags that are erratic, not mechanical and imperfectly understood. Once price stability is achieved, monetary policy focuses on reducing unwanted volatility in output and employment.

Box 1

Why seek price stability?

International evidence and Chile's own experience indicate that low, stable inflation contributes to economic growth in many ways. Stability ensures that prices send clearer signals to markets, that relative prices are more stable, thus reducing uncertainty and generating an environment friendlier to investment, productivity, demand for monetary assets and financial development. Likewise, these factors stimulate growth and favor risk diversification. Moreover, price stability prevents the arbitrary and often regressive redistribution of resources between debtors and creditors, and between the owners of labor and capital. It also limits the Central Bank's collection of a disruptive, regressive tax: inflation.

In short, low and stable inflation improves the population's welfare. Although many other policies are also essential to a solid economic performance, a low-inflation environment is a necessary and essential condition for optimizing contributions from other policies.

2. Institutional framework

2.1. Chile's macroeconomic and financial institutions

To be more effective, monetary and foreign exchange policies require national macroeconomic and financial institutions favorable to a stable economic environment. The quality and maturity of these institutions and policies are decisive in achieving macroeconomic stability.

Chile's financial and macroeconomic institutions rest on four basic pillars, which in turn serve as the foundation for monetary policy. These are Central Bank autonomy; responsible and predictable fiscal policies; a regulatory and supervisory framework that promotes high standards for financial system management and solvency; and trade and financial integration with the rest of the world. In essence:

- Central Bank autonomy, the first pillar, is essential to generate the conditions necessary to apply monetary policy appropriately. It signals to economic agents that the Bank is aware of monetary policy's limits and that it is committed to price stability, thus reinforcing its credibility and effectiveness (box 2).
- The second pillar is a responsible, predictable fiscal policy approach, which guarantees public sector solvency and eliminates any chance of monetary policy being subordinated to fiscal policy. This also increases macroeconomic policy's overall credibility and effectiveness among economic agents in Chile and abroad.
- The regulatory and supervisory framework governing the financial system, the third pillar, is based on a series of prudent regulations and standards, in line with international recommendations, and supervision by specialized bodies, whose goal is to ensure the appropriate governance of financial institutions. The Central Bank participates in formulating regulations that directly affect monetary markets and others where the law requires the simultaneous involvement of the Central Bank and the Superintendency of Banks and Financial Institutions (*Superintendencia de Bancos e Instituciones Financieras*, SBIF). Developing a stable, mature financial system has been crucial to applying monetary and foreign exchange policies effectively and ensures that monetary conditions and foreign exchange policies can be adjusted without putting financial system solvency at risk.

- The fourth pillar is the Chilean economy's integration into international markets. Free capital inflows and outflows improve access to external saving and diversify risks facing the Chilean economy. Integration offers many advantages, but also exposes the economy to external shocks, whether they arise in financial or goods markets. To deal with these and limit their consequences, relative prices have to be corrected. A flexible foreign exchange approach is vital to making these corrections in the least costly manner possible and opening up room for monetary policy to support these efforts.

Box 2

Legal framework governing the Central Bank of Chile

The Central Bank's Basic Constitutional Act (*Ley Orgánica Constitucional*, LOC), published in the Official Gazette (*Diario Oficial*) on 10 October 1989, to comply with Article 108 of Chile's National Constitution, turned the Central Bank into "an autonomous, entity of technical nature created in accordance with constitutional provisions, has full legal capacity, possesses its own assets and has an indefinite duration" (Section 1). Moreover, it establishes the objective of this new authority as "to look after the stability of the currency and the normal functioning of the internal and external payment systems." (Section 3).

The Board is entrusted with the Bank's management and direction. Its five Members are appointed, one at a time, by the President of Chile and approved by the Senate. Appointments are made every two years and last for ten years (Sections 6, 7 and 8). The Governor of the Board is also appointed by the President of Chile from among Board Members, and holds this position for five years or the remainder of the term, whichever is less (Section 8). In the case of a vacancy, a new Board Member is appointed for the remainder of the period (Section 12). With full autonomy over management of its budget and policy decisions, the Central Bank's Board reports to the President of Chile and the Senate, and makes decisions keeping in mind "the general orientation of the Government's economic policies" (Sections 4 and 6). Bank autonomy is reinforced by the fact that the Chilean constitution (Article 109) does not allow it to make loans to the public sector, except in the case of external warfare or danger thereof, and is ruled by LOC Section 27. Moreover, its Basic Constitutional Act expressly requires "justified reason with the prior approval of the Senate" (Sections 16 and 17) before the President of Chile can remove any or all Board Members.

The free flow of capital into and out of Chile is established by default in the Central Bank's Basic Constitutional Act (LOC, Section 39).

Aside from keeping in mind the general orientation of the Government's economic policies, formal coordination exists as the Minister of Finance attends and can speak at Central Bank Board meetings and can postpone implementation of any Board resolution (for 15 days), unless the Board unanimously insists on implementation (Section 19). The Minister can veto any of the restrictions that the Bank is empowered to apply to foreign currency exchange, but if Board Members unanimously support the resolution, the veto does not apply.

By law, the September *Monetary Policy Report* includes an annual evaluation on the progress of policies and programs for the year to date, and proposals for the next calendar year (Section 80).

2.2. Monetary policy and financial stability

As mentioned, one of the Central Bank's goals is to ensure that internal and external payments function normally, thereby contributing to Chile's financial stability. The financial system plays a central role in intermediating resources in a modern economy, because it channels saving from suppliers to demanders of capital, whether in Chile or abroad, thereby facilitating the exchange of goods and services

and contributing to growth. The financial system's efficiency relies on its ability to reduce potential distortions, such as asymmetrical information between lenders and borrowers.

Financial stability also depends on the system functioning normally, that is, preventing financial crises and, when they happen, reducing their negative effects or costs. The purpose of financial stability is to reduce the probability of these events and their effects, since, given the nature of financial markets, crises cannot be ruled out completely.

In this sense, the Central Bank shares responsibilities with financial sector supervisors and above all the Superintendency of Banks and Financial Institutions (SBIF). It typically covers the system as a whole, whereas supervisory bodies focus primarily on specific institutions. Through its biannual *Financial Stability Report*, the Bank identifies and reports on risk and vulnerability within the financial system, from a systemic perspective.

Central Bank responsibilities regarding price-level and financial stability are interdependent. A weak financial system can make implementing monetary policy difficult and thereby pose risks to price stability. Monetary policy's passthrough and impact therefore depend on a healthy, functioning financial system.

To limit the risks that could threaten the continuity of internal and external payments, the Central Bank is empowered to perform several specific functions. It is the sole legal body able to issue currency. It manages monetary and foreign exchange operations, handles the immediate liquidity supply to banks, and serves as the banking system's lender of last resort and the first financier of deposit insurance, guaranteeing the liquidity of demand deposits and defining foreign exchange regulations and those aspects of financial regulations entrusted to it by law, including the payments system, a responsibility it shares with the SBIF. Within the framework of the floating exchange rate, the foreign liquidity management policy helps ensure external payments are made normally.

Central banks generally use different instruments to safeguard price and financial stability. In some circumstances, however, a central bank may adjust its monetary policy instruments in response to price shifts in asset or credit markets. This could occur, for example, if the authorities believe that a pro-active monetary policy could tip the balance toward a strong market adjustment or the threat of a systemic crisis, which could in turn place efforts to keep inflation in the target range at risk. Monetary policy designed to keep inflation on target over a suitable medium-term horizon (about two years) can significantly reduce these risks. In other words, the goal of price stability should not be met in the short term at the expense of future upsets that could damage long-term macroeconomic stability.

2.3. Monetary and fiscal policy coordination

With an independent central bank, a gap may arise between the point in the business cycle, monetary and foreign exchange, and fiscal policies. For example, the former may be expanding while the latter is contracting, or vice versa. This may reflect different analyses, macroeconomic projections and /or objectives sought by the two sets of authorities. It may also reflect relatively different capacities or lags in each policy's impact on inflation and the output gap, or the intensity of productive factor use.

Coordination is essential to maximize the effectiveness of both policies and maintain respect for each body's independence. Under Chilean law, the Central Bank must "consider the general orientation of the Government's economic policies" and the Minister of Finance attends Central Bank Board meetings (box 2). In practice, there is also ongoing coordination between the Government and the Bank.

