

CHILE'S MONETARY POLICY

Within an Inflation-Targeting Framework



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PREFACE

The Central Bank of Chile (CBC) conducts monetary policy within a conceptual inflation-targeting framework, used partially since its announcement in 1990 and adopted in full as of September 1999 coupled with a floating exchange rate regime.

Twenty years into its implementation, this framework has proved its relevance to the Chilean economy, allowing the Central Bank to manage monetary policy independently, with inflation averaging 3.2% between 2001 and 2019, and two-year inflation expectations that have remained anchored to the 3% target for most of the time over the last two decades. It has also allowed the country to mitigate the effects of significant external shocks, such as the 2008-2009 global financial crisis, and to deal with significant domestic shocks, such as the earthquake and tsunami of February 2010.

This monetary policy framework requires a high degree of transparency and communication of the policies and actions undertaken. The CBC devotes efforts in this field by preparing and publishing the Monetary Policy Report, the Financial Stability Report, and the statement and minutes of the monetary policy meetings. This is complemented by a number of financial education initiatives, the production and dissemination of a wide range of economic statistics, the development of a substantial economic research agenda, and the dissemination of various publications by the Board itself, including the monetary and financial stability reports. This document is one outcome of this effort.

This text is an update of the document *Monetary Policy at the Central Bank of Chile: Objectives and Transmission*, published in January 2007. Like its earlier version, it presents the institutional framework in which the monetary policy acts, the vision of the Board on the policy framework, including its objectives, the transmission of the monetary policy, its conduct and operation, and the role played by transparency and communications.

The Board has deemed it appropriate to provide an update of this document, in order to reflect the experience accumulated in the two decades of operation of the inflation-targeting regime, the institutional developments that have been implemented in this and other areas of economic policy, and the lessons learned from the experience of other countries. With this, it cooperates in making it easier for society and the economic agents to understand the rationality of monetary policy decisions.

January, 2020

EXECUTIVE SUMMARY

The Central Bank of Chile (CBC) uses an inflation-targeting framework as the conceptual basis for its monetary policy regime, complemented by a floating exchange rate regime. This policy framework requires a high degree of transparency and communication, which is the goal of publishing this document.

Legal & institutional framework

The CBC is an autonomous organization, of constitutional status, of technical nature, with legal personality, its own assets and indefinite duration, as provided for in Article 1 of its Constitutional Organic Law (LOC). Its objectives are “to safeguard the stability of the currency and the normal functioning of internal and external payments” (Article 3).

The currency-stability objective entails keeping inflation low, stable and predictable over time. Meanwhile, the normal functioning of the payments system implies working to preserve the primary functions of credit intermediation, the provision of payment services and risk allocation by financial markets.

To comply with its objectives, the CBC is granted by law a number of powers, including the use of monetary and exchange rate policy instruments, as well as some aspects of the regulation of financial and capital markets. Having full autonomy in policy management and decision-making, the CBC informs of its actions to the President of the Republic and the Senate.

CBC autonomy is an essential component of the monetary policy institutional framework, as it allows a monetary policy decision-making process solely based on technical arguments oriented to fulfill the CBC objectives, and forbids financing the fiscal deficit. This framework is completed by financial system regulation that guarantees its stability, efficiency and solvency, a responsible fiscal policy and strong trade and financial integration with the rest of the world.

The Central Bank is governed by a Board, which is entrusted with high direction and senior management. This Board is composed of five members, appointed by the President of the Republic for staggered 10-year terms and confirmed by the Senate. The Governor is elected by the President of the Republic from among the Board members, and holds office for five years.



The law contemplates various mechanisms to ensure coordination between monetary and fiscal policy, while respecting the necessary autonomy of the authorities that conduct them. The CBC must “bear in mind the general orientation of the Government’s economic policy” (Article 6). In addition, the Minister of Finance participates in Board meetings with the right to speak and has the authority to suspend the implementation of a Board decision for up to 15 days, unless all five Board members insist on it (Article 19).

Monetary policy and inflation targeting

The CBC conducts monetary policy under an inflation targeting regime and a floating exchange rate. This regime incorporates the commitment to use the policy instruments in such a way that, independent of the current level of inflation, the inflation forecast at a two-year horizon stands at 3%. This commitment guides the expectations of economic agents and transforms the inflation target into the economy’s nominal anchor.