3. The monetary policy framework

3.1. The inflation targeting approach

The Central Bank manages its monetary policy based on inflation targeting and a floating exchange rate. These involve an express commitment to use the instruments granted it by the law to meet the annual CPI inflation target, set at plus or minus one percentage point of the 3% target. Inflation targeting therefore makes it possible to meet the goal of stable prices. The Bank's commitment to inflation targeting allows it to make the target the economy's nominal anchor and a clear, unique reference for evaluating prices, to guide economic agents' expectations (box 3).

Box 3

Changes in target-based monetary approaches in Chile and abroad

Since 1989-1990, when New Zealand switched to a monetary regime based on meeting a pre-set inflation target, this system has been adopted by 25 countries. The Central Bank of Chile began partial application of this system in September 1990, when it announced an annual inflation target for 1991 (figure 1), although there was still no formal definition of this monetary regime.

Many central banks have chosen an explicit inflation target as the nominal anchor for their economies more by ruling out alternatives than from any search for the best instruments.

In the 1980s and 1990s, central banks became increasingly dissatisfied with the two traditional approaches, based on a foreign exchange objective (a controlled or fixed foreign exchange rate) or a target for monetary aggregate growth. Regimes anchored by the exchange rate often plunged into balance of payment crises, while those anchored by monetary aggregate growth often had a hard time controlling inflation, given unstable demand for the corresponding aggregate. These problems, plus the communicational advantage of committing to an inflation target as the ultimate goal of monetary policy, led to growing use of this new monetary approach worldwide.

International experience suggests that inflation targeting's success depends on meeting four requirements: (i) absence of fiscal dominance (monetary policy independent of fiscal financing needs); (ii) absence of financial dominance (monetary policy independent of insolvent banks' rescue needs); (iii) absence of other nominal anchors, and (iv) an autonomous central bank with the technical and political credibility necessary to manage monetary policy and achieve the inflation target.

In 1991-1999, the Central Bank applied a partial inflation targeting approach. During this period, monetary policy did not respond to the needs of the Government or the private sector for financial rescue. The third requirement, however, was absent, since monetary policy involved two nominal anchors: an exchange-rate band, with a floor and a ceiling, and an inflation target. Unlike current practice, the announcement of annual inflation targets (December-December) made the previous September, in effect changed the inflation target. With the end of the year set as the fixed period, this also meant that the average policy horizon was less than one year. Moreover, during this transition, the monetary regime lacked certain institutional and technical components that usually form part of inflation targeting. In 1999, with the implementation of a floating exchange rate and gradual improvements to institutions, the monetary policy framework based on inflation targeting was completed.

Under inflation targeting, the fundamental goal of monetary policy is price stability. However, as mentioned, this also contributes to more stable economic activity and employment, and reduces the gap between actual and full–employment output, conditional to keeping inflation close to target over a medium-term horizon. Given that the economy's position in the cycle determines short- and medium-

term inflation, by nature monetary policy tends to have a countercyclical influence in the inflation targeting system. Thus, monetary policy can help to reduce the volatility of inflation and output.

The parameters that define Chile's inflation targeting monetary regime are: (i) the price index that defines the target; (ii) the midpoint or midpoint of the target range; (iii) the target range; (iv) the policy horizon, and (v) the operational instrument. These variables are described next, along with the main reasons behind the Central Bank's choice of the parameters that define them.

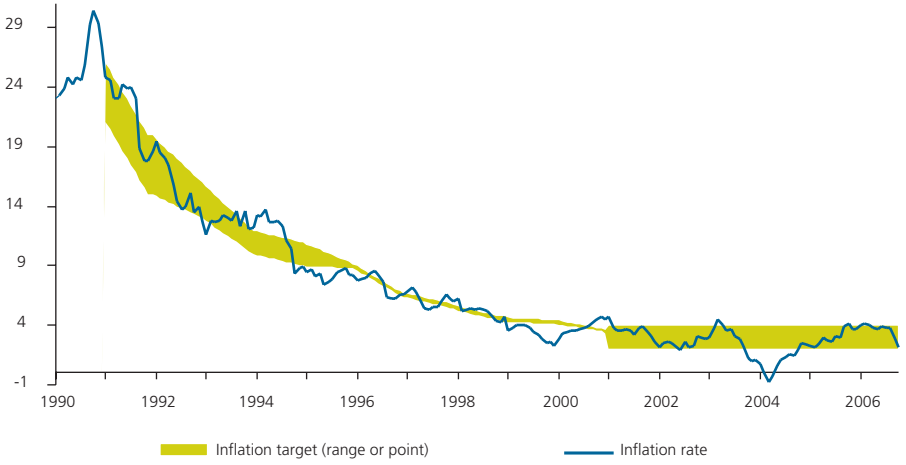
(i) The inflation target is defined as the annual 12-month change in the Consumer Price Index (CPI), prepared by the INE, based on monthly changes in the prices of an average basket of goods and services for consumption. The CPI is the price index most used in the country and is the unit of reference for correcting prices, wages and financial contracts, and for calculating the inflation-indexed accounting unit (*Unidad de Fomento*, UF), based on the previous month's CPI. This makes it very representative and reliable. Its disadvantage, as an indicator of medium-term inflationary pressures, is that it includes the very variable prices of some goods, such as perishable foods (that rise and fall according to seasonal and other temporary factors) and goods and services strongly influenced by the oil price (normally rather volatile in international markets):

Core inflation indicators are less volatile. These are based on consumer baskets from which goods and services with more volatile prices have been stripped. Core inflation indicators are therefore an important factor in probable inflation, because they are more closely tied to medium-term inflationary trends. However, as with most countries using inflation targeting, Chile's Central Bank uses the CPI as the base index for defining inflation targeting: its advantages in terms of representativity and credibility prevail over the disadvantages of volatility.

(ii) The midpoint of the inflation target range is set at 3% annually. This means that monetary policy concentrates on the Chilean economy posting average and expected CPI changes of around 3% annually. The Central Bank chose this figure because a higher inflation rate would hardly be considered a sign of price stability and would push the country to an inflationary level that could damage economic growth and the population's welfare.

Figure 1: 12-month CPI inflation target and rates in Chile, 1990-2006

(percent)



Source: Central Bank of Chile.

Inflation below 3% would also incur certain costs, for three reasons:

- It could increase losses to output and employment when negative shocks dampen the economy. Given the downward rigidity typically shown by price levels and corrections, because of indexation to past inflation, many consumer prices and wages do not adjust closely enough of quickly enough. In the short term, this causes losses to output and employment when the economy slows or enters a recession. In principle, this can be reduced through positive inflation, which facilitates relative price corrections.
- The CPI in Chile (and elsewhere) overestimates real inflation to the consumer. Calculations for this index do not completely reflect progress in product quality or the substitution of goods or changes in purchase points, by consumers, when relative prices shift. Both factors reduce the actual average cost of goods and services consumed.
- Monetary policy management loses room to maneuver when inflation approaches or falls below 0%, because this limits the minimum level to which the real interest rate can fall (which is decisive for economic agents' decisions regarding investment and consumption). When nominal interest rates approach 0% amidst expectations of deflation, real interest rates can contribute to making output and employment contract. This occurred, for example, with central bank policies in many countries during the Great Depression in the 1930s and more recently in the Central Bank of Japan's experience.

(iii) Through the target range (set at plus or minus one percentage point), the third parameter of the monetary regime, the Central Bank is communicating three things to the public:

- First, that the Bank will tolerate temporary deviations from the 3% inflation rate. These are inevitable given the multiple shocks that the Chilean economy is exposed to, the typical lag involved in monetary policy, and the problems inherent to having very variable interest rates. A commitment to inflation falling within the range "most of the time" signals that larger deviations can be dealt with on a temporary basis, provided they are brief and there is a reasonable certainty that inflation will move back to 3% after a prudent interval.
- Second, it is normal for inflation to move around during the business cycle.
- Third, the range's symmetry signals that the Central Bank is more or less equally concerned about deviations in either direction. The Bank reacts equally swiftly and intensely to shocks pushing inflation under or over 3%.

It should be noted that the extent of the range says nothing about how the Central Bank will respond if inflation moves beyond its limits.

(iv) The practical purpose or operating objective behind monetary policy is to keep projected inflation around 3% annually over a policy horizon of about two years. The policy horizon is the maximum period during which the Central Bank normally attempts to take inflation back to 3%.

(v) In this sense, the main instrument is the Central Bank's monetary policy rate. Through open market operations, described below, the Bank influences interest rates charged on overnight interbank loans, to keep them around the monetary policy rate.

Three factors have led the Central Bank to focus present policy on a future inflation target: it takes time for changes in monetary policy to affect economic activity and prices. Empirical evidence suggests that in Chile it takes two to five quarters for the response from demand and production to a change

in monetary policy to peak, and four to eight quarters for inflation to fully reflect the change. Second, a shorter policy horizon would have the disadvantage of making interest rates, output, employment and other variables more volatile. Finally, temporary shifts in some CPI prices occur, which should not require neutralizing through monetary policy.

Given that future inflation is unknown, it must be projected over the policy horizon. With publication of this document, the Central Bank has defined this horizon as a period of around two years, taking into account the lags within the Chilean economy and the Bank's interest in limiting the volatility of output and unemployment (from September 1999 until now, the monetary policy horizon was set at from 12 to 24 months).

Strictly speaking, the best period for allowing inflation to return to the midpoint of the target range depends on the shocks that it must deal with. Often inflation can move back to 3% before two years' time. The horizon normally suggests the maximum. Using 3% annually as the projected inflation target makes it possible to maximize the chances of it returning to the target range within two years and thus provides the economy with a real nominal anchor.

Monetary policy decisions also reflect an analysis of present inflation and projections over other horizons. The evaluation of inflation's path for other periods points to how lasting control over inflation is likely to be. Moreover, present inflation influences future inflation. In some countries, focusing on future inflation projections has led to this regime being called a "projected inflation targeting system."

3.2. Foreign exchange flexibility and interventions

The Central Bank has opted for a floating exchange regime, in which the foreign exchange rate is determined by the market, according to the supply of and demand for foreign currency. This regime makes it possible to apply an independent monetary policy, different from those in effect in other countries whose financial markets are larger. The main advantage of a flexible exchange rate is that it makes it easier for the economy to bounce back from real shocks. It prevents severe misalignments in the foreign exchange rate (disproportionate spikes or plunges). It avoids more costly corrections in terms of the output variable and, in principle, weakens the movements of speculative capital. Development of the local financial system and the credibility of anti-inflationary monetary policy allow monetary authorities to use their policy instruments flexibly and independently to respond to economic shocks. This helps to push output closer to potential.

A credible anti-inflationary policy helps to prevent major shifts in the foreign exchange rate (appreciation or depreciation) from producing significant changes in inflation expectations, making it easier for the economy to adjust to a new scenario of domestic price stability. Moreover, a well-regulated and developed financial system makes it easier to prevent foreign exchange rate fluctuations from destabilizing the economy.

Under the floating exchange regime, the Central Bank reserves the right to participate in the market under exceptional circumstances, through foreign exchange operations and/or the provision of foreign exchange hedging instruments (box 4). An overreaction in terms of exchange parity occurs when, although there has been no major change in fundamentals, the foreign exchange rate spikes or plunges, sometimes both, within a relatively short period of time. This excessive appreciation or depreciation may weaken economic agents' confidence (by affecting inflation and thereby requiring monetary policy actions), make financial markets more volatile, or deliver the wrong signals about prices, affecting the efficient allocation of resources. The Central Bank's Board can therefore intervene in the foreign exchange market during exceptional episodes of this nature, in which the foreign exchange rate overreacts, posing a threat on the economy.

Box 4

Types of intervention in the foreign exchange market

Interventions in foreign exchange markets may be sterilized or unsterilized. A sterilized intervention means that when buying or selling external assets, a central bank neutralizes the effect of this operation on the monetary base by buying and selling bonds in the local currency. In an unsterilized intervention, however, it buys or sells external assets without neutralizing the effects this will have on the money supply. Because of this, an unsterile intervention is defined as the sum of a sterilized intervention and an open market monetary operation.

Generally, foreign exchange interventions are sterilized. In an environment of free flowing capital, sterilized interventions can influence the foreign exchange rate along three channels: the portfolio channel, the signal channel, and the information channel. The portfolio channel means that the foreign exchange effect comes from altering the relative stock of assets, thereby affecting the risk premium assigned to holding assets in local currency, when substitution between domestic and foreign assets is imperfect. By altering agents' portfolio composition, the authorities influence the foreign exchange rate, given that this responds to correct the local currency's value to adjust to foreign bonds and the expected return.

In the case of the signal channel, a sterilized intervention can cause private agents to change their expectations about the foreign exchange rate, as they foresee a future shift in the monetary policy interest rate or because this reaffirms the authorities' commitment to the monetary policy objective. Monetary authorities are acting consistently with monetary policy objectives and, if these are credible, their actions will be perceived as credible too.

A sterilized intervention can also influence the foreign exchange rate through the information channel. This may occur where markets have asymmetrical information or heterogeneous and/or irrational agents, whose actions mean the foreign exchange rate does not accurately reflect its fundamentals. As a result, this channel assumes that the foreign exchange rate is not lined up with its equilibrium level and, in this case, a central bank's actions should help eliminate asymmetries or counteract the speculation encouraged by certain economic agents.

With the floating exchange, from December 1999 to November 2006, the Central Bank twice announced its intention to participate in the foreign exchange market. The first time, in August 2001, the Bank announced that it might intervene anytime from then until year's end, and it explained that the foreign exchange rate was depreciating very rapidly and the peso had become very volatile, triggering concern in financial markets, although much of the weakening of the peso was due to more difficult conditions abroad. The actual intervention consisted of the sale of foreign exchange worth slightly over US$800 million and an issue of exchange rate-indexed debt payable in pesos, worth another US$3 billion (including reissuing of notes falling due). The second time, the Central Bank announced its intentions in October 2002, because it considered the depreciation apparent at the time the result of an overreaction to high volatility and reduced liquidity. The Bank eventually issued US$1.5 billion in debt indexed to the exchange rate.

These actions were consistent with the Central Bank's policy of transparency in its operations.

According to its goal of safeguarding the stability of external payments and consistent with its faculties to realize foreign exchange interventions, the Central Bank maintains a stock of foreign currency reserves. These holdings also reduce the probability of liquidity disturbances and make it possible to deal with unusual situations involving loss of access to international financial markets, minimizing the likelihood of balance-of-payments problems. Maintaining them is expensive, however, because they yield less than the liabilities that finance them. Because of this, the Central Bank is careful to ensure the right level and composition of its foreign currency reserves.

4. Monetary policy management

4.1. Projections

The key ingredient in monetary policy decision-making involves evaluating the future projection for inflation. This exercise or any involving projections is typical of inflation targeting, and makes it possible to evaluate the consistency between current monetary policy and expected price trends. Given the lag involved in inflationary pressures in Chile's current, stable macroeconomic environment, the future of the business cycle and the main cost determinants must be evaluated before making monetary policy decisions. Because of this, in an inflation targeting approach it is necessary to project key macroeconomic variables that influence inflation (box 5).

Box 5

Determining inflation and monetary policy transmission mechanisms

Inflation is a long-term monetary phenomenon. This means that money and prices are closely related over prolonged periods. Moreover, the tendency for economic activity to grow is associated with the development of institutions and the quantity and quality of productive factors, which in turn depend on public policies, among other factors. Monetary policy's main contribution to economic growth is to encourage low and stable inflation, thereby favoring economic development. The quantity of banknotes and coins in circulation cannot determine economic growth in the long run.

Under inflation targeting, the main monetary policy instrument is the interest rate and not money *per se*, which does not invalidate the relationship between money and prices. On average, prices rise according to the target and agents' expectations about future interest rates, deduced from Central Bank deeds and words, and this determines inflation.

Several reasons explain why, over the shorter term, market changes in response to shifts in interest rates do not immediately translate into higher or lower prices, but rather affect economic activity. For example, the costs that price corrections entail, nominal rigidity in prices and wages, or informational problems can mean that, in the short term, prices and wages adjust to monetary changes gradually rather than suddenly. This causes real variables such as employment and the use of installed capacity to fluctuate and thus deviate from their long-term trends. As time passes, these shifts ultimately affect inflation. In contrast, during periods of very high inflation or hyperinflation, prices and wages adjust very quickly and the impact on output is small or may even be the opposite of what is sought.