Under inflation targeting, the primary objective of monetary policy is price stability. As long as economic activity movements in the same direction accompany inflationary pressures, monetary policy plays a counter-cyclical role, which contributes to the reduction in inflation and output volatility. In other words, the existence of an inflation target does not imply ignoring the short and medium-term effects of monetary policy on economic activity..

The inflation target is defined using the annual variation of the Consumer Price Index (CPI), as calculated by the National Statistics Institute (INE), based on the monthly evolution of the prices of a representative consumer basket of goods and services. The choice of the 3% figure for the target comes from an analysis of the advantages and disadvantages of other possible inflation levels, including the need to facilitate the adjustment of relative prices and keep an adequate distance from the zero lower bound of the nominal interest rate.

On the other hand, the two-year horizon for the inflation target accounts for the lags between movements in the policy instrument and its effects on activity and prices, while allowing to reduce output volatility and limiting the effects of transitory fluctuations of inflation.

The existence of a floating exchange rate facilitates the implementation of a counter-cyclical monetary policy by allowing the exchange rate to adjust to real shocks, reducing the risk of prolonged deviations of relative prices.

Under a floating exchange rate regime, the Central Bank reserves the right to intervene the forex market under exceptional circumstances, with the purpose of limiting market’s overreactions that could jeopardize its objectives of price stability and a sound payments system, but never with the ultimate goal of setting a specific level for the exchange rate.

Consistent with the possibility of conducting exchange rate interventions, and in line with its external payments stability goal, the CBC maintains a stock of international reserves. The CBC regularly monitors the amount and composition of its reserves according to various metrics and fundamental objectives. Interventions may be carried out through forex operations and/or derivative instruments, following previously established procedures.

Transparency and communication are essential for any central bank. This stems from two mutually reinforcing principles for conducting sound monetary policy, i.e. accountability and effectiveness. On one hand, the CBC's autonomy by itself leads to responsibility on delivering information regarding its performance. Therefore, the Central Bank's communication to the public is key in the monetary policy framework. On the other hand, for monetary policy to be effective and capable of affecting inflation dynamics and the output gaps, economic agents must correctly understand policy actions.

Transparency and communication are particularly important for monetary policy under inflation targeting, given the central role played by inflation expectations in determining the current evolution of inflation. The ability to communicate the rationale of the inflation forecast and the way in which the Central Bank responds is essential for the credibility of the policy and its commitment with price stability.

Monetary policy transparency is also enhanced by the existence of evaluation instruments, which provide accountability on the Central Bank compliance with its price stability objective.

Monetary policy management

The Board makes monetary policy at monetary policy meetings (MPM), which take place eight times a year. Dates are set by the Bank's Governor, and communicated to the public every September for the following year. Extraordinary meetings can also be called if deemed necessary. At the meetings, the Board determines the value of a benchmark interest rate called the monetary policy rate (MPR). Due to the lags with which inflationary pressures build up and monetary policy affects the economy, decisions are based on the evaluation of the most likely trajectory of future inflation, which requires making projections. The CBC's forecasting toolkit includes statistical and economic models, complemented with the opinions of the Bank's Board and staff.

At each MPM, participants review the main developments in the world and the Chilean economy since the previous meeting, analyze their potential effects on the inflation outlook and evaluate policy options. Then, in an informed vote, the Board decides the course of action.

There are two major reasons to change the MPR at any given moment. First, since both the current MPR and the likely sequence of future interest rates matter for achieving the inflation target, the MPR may be changed to align it with the expected trajectory of monetary policy that is consistent with the target and has been previously communicated to the public.

Second, it may be desirable to change the MPR when, in the most likely scenario, forecasted inflation persistently deviates from the target. Developments after the last monetary policy meeting generally modify the path of future inflation, which may call for a monetary policy adjustment. The change must be such that subsequently the new trajectory of expected inflation converges to the 3% target within the two-year policy horizon.



To enhance the effectiveness of monetary policy, the CBC's decisions and rationale are communicated to the public using various information channels. Among these are the Board's official statement released at the end of the Meeting, which summarizes the decision and its main considerations; the Meeting minutes, which give more detail on the discussion of the Board around the most plausible monetary policy options and the arguments for and against each one; and the Monetary Policy Report, which presents the medium-term economic outlook and the Board's vision on the evolution of inflation and its implications for monetary policy.