Changes in certain prices, such as perishables or fuels, are the most common reason for volatility in the CPI, particularly through public utility rate indexation and fuel prices, as well as the seasonal nature of some goods and services. Over shorter periods, of a few months, most swings in inflation reflect these factors. Over longer periods, inflationary effects depend on propagation through expectations and inflationary inertia. If monetary policy is implemented opportunely and inflation targeting is credible, this propagation can be bounded.

Given the wide range of factors that influence inflation, for efficient monetary policy management, the authorities must study the magnitude and periods across which these phenomena operate. This requires ongoing monitoring to identify how strongly monetary policy is affecting the economy, and to distinguish between the different transmission mechanisms.

Monetary policy affects inflation in Chile in five main ways: it influences financial asset prices; these prices may impact decisions on spending, production and employment; they also can affect both costs and margins; it produces inflation expectations; and it affects how these factors ultimately affect prices.

Thus, modifications in the policy instrument are expected to change the value of the spot foreign exchange rate, affecting the relative price of tradables and non-tradables on international markets, which in turn influence decisions regarding expenditure or production. Moreover, given that part of the consumer basket includes imports and exportables, shifts in the foreign exchange rate directly affect inflation if passed along to domestic prices (passthrough).

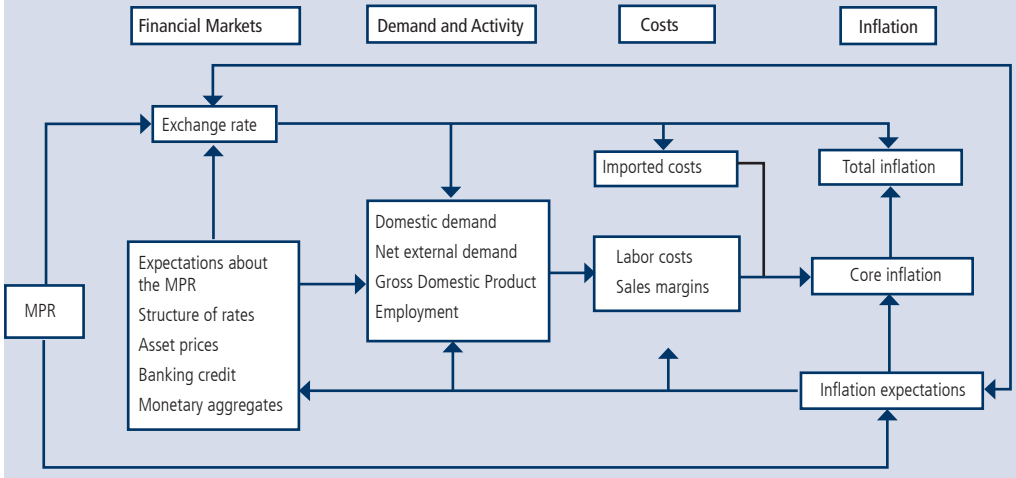
Changes in the monetary policy rate directly and swiftly affect other financial prices, for example, short-term deposit rates in the financial system. These changes also affect expectations about the future monetary policy rate, because they influence the longer-term interest rates that apply to household and corporate purchases of durable goods and housing, or investment in plants and equipment. Normally these changes also reflect credit and liquidity volumes within investors' portfolios.

In the current environment marked by financial integration into international markets, the foreign exchange rate should respond to differences between interest rates in pesos and other currencies, along with shifts in the fundamental variables that determine the real foreign exchange rate in the long run. According to the arbitrage concept, expectations regarding foreign exchange appreciation or depreciation should offset these differences in interest rates. Shifts in the foreign exchange rate also influence macroeconomics because of their impact on income and wealth within the balance sheets of the different economic agents.

Expectations regarding inflation directly influence wages and prices, which in turn determine future inflation trends. Large corrections to the monetary policy rate or shifts in the exchange rate that these may cause, can change agents' expectations about future price trends.

Economic agents' decisions about expenditure, production and employment, which influence corporate margins and labor costs, change with the economy's financial climate. This is far from instant, however, because many decisions on expenditure involve correction costs. As a result, monetary policy's passthrough occurs with lags that, in Chile, are estimated at two to five quarters for demand and production, and four to eight quarters for inflation. Over several quarters, monetary policy decisions end up becoming part of the real economy. To the degree that changes in aggregate demand persist, prices adjust and finally inflation changes (see diagram).

Diagram: Monetary policy passthrough mechanisms



Source: Central Bank of Chile. MPR: Monetary Policy Rate.

One of the Central Bank's main analytical tools is a set of statistical and economic models for projections. Like other central banks, Chile's invests constantly in improving its models to strengthen the analytical framework that supports monetary policy passthrough mechanisms and the Board's judgments when formulating medium-term projections. For projections over shorter periods—for example, two quarters—, time series models and more detailed analyses of output and price dynamics are used to extrapolate more immediate trends. This work is enriched through the active exchange of information with other central banks that have also adopted inflation-targeting monetary policy stances.

Aside from assumptions about the structure of the economy, building these projections requires incorporating future monetary policy decisions. The usual working assumption is a policy rule that associates the policy rate with the gap between projected and target inflation, and the output gap. This rule does not attempt to literally reflect how the Central Bank's Board sets the monetary policy rate, but rather to serve as an analytical premise used to project inflation and growth and ensure they are consistent with money's neutrality in the long run.

4.2. Decision-making

The monetary policy meeting is the main instance where monetary policy decisions are made (box 6). Every meeting reviews events since the previous session, their implications for inflation projections over a period of around two years, and policy alternatives. When the *Monetary Policy Report* is being prepared (three times a year), meetings also review medium-term projections for inflation and growth, among other variables.

The Central Bank's Research Division presents a summary of the events occurred between meetings, including the main changes internationally and in domestic financial markets, aggregate demand, the economy's external sector, output and employment, along with prices and costs.

The diagnosis and evaluation of events begins with the data and an analysis of the information available. A battery of models supports the Board's judgments as it configures the main projection scenario, for a period consistent with the monetary policy horizon. Models explain and quantify the most likely economic response, particularly in terms of inflation, to different events and changes in monetary policy itself.

After discussing monetary policy options, the Board reaches a policy decision. The meeting ends with preparation of the official news release, which reports on the decisions reached and provides the main rationales.

Box 6

Monetary policy meeting

Monetary policy and, consequently, the monetary policy rate, are decided at the monetary policy meeting. All Central Bank Board Members participate, along with the Minister of Finance, the General Manager and the General Counsel, a certifying officer, a group of Bank managers, an advisor to the Minister of Finance and other Bank staff. Meetings are monthly and announced six months in advance, although the Bank Governor can also call a special session that is not in the agenda. This has only occurred once since 1999, in August 2000.

Only Board Members have the right to vote. At the end of each session, results are published in an official news release, which explains the rationale behind decisions. Board regulations define meeting procedures.

Monetary policy meetings have four parts. During the first, the Bank's Research Division presents a summary that analyzes recent economic and financial news, and reviews short and medium-term prospects for the main macroeconomic variables, based on updated information distributed to participants 48 hours earlier. Participants then comment on and debate this information. During the second part, the Research Division presents the advantages and disadvantages of the different options for monetary policy (cutting, maintaining or raising the monetary policy rate, and by how much), which again are analyzed. In the third part, Board Members offer their arguments and vote for the policy option they consider most suitable. Finally, the news release reporting the decision is approved, along with the main rationale, and released via the website, normally at 6 pm the same day.

Monetary policy decisions require a simple vote of Board Members present at the meeting, with the Governor empowered to resolve any tie. Three weeks later, the contents, rationales, and vote of each Board Member are included in the minutes, which are also uploaded to the Central Bank website.

4.3. Rationale for changing the monetary policy rate

There are two main reasons for changing the monetary policy rate at any given time: when inflation projections are not consistent with the target, and to confirm the degree of stimulus expected from monetary policy, in line with previously prepared projections, when new information tends to confirm the original reasons for this stance.

Regarding the first reason, the monetary policy rate should be changed when inflation projections persistently move away from the target. This may occur, for example, when new information builds up on the economy's progress, which changes the likely inflation rate. Between two monetary policy meetings, information can signal changes in projections for exogenous variables (for example, the expected copper price) or a variable such as output or inflation may introduce some surprises. This new information generally changes the future behavior of inflation—and, therefore, projections—and can even influence the Board's views of how the economy is functioning, and particularly how different shocks are transmitted.