The way and intensity with which the CBC adjusts monetary policy may change in the face of particularly significant risks, such as, for example, deflation, loss of target credibility or financial shocks that may endanger financial stability. While these are not the most likely scenarios, they are still possible, so they deserve a special evaluation by the monetary authority due to their potential consequences.

Monetary policy implementation

The CBC executes its monetary policy by influencing the interbank rate, i.e., the rate at which banks lend to one another overnight. As in any other market, the price (in this case the overnight rate) is determined by the equilibrium between the supply of and demand for funds or liquidity. The CBC conducts its monetary policy by controlling liquidity supply or the monetary base, such that the resulting interest rate stands around the monetary policy rate. Therefore, the MPR corresponds to the target overnight rate that the CBC aims to achieve.

The monetary base consists of the banknotes and coins issued by the CBC plus deposits held by banks at the CBC. Two factors determine banks' demand for liquidity: funds needed to meet legal reserve requirements, and the settlement of obligations between banks in the interbank market. The reserve requirement is the fraction of deposits that banks must either keep in their safes or deposit with the CBC. The liquidity supply is influenced by the expiration of the bonds and credit notes issued by the Central Bank and by new debt issues, a decision that largely controls liquidity.

There are two main mechanisms for regulating liquidity on a day-to-day basis: the Permanent Liquidity Facility (PLF), and the Permanent Deposit Facility (PDF). In the former, banks obtain funds from the CBC at a single interest rate equivalent to the monetary policy rate plus 25 basis points (bp), with collateral required as a guarantee. In the latter, banks deposit with the CBC during one banking day at the MPR minus 25 bp. These two rates establish a symmetric automatic stabilization band of plus/minus 25 bp with respect to the MPR, inside which stands the overnight interest rate. However, if on a particular day the supply of funds is significantly different to the demand by the financial system, the CBC can reduce this gap by way of additional operations.

Transparency and information disclosure

Transparency and proper information disclosure are essential for the functioning of organizations, especially for an autonomous institution with a public function, such as the Central Bank of Chile. Through its channels of communication with the public, the CBC not only projects an image to citizens, but also listens to and dialogues with key players, while contributing to the formation of expectations on which economic agents base their reactions to monetary policy decisions. In turn, effective communication requires recognizing the different audiences and counterparts of the Central Bank, adapting form and content to their concerns and needs, adapting to a changing environment and using available technologies to reach different individuals and institutions.

A distinction can be made between different aspects of monetary policy transparency. First, the transparency of roles, responsibilities and objectives involves disclosing the formal objectives pursued by monetary policy, which in the case of the CBC originates in the prescriptions of its the Constitutional Organic Law. The present document is an example of the exercise of this class of transparency by the Central Bank of Chile.

Secondly, there is transparency in the procedures and the use of monetary policy instruments. Policy decisions are reported to the public immediately after the respective policy meeting through the Board's official statement. The rationale for policy decisions is made public through the Monetary Policy Report and the macroeconomic forecasts contained therein, the minutes of the monetary policy meeting, and the widespread dissemination of the Bank's research and its analytical and forecasting models. These communication mechanisms are complemented with events as the presentation of the Monetary Policy Report before the Senate's Finance Committee and the Senate Plenary, regional meetings, press conferences, and interviews. The Bank's website and the institutional use of social networks are also part of the communication process.

Finally, there is background information available for monetary policy, which involves the disclosure of economic statistics, the CBC's balance sheet and the dates of the meetings and monetary policy reports, all with pre-announced calendars and periodicity. All this information is disseminated and made available on the Bank's website. These elements facilitate the communication and evaluation of monetary policy.

1. INTRODUCTION

The Constitutional Organic Law governing the Central Bank of Chile states that its purpose is “to ensure the stability of the currency and the normal functioning of internal and external payments.” The currency stability objective means to prevent its value from deteriorating because of excessive price inflation. From an operating standpoint, this is attained through a stable and sustainable inflation rate over time, at a level consistent with the target set by the CBC. The normal functioning of payments involves safeguarding the primary functions of credit and savings intermediation, the provision of payment services and the appropriate allocation of risk by financial markets, both internally and externally. In order to comply with its objectives, the law grants the CBC several powers, including the use of monetary and exchange policy instruments, as well as certain aspects of regulation of the financial and capital markets.

The international evidence and Chile's historical experience show that the main contribution of monetary policy to a country's development and welfare is the sustainable achievement of a low and stable rate of inflation. This anchors inflation expectations, so that inflation becomes predictable and causes no distortions (see box 1). Hence, the LOC establishes that the core focus of monetary policy is price stability. Accordingly, over the long term, monetary policy is capable of determining inflation and other nominal variables, including monetary aggregates, nominal interest rates and the nominal exchange rate, but is completely incapable of influencing real variables such as output, employment and investment, or relative prices such as the real exchange rate, real wages and real interest rates.

At shorter horizons, however, the presence of sticky prices and information asymmetries allows monetary policy to affect the values of real variables and relative prices. Therefore, if correctly managed, it can also help reduce the volatility of output and employment in the face of different shocks. Thus, in a context where the CBC achieves its fundamental role of keeping inflation stable, monetary policy can also act as a counter-cyclical instrument.

This role is especially relevant in the case of small open economies such as Chile, because many of the shocks require changes in relative prices to reallocate productive factors and demand across sectors. This process is much easier when monetary policy responds adequately by managing the interest rate and allowing the exchange rate to move quickly to its new equilibrium. The counter-cyclical role of monetary policy is enhanced by the existence of a floating exchange rate regime, which facilitates the adjustment of an economy in the face of shocks through movements in relative prices, and by the credibility of the CBC'S inflation target.



The counter-cyclical role of monetary policy is consistent with the fundamental goal of price stability, because an economy operating under (over) its potential capacity generates downward (upward) pressures on inflation. However, one must consider two elements. First, monetary policy can smooth the business cycle, but not eliminate it. Second, in the short term there may be tension between inflation volatility and economic activity. This occurs mainly because exchange rate movements affect inflation faster than they affect activity. Thus, for example, a reduction in terms of trade will weaken activity, putting downward pressure on inflation in the medium term, but in the short term will trigger a depreciation of the peso that will temporarily increase inflation. Naturally, in the presence of this type of shocks, which result in greater inflation in spite of lower output growth, the magnitude of the counter-cyclical effort of monetary policy will depend on the credibility of the inflation target.

This is why the CBC conducts monetary policy so that the two-year ahead inflation forecast stands at 3%. The two-year horizon acknowledges the existence of lags in the way monetary policy affects prices, and allows pursuing the primary objective of price stability without exacerbating output volatility, providing room for counter-cyclical policy actions

The effectiveness of this monetary policy strategy requires two essential elements, namely a credible inflation target and a sound financial system. The anchoring of inflation expectations relies on economic agents believing that monetary policy will not attempt to consistently drive real variables above their potential levels. In that sense, the autonomy of the CBC and a coherent administration of public finances play a key role. A stable financial market, with an advanced degree of development, facilitates the adjustment of the exchange rate, as it provides hedging instruments and avoids mismatches.

This framework explicitly recognizes the boundaries and constraints of monetary policy. Because monetary policy affects different economic variables with lags that are varying, non-mechanic and imperfectly known, focusing on long-term price stability is therefore its primary objective.

It also recognizes explicitly that monetary policy can have various effects over different periods and become a stabilization tool along the business cycle, and that in general its impact on inflation occurs indirectly through output and employment. Thus, the policy framework is consistent with a monetary policy that boosts activity in times of cyclical distress, and dampens it in periods of strength. After attaining price stability, monetary policy can be geared towards reducing the undesired volatility of output and employment.

Box 1: **Why pursue price stability?**

The international evidence and Chile's historical experience indicate that a low and stable inflation rate contributes in various ways to achieving greater economic growth and well-being for the population. Price stability allows for clearer market signals, more stable relative prices and reduced uncertainty for individuals and businesses. All this creates a climate conducive to higher levels of investment, productivity, demand for monetary assets and financial development. In turn, these factors stimulate economic growth and favor risk diversification. Furthermore, price stability prevents arbitrary—and often regressive—redistribution between debtors and creditors, and between labor suppliers and capital. It also limits the collection by the Central Bank of a distorting and regressive tax, i.e. the inflation tax.

In short, a low and stable inflation is key for the well-being of the population. Many other public policies are fundamental to achieve a strong economic performance, but a low-inflation environment is a necessary and essential condition to enhance the respective contributions of other policies.



2. THE INSTITUTIONAL FRAMEWORK

2.1 Macroeconomic and financial institutions in Chile

To be effective, monetary and exchange rate policies require a macroeconomic and financial institutional framework that sustains a stable economic environment. In turn, economic stability relies on mature and high-quality public institutions and policies.