Faced with new projections, it may be necessary to adjust monetary policy, which modifies projections. Within the inflation targeting framework, corrections to monetary policy aim to push expected inflation back toward the midpoint of the target range over the policy horizon.

On the second reason, even where there is no news of significant changes, a change to the monetary policy rate may be warranted to confirm a certain path expected from the monetary stimulus assumed in projections. Since the expected future inflation rate depends on economic agents' expectations about future monetary policy interest rates, because of their impact on the time structure of interest rates and asset prices, the current monetary policy rate and probable future sequence of interest rates are relevant for inflation projections. Moreover, given that gradual corrections to the monetary policy rate are preferred over sudden adjustments, and that the policy horizon is continually moved ahead (because it is always two years away from the decision-making moment) the simple passing of time may make a change warranted.

In principle, the effects of a change in the current rate on projections for a specific horizon can be achieved through shifts in the monetary policy rate. However, delaying necessary changes typically requires more aggressive action later, producing more volatile financial prices, since there are many non-linear consequences of monetary policy. Postponement means that any change will have to be distributed over a shorter period and the dosage adjusted to achieve the same goals.

4.4. Stability and credibility considerations

The depth of the Central Bank's response to incoming information changes when particularly significant risks appear. These scenarios are less likely, but their consequences for inflation and output deserve special analysis. A prudent evaluation of a set of alternative scenarios is called the balance of risks.

At least three types of risk can justify a preventative policy action that involves changing the rate less gradually than normal: risk of deflation, loss of target credibility, or a threat to financial stability.

If a given shock is likely to lead to deflation, the authorities risk losing control over monetary policy, because the rate cannot take negative values, as mentioned. The Central Bank must therefore correct the monetary policy rate more sharply than would have been necessary in the absence of this risk, to maintain maneuverability.

A second risk scenario is associated with the credibility of the inflation target. In certain circumstances, private expectations for different horizons may differ systematically from the target inflation rate. If these discrepancies persist and deepen over longer horizons, they could be a symptom of the nominal anchor's loss of credibility. This is to say that the public believes that the target could be changed or that the Central Bank lacks the will or the ability to meet its commitments. In this case, a more profound policy action may be necessary to reassert the Central Bank's commitment to the inflationary target.

Finally, the best policy choice may be quite different if the Board perceives some threat to financial stability. A case in point would be the longer-term implications of current trends in credit and monetary aggregates; for example, three or four years' hence.

These elements determine the best sequence for the monetary policy rate. However, once it has been established, second-round effects may influence private sector expectations and particularly some key financial prices. For example, the timing of changes in the monetary policy rate contains information about probable future changes, which in any case is "a signal effect" that is hard to evaluate with the usual tools. This consideration could have implications in the selection of the most suitable way to change interest rates or implement a certain monetary policy strategy. Nonetheless, the more transparent the Central Bank's policy framework and the decision-making process (and virtually all the information handled by the Bank is public) the less important this problem will be. Under normal circumstances, private agents can predict monetary policy actions.

To boost monetary policy's effectiveness and ensure an accurate interpretation of the rationale behind shifts, it is important that the market understand the Central Bank's actions and that the latter be systematic. Thus, financial markets, analysts and the Bank itself can interpret economic news in a similar way, minimizing confusion about future policy. Policy surprises should be the exception and not the rule, so the public can use the information available to predict the most likely path of monetary policy and thus enhance its effect.

5. Monetary policy implementation

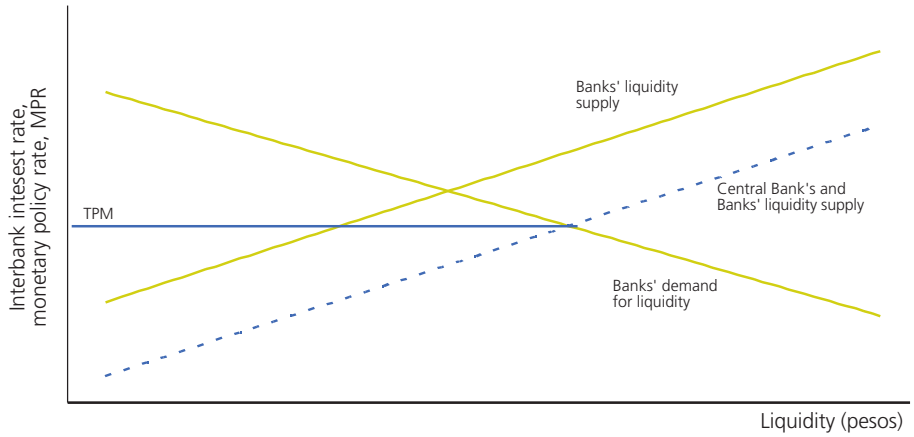
5.1. The structure of the interbank market

Since May 1995, the Central Bank has implemented monetary policy by defining a target for the daily interbank interest rate, that is, the interest rate that financial institutions (banks) use on loans amongst themselves from one day to the next (overnight). Since August 2001, this rate has been set as a fixed nominal value, whereas previously it was set at an indexed rate (UF). As in any other market, the price (in this case, the interbank interest rate) is determined by the balance between supply and demand of the good or service in question (in this case, loanable funds or liquidity). The Central Bank implements

its monetary policy by influencing the supply of funds so that the resulting interest rate is equal to the monetary policy rate. Thus, the latter is the interbank rate sought by the Bank. As figure 2 illustrates, the supply of funds from the Central Bank makes it possible to satisfy banks' liquidity demands so that the interbank interest rate remains at the same level as the monetary policy rate.

Figure 2: Interbank market organization

(percent)



Source: Central Bank of Chile.

Two factors determine a bank's demand for funds. The first involves the legal requirements for reserves and the technical reserve, that is, the percentage of deposits that financial institutions must have on hand in cash or current accounts in the Central Bank. This currently stands at 3.6% for term deposits and 9% for demand deposits. This calculation is for a one-month period (the reserve period) that runs from the 9th of one month to the 8th of the next. The technical reserve is a special type of reserve that banks must deposit in the Central Bank or establish using Central Bank or General Treasury documents. This amounts to a multiple of its capital that a bank is allowed to hold in demand debt.

Second, banks demand funds to settle transactions, among them payments or charges that must be made to other financial institutions. Examples include transactions among individuals that take the form of checks or electronic transfers charged to the funds that customers have in a given bank. These generate obligations among banks, which are settled daily in the interbank market, with some banks demanding and others supplying liquidity.

Banks' demand for liquidity is inversely related to the interest rate. The higher it is, the more incentives to banks to reduce their liquidity. Moreover, when the rate is higher, the public is also encouraged to transfer funds out of demand deposits (such as current accounts) and into time or other interest-bearing accounts. This change in the structure of bank liabilities reduces reserve requirements.

The liquidity supply is determined by the excess funds of those banks seeing a chance to invest them in the interbank market. The Central Bank's net liquidity supply can be added in here, reflecting bonds and promissory notes issued by the Bank itself falling due and the Bank's new debt issues.

It is through the exchange of liquidity for debt documents (open market operations) that the Central Bank can control the liquidity available in the economy —the monetary base. This strictly corresponds to the sum of banknotes and coins in circulation and deposits that banks have with the Central Bank. The expansion of the monetary base or an increase in liquidity occurs when the Central Bank makes a deposit in these banks' accounts. In contrast, the monetary base contracts or liquidity shrinks when transactions between the Central Bank and banks involve a charge on these accounts, for example when commercial banks purchase Central Bank documents.

5.2. Monetary policy instruments and implementation in Chile

Given the variety and volume of the Central Bank's financial liabilities with the private sector, it is normal for some of these to fall due every day. This constitutes a steady injection of new liquidity into financial markets. From the perspective of this document, this supply of liquidity is a given, because it reflects decisions on debt issues made in the past. The new debt issued drains any excess liquidity. Lately, the Central Bank has auctioned off discount promissory notes (PDBC) due in 30 to 90 days, peso-denominated bonds (BCP) to two, five and ten years, and bonds indexed to the UF (BCU) falling due in five and ten years. An annual calendar establishes the issues falling due in more than one year.