The CBC's autonomy and technical nature are critical components of the institutional framework behind monetary policy. They also provide the basis of its credibility, as they acknowledge the limits of monetary policy, highlight the Bank's commitment with the objectives mandated by law—in particular price stability—and provide space to carry out the necessary actions to achieve them (see box 2).

This institutional framework is completed by a credible fiscal policy, a regulatory and supervisory framework that guarantees the stability, efficiency and solvency of the financial system, as well as a large degree of trade and financial integration with the rest of the world.

A sustainable and predictable fiscal policy guarantees fiscal solvency and averts the possibility of monetary policy becoming subordinated to fiscal needs. It also enhances the credibility and effectiveness of the country's set of macroeconomic policies.

The regulatory and supervisory framework of the financial system is based on a set of prudential standards and regulations—in accordance with international recommendations—and on the supervision of the behavior of financial institutions. The Central Bank takes part in the formulation of those regulations most directly related to the money market and in others where the law establishes the simultaneous concurrence of the CBC and the Financial Market Commission (CMF) for their approval. A mature and stable financial system is key to an effective use of monetary and exchange rate policies. Financial stability allows for changes in monetary conditions or exchange rate policies without jeopardizing the solvency of the financial system.

The final part of the institutional framework is Chile's integration to international goods and capital markets, allowing for a stable economic environment and effective monetary policy. The free flow of capital into and from the country provides access to external savings and allows for the diversification of domestic risk, while trade integration permits taking advantage of trading gains. Thus, global integration offers many benefits, although it exposes the economy to external shocks.

Box 2: Legal framework applicable to the Central Bank of Chile

The Constitutional Organic Law, published in the Official Journal of the Republic of Chile in 10 October 1989—decreed in compliance with the provisions of article 108 of the Political Constitution of the Republic—defines the Central Bank of Chile as an “autonomous body, of constitutional rank, of a technical nature, with legal personality, its own assets and indefinite duration” (article 1). It also establishes that the purpose of the monetary authority is “to ensure the stability of the currency and the normal functioning of internal and external payments” (article 3).

In accordance with the above, the Board is entrusted with the senior management and administration of the Bank. The Board is composed of five members appointed, one at a time, every two years, by the President of the Republic, with the prior approval of the Senate, to serve for ten-year terms (articles 6, 7, and 8). In the event of a vacancy, a new Board member is appointed to take up the post for the remainder of the outgoing member's term (Article 12).

The Bank's Governor is selected by the President of the Republic from among the Board members, and holds the position for five years or remaining period as a Board member, whichever is less (Article 8). Aside from presiding over the Board, the Governor is in charge of representing the Bank out of court and of institutional relations with public authorities, financial institutions and international organizations. The Vice-Governor is appointed by the Board for the period it determines, and is responsible for subrogating the Governor and performing any other functions entrusted to the Governor. With full autonomy in terms of net worth and policy decisions, the Board reports on its actions to the President of the Republic and the Senate, and adopts decisions bearing in mind “the general orientation of the Government's economic policy”. This orientation is considered on its merits when the corresponding technical decisions are made, but does not constitute a binding circumstance with respect to the Board's decision, considering the conferred constitutional autonomy (articles 4 and 6).

Autonomy is reinforced by the constitutional prohibition contained in Article 109 of the Basic Charter, which forbids the acquisition of documents issued by the State or public agencies or companies, and financing public expenditures or loans with direct or indirect credits, except in the case of war with a foreign nation or danger thereof, and is regulated by Article 27 of the LOC. With this, monetary policy and exchange rate policy are independent from fiscal policy, as far as the financing of the Treasury is concerned. In addition, the LOC explicitly stipulates the conditions necessary for the removal, by the President of the Republic, of any or all of the members of the Board. In any case, this must be done under “good cause and with prior consent of the Senate” (Articles 16 and 17).