In practice, every month the Central Bank prepares a cash flow of the financial system that examines all the known flows that will expand or contract the monetary base for the reserve period. Moreover, it estimates consistent demand on the monetary base with the monetary policy rate that is under consideration, examining seasonal factors, among others. Although, except in extreme situations, the Central Bank's debt policy is to maintain a stable size and structure over time, renewing and issuing new debt (promissory notes and bonds) makes it possible to gradually adjust the net supply of funds in the interbank market. Regulating amounts or quotas for new debt issues, whose calendar for short-term documents is announced one working day ahead of the reserve period, allows the Bank to adjust overall to monthly liquidity, in a way that is consistent with its goal of keeping the interbank rate around the monetary policy rate.

Notwithstanding, daily demand for and supply of liquidity can differ from projections for a given monetary policy rate. As in other countries with developed financial markets, Chile's Central Bank has access to a range of instruments to swiftly accommodate liquidity, to keep the observed interbank interest rate near target. The main tools or "facilities" are the liquidity credit line and the liquidity deposit. Both allow market players to perform a stabilizing role, keeping the interest rate around the Central Bank's target.

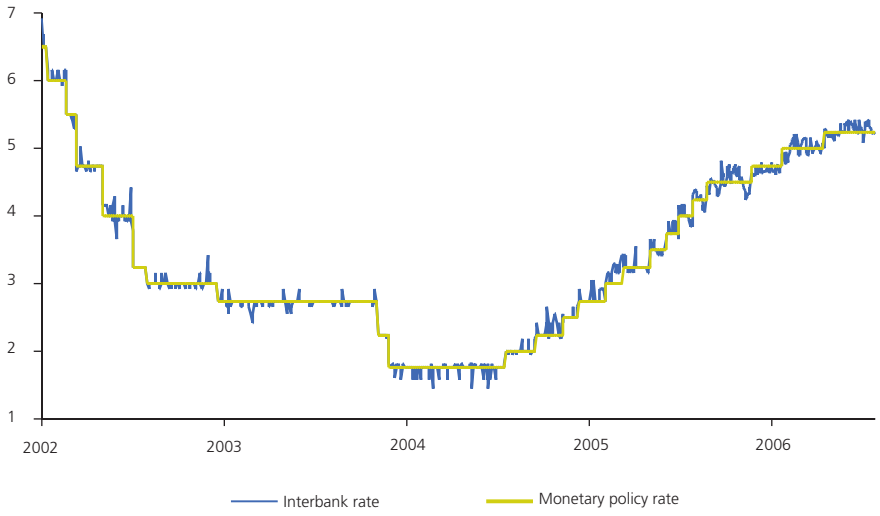
For the liquidity credit line, operations are through the purchase of promissory notes with a buy-back clause (repos). They are equivalent to a loan from the Central Bank to a bank, guaranteed by collateral. They involve the Central Bank buying eligible securities, with a buy-back clause for the next working day. Funds granted by this credit line are deposited in the respective bank's current accounts at the end of the day, and the funds returned first thing the next day. Because this type of operation involves no credit risk for the Central Bank, the liquidity line has no ceiling and involves charging an interest rate set at the monetary policy rate plus 25 basis points. For the liquidity deposit, banks deposit in the Central Bank for one banking day, at the monetary policy rate minus 25 basis points.

Both rates set a symmetrical band for automatically stabilizing at the monetary policy rate plus or minus 25 basis points for interbank loans. This band width is considered suitable. A broader band would reduce control over the interbank interest rate, requiring more active management of discretional instruments to avoid instability, due to situations of general excess or insufficient liquidity or momentary concentrations in a given financial institution. A narrower band would make the rate even more stable, but at the cost of inhibiting the development of the liquidity interbank loans market and, eventually, expectations regarding changes in the monetary policy rate could trigger speculation against the liquidity or deposit rate.

If the funds available differ significantly from demand by the financial system on any given day and it is thought necessary to support the permanent facilities described here, the Central Bank participates in this market using repos of exceptional promissory note issues. In the former case, the repos offer liquidity in exchange for bank's buying Central Bank promissory notes or bonds, with a commitment from the Bank or seller to buy them back after a brief period, usually one day. The collateral may be foreign exchange or other eligible securities. In the latter case, where there is an excess of loanable funds and the interbank interest rate is poised to dive below the monetary policy rate, the Bank withdraws this excess by selling short-term promissory notes, usually due in one to seven days.

In practice, in the past several years the interbank interest rate has not deviated significantly from the monetary policy rate (figure 3).

Figure 3: Monetary policy and interbank rates, 2002-2006
(percent)



Source: Central Bank of Chile.

6. Transparency and communication

6.1. Transparency, accountability and effectiveness

The need for central banks to achieve greater transparency and better communication with economic agents stems from two mutually entwined principles for maximizing monetary policy: accountability and effectiveness.

The Central Bank's own autonomy requires greater accountability in delivering transparent information on its actions. In response to this challenge, the Bank's communication with the public enjoys top priority on its agenda. In a democratic society, independent monetary authorities typically report to elected representatives. In the Central Bank's case, the law establishes that it must report on policies

and regulations to the President of the Republic and the Senate, and on its annual programs and policies to the Minister of Finance and the Senate. Thus, transparency, inherent in the very action of reporting to the public, becomes an implicit consequence of any central bank's autonomy.

At the same time, for monetary policy to be effective, that is to influence inflation and capacity gaps, economic agents must understand it. As discussed above, monetary policy is implemented by regulating liquidity so that the one-day interbank interest rate remains near the desired level, determined by the monetary policy rate. At the macroeconomic level, this interest rate is relevant almost solely due to its impact on other financial indicators, such as interest rates on medium- and long-term operations, the foreign exchange rate, and other asset prices, which exercise the most influence over the different economic agents' decisions. These other indicators partly reflect the current monetary policy rate, but more importantly, what is expected from this rate in the future. Thus, most of monetary policy's effects on the economy (its transmission) arise from agents' perceptions regarding the most probable monetary policy tendencies to come. Adequate understanding of this and how policy will adjust in response to new information is fundamental for the policy to have the desired effect. Because of this, it is important to redouble efforts to communicate monetary policy's design and objectives to the public as accurately as possible.

Transparency and communication are even more important when monetary policy is based on inflation targeting, since the main principle organizing debate in this framework is the projected inflation trend. The ability to transmit the rationale behind the inflation projection and how the Central Bank will respond underpins the credibility of both the policy itself and the Central Bank's commitment to price stability.

The requirement that central banks report on their work and the need for economic agents to understand its policy complement each other. Reporting to the public can be enriched by examining the market's evaluation of the Bank's performance. Credibility, for example, is apparent in the different financial prices, which in turn reflect market perceptions of monetary policy management. Economic agents, meanwhile, will understand and have more confidence in the policy framework if the institutional rules, particularly autonomy, are supported by the country's political authorities.

Transparent monetary policy makes a central bank stronger. Nonetheless, on occasion some degree of discretion and, as a result, prior ambiguity, may be appropriate; for example, when doubts about the bank's commitment to targets require more aggressive policy actions. On some matters, such as stability and regulation, central banks may opt for providing less information to achieve its ultimate goal, stability. But these episodes are more the exception than the rule. In general, transparent monetary policy reinforces credibility and with it, effectiveness and passthrough velocity.

In practice, monetary policy transparency has meant more and better communication instruments and reports from central banks.

6.2. Transparency and communication in practice

According to the International Monetary Fund (IMF), which has identified best practices in economic policy transparency, monetary policy transparency involves several issues. Transparent practices allow agents to find out about current policies in a timely and appropriate manner. Moreover, they require information about how decisions are made, including the data used, prediction models for the main variables, and the authorities' procedures for discussing and making decisions.

The first requirement is for transparency regarding roles, responsibilities and objectives, which in Chile includes the publication of the official objectives of monetary policy, established by the Bank's

Basic Constitutional Act. This defines Bank tasks and objectives, Board Member appointments and the relationship between the Central Bank and the Government, including advisory capacities, representation and capital, among others. As part of current policies, this transparency also involves publishing the quantitative inflation target and information on the authorities' preferences when it comes to some of the dilemmas involved in applying monetary policy.

This policy document is an example of communication and transparency regarding Central Bank objectives. The website, in Spanish and English, also contains a description of the policy framework. The Governor, other Board Members and senior management regularly speak in public on the function and tasks of this body, as well as providing their on current issues relevant to the macroeconomic policy framework.

Monetary policy decisions also require transparency. This involves publishing information about how they are made and reporting them, along with their rationales and implications.

Policy decisions are published as soon as the respective monetary policy meeting ends, after local markets have closed for the day, through simultaneous delivery of the Board's official news release via the Bank website and other channels, including news agencies. Each news release reports the decision regarding the monetary policy interest rate, summarizing the main arguments and possible courses of action.

Several channels are used to provide information on the rationale behind policy decisions, including an evaluation of the current state of the economy and possible future trends. The main ones are the *Monetary Policy Report* (*IPOM*) and monetary policy meeting minutes. The Bank's evaluation of the financial system as a whole is published as the Financial Stability Report (IEF). Bank research is also published, along with the analytical and projection models used.

The *IPOM* is a Board report published three times a year (January, May and September), and its main objectives are: (i) to inform and explain to the general public the Board's view on recent and expected inflation trends, and their consequences for monetary policy; (ii) to publicly disclose the medium-term framework used by the Board of the Central Bank to formulate monetary policy; and (iii) to provide information that can help guide economic agents' expectations regarding future inflation and output trends. The *IPOM* examines the main economic variables, such as growth and inflation projections, and analyzes the risks associated with alternative scenarios. The importance of the risk analysis lies in the enormous uncertainty that surrounds any projection exercise. The balance of risks indicates the most likely change the monetary policy rate could experience compared to the baseline scenario. When monetary policy has an expansionary or contractive bias, the balance of risks indicates what kind of deviation away from the baseline scenario interest rates may follow.

The *IEF* is published every six months and includes a study of the financial and macroeconomic climate in Chile and abroad, as it relates to financial system stability. It analyzes borrowing trends and borrowers' solvency, conditions affecting non-bank financial intermediaries, the impact of alternative macroeconomic scenarios on the banking system, and the financial position of Chile's economy internationally. Published twice yearly, it is distributed among financial system and stock exchange agents, analysts and the media.

Monetary policy meetings minutes are published five working days before the next monthly meeting. These describe in detail the information and analyses reviewed in the respective session and complement and expand on the summary provided in the Board's official release. Recent events both in Chile and abroad are examined, monetary policy options debated, the main arguments considered by Board Members, and votes are identified.

The Central Bank's analytical framework is reflected in the documents and books it publishes. Of particular relevance is the document *Modelos macroeconómicos y proyecciones del Banco Central de Chile 2003*, which describes in detail the medium-term economic model used for inflation projections, and other auxiliary projection models. Other Central Bank publications are not subject to prior approval by the Board and offer information on macroeconomic research. These include the Central Bank's book series, the journal *Economía Chilena*, *Working Papers*, *Economic Policy Papers* and *Studies in Economic Statistics*.

Publications are complemented by presentations made by the Governor, other Board Members and senior management, to report on Bank functioning and tasks, and provide their perspectives on current events. Particularly important are the regional seminars and meetings at which the *IPOM*, and *IEF* and other fundamentals of Bank policies are presented. In addition, the Bank Governor presents the *IPOM* to the Senate Finance Commission or plenary, as applicable.

Third, good transparency practices also require information about monetary policy to be readily available. This involves publishing economic statistics that meet minimum standards, information on the Central Bank's balance sheets, and the dates of monetary policy meetings, through a calendar and on a regular, published schedule. Monetary policy meeting dates are announced six months ahead of time on the website, as is the calendar of auctions and quotas for debt instruments (discount promissory notes, PDBC and bonds) issued by the Central Bank.

The Central Bank's policy is to keep unpublished information to a minimum. Major statistical reports include the *Monthly Bulletin*, which reports on quarterly national accounts, macroeconomic indicators, other immediate indicators, and the monthly indicator for economic activity (*Indicador Mensual de Actividad Económica, Imacec*). The website also offers a complete economic data base. The quality of the data provided by Chile's Central Bank has been certified by IMF and United Nations' reports.

Published every year before 30 April in Spanish and English, the Central Bank's *Annual Report* offers a detailed analysis of its balance sheet. Since 2005, the *Annual Report* also reports in some detail on internal central bank management. Before 30 September each year, and in accordance with the law, the *Monetary Policy Report* evaluates progress on policies and programs for the year and proposals for the coming calendar year. This report provides general economic projections based on this information and the impact these could have on the main items within the Bank's own financial statements projected for the period.

Finally, good transparency practices are also required in terms of rendering accounts and safeguards to ensure integrity, a concern reflected in the Bank's Basic Constitutional Act, which requires that the Bank report to the Senate, publish its *Annual Report*, and have an internal comptroller.

Table: Central Bank of Chile Publications*

Frequency	Bank policies	Studies	Statistics
Daily			Daily report
Monthly	Official Board communiqué Minutes of the monetary policy meeting Background minutes		Statistical preview *Monthly Bulletin*
Quarterly			*Foreign trade indicators*
Every four months	*Monetary Policy Report (IPOM)*		Journal *Economía Chilena*
Every six months	*Financial Stability Report (IEF)*		
Annually	*Annual Report* of the *Central Bank of Chile*	Book series on Central Banking, Analysis, and Economic Policies	National Accounts Balance of Payments External Debt Monetary and Financial Synthesis
Occasionally	*Macroeconomic and projection models* *Central Bank of Chile Monetary Policy Document*	*Economic Policy Papers* Working Papers Studies in Economic Statistics	Various. See: www.bcentral.cl/esp/publ/

Source: Central Bank of Chile.

* The following publications are also available in English: the *Monetary Policy Report, Financial Stability Report, Annual Reports, Statistical Synthesis of Chile*, and a significant number of working papers and studies. See: www.bcentral.cl/eng/stdpub/publications/

7. Summary

The best contribution that monetary policy can make to a country's economic performance is to safeguard price–level stability. Credible and ongoing control of inflation mitigates distortions and unwanted transfers that this generates and allows monetary policy to curb volatility in output and employment.

Since 1999, the Central Bank has managed monetary policy using full-fledged inflation targeting and a floating exchange rate, which incorporate current knowledge on the power and limitations of monetary policy. This system offers a coherent and transparent framework for foreign exchange and monetary policies, which facilitates understanding and credibility in society at large and among economic agents, regarding policy objectives and the rationale for decisions. Moreover, this framework is flexible enough to include the authorities' ongoing judgments and changes that arise in perceptions about the economy and its prospects. This document represents a special effort by the Central Bank to communicate this framework and the way monetary policy is managed in Chile.

Glossary

Absolute price

Price of a good, service, asset or factor service stated in monetary units.

Arbitrage

Simultaneous buy-sell operations of different goods or assets to obtain a net gain from price differences. The presence of arbitrage indicates an imbalance present in goods or asset markets. Arbitrage operations contribute to reestablish market equilibrium, eliminating price differences.

Asymmetric information

Refers to a situation in which the parties involved in an economic interaction or transaction do not possess the same level of relevant information. This situation reflects a market imperfection that reduces welfare. Because of this, the Central Bank of Chile provides markets with information very close to that available to the Board when making monetary policy decisions, and makes statistical and other reports available to facilitate understanding of policy decisions.

Balance of payments

Statistical statement designed to provide, for a specific period of time, a systematic record of an economy's transactions with the rest of the world.

Balance of risks

Evaluation of possible alternative scenarios to the baseline scenario used in projections (considered the most likely in the *Monetary Policy Report*) and their implications for future paths of output and inflation. The combined analysis of different sources of uncertainty to the baseline projection scenario are reflected in the balance of risks, which may be biased downward, upward or balanced, in terms of growth and inflation, as compared to the baseline scenario.

Basis point (bp)

One hundredth of a percentage point. For example, an increase in the interest rate from 6.00% to 6.01% involves an increase of one basis point.

Business cycle

Path of output over time, characterized by recurrent but irregular cycles, whose phases comprise peak, slowdown, recession and recovery. They tend to last from five to ten years between peaks.

Central Bank external assets

Balance sheet account comprised mainly by foreign currency reserves.

Central Bank internal assets

Balance sheet account comprised by: credits to publicly owned companies, *BancoEstado* (state-owned bank), commercial banks and other institutions; and fiscal transfers and credits from subordinate obligations of financial institutions.

Consumer Price Index (CPI)

The National Statistics Bureau (INE)'s monthly index that measures the average change in prices over time of a fixed basket of goods and services typically purchased by consumers. The INE updates the consumer basket on a regular basis, using the household budget survey.