Freedom to perform international exchange operations is enshrined in the LOC, without prejudice to the regulatory powers granted the CBC on this matter (articles 39°, 42, 49, and 50). In addition to “bearing in mind the general orientation of the Government's economic policy”, there is a formal coordination body, reflected in the Finance Minister's participation, with the right to speak but not to vote, at Board meetings. The Minister also has the right to propose certain resolutions for adoption or, where appropriate, to suspend—for a period of no



more than 15 days—the application of a resolution adopted by the Board, at the same meeting attended, except if all five Board members insist on it (article 19). In case of certain restrictions on international exchange transactions that the CBC may impose, as well as on the holding of forex conventions, the Finance Minister may veto a resolution, which is overruled if the Board members vote unanimously in favor of the respective resolution (Articles 47, 49 and 50 of the LOC, and 182 of Act 18.045). Therefore, the legal framework aims to promote dialogue with the Executive before the adoption of important resolutions. This, in order to avoid the inconvenience of a suspension or veto, and thus overcome differences of opinion that may arise with respect to measures of economic nature, prioritizing, in any case, the autonomy and technical character conferred on the Central Bank.

2.2 Monetary policy and financial stability

Financial systems have a central role in modern economies, as they contribute to the efficient allocation of resources, channeling them from savers to those with financing needs, reducing transaction and information costs, allowing appropriate risk sharing among economic agents, and facilitating the process of transforming liquidity and repayment terms. While these functions are fundamental for economic development, the financial system is subject to inherent liquidity and solvency risks, among others. In an unstable financial system, these risks can spread across sectors, harming the operation of the entire system and, in an extreme case, can end up in costly financial crises with severe economic and social effects.

Safeguarding the stability of the financial system is therefore very important. Given its complexity and scope, in most countries various authorities share this task. As far as central banks are concerned, the financial stability mandate is usually defined as the responsibility for the normal functioning of the payment system. This is coupled with the role of lender of last resort in the banking system, which reinforces the special focus on safeguarding financial stability and preventing situations in which it would be necessary to intervene.

Under the current legislation, the CBC shares responsibilities with financial sector supervisors, including, among others, the Financial Market Commission (CMF) and the Superintendence of Pensions. The CBC's concern is preferably system-wide, carrying out analysis from a macro-financial perspective. In the Bank's Financial Stability Report (FRS), published every six months, the Bank identifies and discloses the risks and vulnerabilities of the financial system, in accordance with its systemic approach. In addition, in order to limit risks that threaten the continuity of internal and external payments and to react in a timely and effective manner to adverse events, the CBC is equipped with various legal powers, regulatory attributions and policy tools. The most important are the exclusive authority to issue legal tender; the conduct of monetary and forex operations; the powers to regulate international exchange operations; the instantaneous provision of liquidity to banks; the function of lender of last resort to the banking system; the role of guarantor of

sight obligations of banking companies; payment system regulations; and the power to activate or deactivate a counter-cyclical capital requirement on banks. The CBC shares some of these powers are shared with other authorities, in particular the CMF, which in turn has a broad mandate and regulatory and sanctioning powers over much of the financial system.

The responsibilities of the CBC for price and financial stability, and the policy frameworks for achieving these objectives, are mutually dependent. A weak financial system makes it difficult to conduct monetary policy, as the transmission and effectiveness of policy rely on a well-functioning financial system. At the same time, the proper management of monetary policy contributes to macroeconomic stability, facilitating the achievement of the financial stability objective (see box 3)

Beyond the interactions between the price stability and financial stability objectives, the instruments used by central banks are generally different for each one. This comes from the fundamental difference between price stability, an aggregate objective, and financial stability, which is more directly associated with a specific sector. Thus, the instrument associated with price stability is the monetary policy rate (MPR), a macroeconomic instrument with aggregate effects, while specific prudential instruments address financial stability. However, in exceptional circumstances of financial stress, the MPR may also play a role as an instrument of financial policy, when the effectiveness of prudential measures intended to safeguard financial stability has been exhausted. This can be justified if financial imbalances endanger the control of inflation around its target or the stability of payments in the medium term. A monetary policy oriented toward reaching an inflationary objective in an adequate mid-term horizon (around two years) allows hedging an important proportion of such risks. In other words, the price stability objective should not be reached in the short term at the expense of exacerbating possible imbalances in the economy that may end up jeopardizing macroeconomic stability in the long term.