Core inflation

Consumer Price Index (CPI) inflation of a basket comprised by a sub-sample of goods and services

excluding products with higher price volatility or seasonality. In Chile, core inflation is normally measured using the indices CPIX and CPIX1.

CPIX: CPI, excluding perishables (fresh fruit and vegetables) and energy (gasoline, kerosene and gas).

CPIX1: CPI, excluding perishables (fresh fruit and vegetables) and energy (gasoline, kerosene and gas) and goods and services subject to discreet and significant changes due to administrative decisions or regulatory changes that are independent of demand conditions (e.g., bus fares, electric power rates, and other regulated public utility rates).

Countercyclical policy

Fiscal or monetary policy intended to smooth aggregate output and employment, thereby contributing to their stability. The Central Bank of Chile's monetary policy has a countercyclical orientation, subject to preserving price stability.

Data frequency

Periodicity of statistical data. Standard frequencies for economic variables are: hourly, daily, weekly, monthly, quarterly and annual. A variable is of high frequency when its changes are recorded over short periods, such as hours, days or months.

Deflation

Generalized decline in the prices of goods and services, reflected in negative inflation measured by a general price index (such as the CPI), over a period of several months.

Deposit insurance

Insurance that covers a percentage of bank deposits, with a certain limit, against loss due to insolvency or illiquidity of the bank holding deposits.

Economic agents

Comprises households, financial and non-financial firms, the Government and the external sector. Their decisions regarding consumption, investment, production and portfolio composition are reflected in the supply of and demand for goods, services and assets in the economy, which jointly determine the prevailing market conditions.

Events

Occurrence of a change in a variable that is relevant to the current and future path of economic activity, which changes agents' expectations and therefore their decisions.

External saving

Balance of the external current account. Includes exports of goods and services net of imports and other net current transactions, which are comprised by the flows of current transfers and factor payments.

Floating exchange rate

Foreign exchange regime in which the parity (or price) of a country's currency is determined freely in the foreing exchange market against other foreign currencies, with no systematic intervention of the Government or the Central Bank in said market.

Foreign currency reserves

Liquid assets in foreign currency held by the Central Bank of Chile. An instrument that supports exchange rate policy and monetary policy in safeguarding the stability of the currency and the normal functioning of internal and external payments. Under the floating exchange policy regime, their main function is to ensure access to foreign currency liquidity to be able to intervene in the foreign exchange market under exceptional circumstances.

Indexation

Mechanism for adjusting prices of goods, services, wages and asset values according to a particular price index, usually the Consumer Price Index (CPI) or an index derived from it, such as the UF (definition below).

Inflation

Generalized increase in the prices of goods and services, reflected in a systematic rise in a general price index (such as the CPI).

Inflation tax

Implicit tax paid by economic agents that hold money, due to its loss in value (in terms of acquiring goods and services) caused by inflation.

Interbank rate

Interest rate that commercial banks apply to their reciprocal loan operations.

Liquidity

Capacity to pay obligations in money in the short term. Class of assets that can be cashed in easily without major loss of value.

Loanable funds

The supply of resources available for lending.

Long term

Time span over which the values of economic variables return to stable or steady-state levels after occurrence of a shock.

Monetary aggregate

Stock of money outstanding in the economy. It takes different definitions depending on the degree of liquidity of the monetary assets involved. The Central Bank of Chile defines three monetary aggregates: M1, M2 and M3.

M1: Comprised by currency, current accounts net of swaps, demand deposits in banks other than demand checking accounts net of swaps and demand savings deposits.

M2: Comprised by M1 and term deposits, savings term deposits, mutual fund shares invested in debt instruments maturing within one year, savings and credit cooperative deposits, less term deposits of the mutual funds mentioned and those of savings and credit cooperatives.

M3: Comprised by M2 and deposits in foreign currency, Central Bank of Chile documents, Treasury bonds, housing mortgage bills, bills of exchange, company bonds, shares from other mutual funds and AFP voluntary savings quotas, less investments by mutual funds and AFPs in assets included in M3.

Monetary base

Liability of the Central Bank of Chile comprised by banknotes, coins and checks outstanding, and financial system deposits at the Central Bank of Chile.

Monetary stimulus

Degree of expansiveness or position of monetary policy at a given moment. When the monetary policy rate is below (above) its neutral level, monetary policy is expansionary (contractionary). Its long-term equilibrium is attained when the output gap is zero and inflation is at its target level. Then the monetary stimulus is zero, so the monetary policy rate is at its neutral level.

Nominal anchor

Variable chosen by the central banks to guide economic agents' expectations of inflation and thereby achieve their objective of price stability. Central banks typically choose from one of three nominal anchors, which in turn define their monetary regime: the nominal exchange rate, the growth rate of a monetary aggregate, or an inflation target. In Chile, the Central Bank of Chile's nominal anchor is an inflation target.

Nominal rigidities

Inflexibility of certain nominal prices of goods, services and labor, (in general, downward rigidity), which hinders efficient resource allocation.

Nominal variable

Variable measured in current monetary units.

Non-tradable goods

Goods and services that cannot be sold or traded internationally.

Open market operations

Purchase and sale of public securities by the central bank, whose main objective is to keep the daily interbank rate close to the monetary policy rate.

Output or capacity gap

Difference between actual and potential output. The former is the economy's actual level of aggregate output, while the latter is the non-observable aggregate output level the economy would reach if productive factors were being used to their full capacity.

Policy horizon

The period for which a central bank orients its policy instruments for inflation to return to its target level. The Central Bank of Chile defines its policy horizon at around two years.

Production factors (or economic resources)

Inputs used to produce goods and services. The three basic production factors are labor, capital and land.

Projection

Estimation of the future value of a variable, based on information procedures or formal statistical or econometric models, based on available information.

Rational agents

Assumption regarding the behavior of economic agents. Economic decisions are defined as rational when they are based on welfare or profit maximization, subject to the full information available at the time the decisions are made.

Real price

Price of a good, service, asset or factor service relative to an index representing a basket of goods and services, such as the CPI.

Relative price

Price of a good, service, asset or factor service relative to another good, service, asset or factor service.

Reserve requirement

Rule that requires that financial institutions hold a certain fraction of their deposits and obligations in domestic and foreign currency on hand or deposited at a central bank current account, to guarantee the liquidity necessary to meet their financial commitments. The reserve requirement stands currently at 3.6% of term deposits and 9% of demand deposits in Chile.

Seasonality

Periodic and therefore predictable fluctuations of a variable. Usually refers to an annual cycle associated to different months or seasons.

Shock or disturbance

Unpredictable change in conditions in a particular market or variable, whose effects are spread throughout the economy. A shock may have positive or negative consequences for an economy.

Short term

Time span over which the values of economic variables deviate from their long-term or steady-state values after occurrence of a shock.

Stock

Quantity of any monetary or financial asset, good, capital or other good that can be hoarded, at any given point in time.

Target range

Width of the inflation target. Often determined by the expected variability of inflation around the target that a central bank considers tolerable and that is frequently observed. The target range defined by the Central Bank of Chile covers an interval of 2% to 4%.

Technical reserve

Reserve requirement on total deposits exceeding 2.5 times equity. Commercial banks and financial institutions are required to hold their technical reserve at the Central Bank or in documents issued by the Central Bank or the General Treasury.

Term structure of interest rates

Relationship between interest rates of any paraticular financial assets at different maturities. The curve describing the relationship between spot rates of zero-coupon securities and their terms to maturity is known as the yield curve.

Tradable goods

Goods and services that can be purchased or sold internationally.

***Unidad de Fomento* (UF)**

Index that is most widely used for indexing financial transactions, wage and service contracts and generally any price. Authorized by the Central Bank of Chile, as per Section 35 of its Basic Constitutional Act. The value of the UF is adjusted on the 10th day of each month until the 9th day of the next month, on a daily basis, at the average geometric rate corresponding to the change in the Consumer Price Index (CPI) published by the National Statistics Bureau (INE) in the calendar month that precedes the period for which this unit is calculated. Since 1990, the Central Bank of Chile determines the daily value of the UF.

Volatility

Degree of dispersion in the value of a variable over a given period. A measure of volatility is the standard deviation of a random variable, defined as the square root of the average square deviations from the mean.

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