Box 3: Relationship between monetary policy and financial policy

Monetary and financial policy are mutually dependent. The monetary policy framework based on an inflation-targeting regime with a floating exchange rate contributes to macroeconomic stability in general, helping to achieve the financial stability objective, by smoothing cyclical fluctuations and reducing the volatility of the agents' repayment capacity. Moreover, a low, stable inflation rate is critical in the development and deepening of medium and long term financial markets. At the same time, by avoiding sudden movements in inflation and keeping expectations stable, monetary policy reduces the probability of sharp adjustments in long-term interest rates, and prevents sudden revaluations of assets and liabilities that might undermine the soundness of financial institutions' balance sheets. Finally, the floating exchange rate plays a particularly important role as an adjustment mechanism to deal with external shocks and protect financial stability; in particular, it eases adjustment to changes in external financial conditions, softening its effects on the domestic interest rates.



On the other hand, the financial system is essential for monetary policy transmission, which requires changes in the MPR—which have a direct impact on money-market interest rates—to passthrough to the rest of the interest rates in the market. This passthrough depends not only on the direct impact of monetary policy decisions on the financial system's interest rates, but also on agents' expectations about the evolution of monetary policy. The financial market is key in both processes. A weak financial system leads to a less effective transmission of monetary policy, because the response of market interest rates is less intense and less predictable, thus jeopardizing price stability.

Because of the important effects that monetary policy has on the financial sector and credit evolution, it has been argued that the MPR could be used actively as a prudential instrument to ensure financial stability. An active monetary policy, the argument goes, could be used, for example, to restrict an excessive expansion of credit due to loose lending standards. However, monetary policy faces great constraints before becoming a reliable prudential tool. For one thing, it is an instrument with macroeconomic effects, so it may not be adequate to respond to the specific requirements of one particular sector. For another, its effects on financial fragility indicators, such as excess leverage, are yet to be fully understood and are less straightforward than those from using regulation and supervision instruments. Furthermore, in an open economy, using the MPR to address over borrowing problems could end up exacerbating them, because a higher interest rate differential could attract more foreign capital and increase the economy's external debt. Finally, since the financial cycle and the business cycle may not be synchronized, efforts to promote financial stability through MPR adjustments might result in higher inflation volatility, damaging the transparency and credibility of the inflation-targeting regime.

Consequently, the main task of safeguarding financial stability falls, under the country's prudential regulation and supervision, on financial policy, while monetary policy focuses on achieving the price stability objective. Thus, the MPR is not part of the CBC preventive toolkit to safeguard financial stability, although it can play a role in exceptionally stressful circumstances when the effectiveness of financial policy instruments has worn out. In such cases, the CBC may also use complementary monetary policy instruments aimed at the financial sector, as measures to facilitate liquidity management in the financial system and mitigate potential financial tensions. It is in these exceptional circumstances that a proactive monetary policy and the financial stability goals most obviously complement each other.

Ultimately, the monetary and financial policy frameworks, and the CBC legal instruments and powers associated to them, complement each other conceptually and operationally to achieve the dual objectives of price stability and financial stability. To this end, both are conducted and implemented in a coherent and harmonious manner. This means that monetary policy must consider the macroeconomic effects of changes in the financial policy instruments, and that the macroeconomic forecasts must factor in the evolution of financial variables and the effects of potential financial risks. Financial policy should consider the implications of the macroeconomic scenario for the financial sector, including any changes in monetary policy.

2.3 Coordination between monetary and fiscal policy

Under Chile's institutional framework, fiscal policy behaves predictably and independently of the business cycle. With a floating exchange rate regime, monetary policy therefore has a prominent role in stabilizing the cycle by stabilizing inflation. Moreover, the legal prohibition to the Central Bank to provide fiscal funding becomes critical for the credibility of the inflation-targeting regime.

Weak coordination between monetary and fiscal policy may compromise the objectives of both. For example, the former could be expansionary and the latter contractionary, due to differences in analysis or different macroeconomic forecasts of key variables.

To enhance the effectiveness of both policies, coordination is key. In Chile, this coordination takes institutional form through various mechanisms. As noted before, the law stipulates that the CBC shall "bear in mind the general orientation of the Government's economic policy" and the Minister of Finance participates in Board meetings (see box 2). In practice, a process of regular coordination between the institutions exists. In that sense, the fact that fiscal policy is implemented through a rule with publicly known parameters, and that monetary policy follows a rule based on inflation targeting, naturally facilitates the development of both.



3. MONETARY POLICY FRAMEWORK

3.1 The inflation-targeting regime

The Central Bank of Chile conducts monetary policy under an inflation-targeting regime and a floating exchange rate. This policy framework incorporates the explicit commitment of the monetary authority to use its instruments granted by law so that annual CPI inflation fluctuates around 3%. To achieve this, the CBC establishes as a goal that, at all times and independently of the current level of inflation, the projected inflation at a two-year horizon is at 3%. The inflation target is the operative implementation of the price stability objective. Commitment with the target provides guidance for the expectations of economic agents, becoming the economy's nominal anchor, and providing a clear and unique reference for the evolution of prices (see box 4).

Box 4: Evolution of the inflation-targeting monetary regime in Chile

In the footsteps of the experience of many countries pioneered by New Zealand, the CBC moved towards an inflation targeting regime in September 1990, by announcing the annual inflation target for 1991 (see figure 1), at a time where there was no formal definition of this monetary regime.

The international experience reveals that the success of inflation targeting regimes relies on the fulfillment of four conditions: (i) absence of fiscal dominance (i.e. monetary policy is independent of Treasury needs); (ii) absence of financial dominance (i.e. monetary policy is independent of the need to rescue insolvent banks); (iii) absence of other nominal anchors; and (iv) existence of a central bank with autonomy and technical and political credibility to gear monetary policy to achieve the chosen inflation target.

Between 1991 and 1999, the CBC partially operated under an inflation-targeting regime. During that time, there was no subordination of monetary policy to funding fiscal needs or the financial rescue of private entities. However, the third requirement was absent, as monetary policy had two nominal anchors: an exchange rate band, with lower and upper limits for the evolution of the exchange rate, and the inflation targets. Unlike the current practice, during that period an annual inflation target (December-December) was announced in September of the previous year, and constituted a de facto change in the value of the inflation target relative

to the previous year. By setting the end of the year as the goal, the average policy horizon was less than a year, which is shorter than the period needed for the full effect of monetary policy, even more so in a context of weaker credibility and therefore incompletely anchored expectations.

Moreover, during this period the monetary regime lacked some of the institutional aspects and technical instruments of monetary policy typical of a mature inflation-targeting regime. The Asian crisis of 1998 revealed some weaknesses of the partial adoption of inflation-targeting, associated with the presence of two nominal anchors due to the exchange rate band. This duality restrained the capacity of monetary policy to smooth out the negative shock, and highlighted the need to improve the monetary policy regime. In 1999, with the adoption of a floating exchange rate regime and the gradual improvement of the institutional framework, the monetary policy framework based on inflation targeting was completed and reached its maturity. This framework allowed monetary policy to play a much more effective counter-cyclical role during the global financial crisis of 2008-09, as well as in the episodes of trade and capital flows volatility in the following years.

Under inflation targeting, the primary objective of monetary policy is price stability. However, since the gap between actual and potential GDP affects inflation over a medium-term horizon, stabilizing inflation in that horizon is often consistent with stabilizing the growth rate of output. For this reason, under inflation targeting monetary policy is counter-cyclical by nature if credibility holds. Thus, monetary policy can reduce inflation and output volatility. This counter-cyclical role is especially important in a small, open economy like Chile, as it facilitates the adjustment of relative prices.

The practical implementation of this counter-cyclical role rests on the credibility of the inflation target, which is especially important during events associated with shocks that cause inflationary pressures and activity to move in opposite directions.

Four parameters define the inflation-targeting monetary regime applied in Chile: (i) the price index determining the target; (ii) the chosen value for the target; (iii) the policy horizon, and (iv) the operational instrument. Below is a description of these variables and the CBC's rationale to determine these key parameters.

The inflation target is set as the annual change in the consumer price index (CPI), as estimated by the National Statistics Institute (INE) based on the monthly evolution of the prices of a consumer basket of goods and services. The CPI is the country's most used price index, including its application as a benchmark unit for the update of prices, wages, and financial contracts, as well as for the calculation of the so-called "unidad de fomento" (UF), a nominal daily unit indexed to the CPI of the previous month. Its downside as an indicator of medium-term inflationary pressures is that it includes some very volatile prices, such as perishable foods (with seasonal fluctuations and other temporary shocks) and goods and services that depend strongly on oil prices (typically subject to significant volatility in international markets). Core inflation indicators eliminate some of this volatility by excluding some of those goods and services from their underlying baskets.



Core inflation indicators are important inputs for future inflation forecasts, as they relate closely with medium-term inflationary trends; thus, they are cited frequently in CBC reports. In addition, over the long run, core inflation should equal headline inflation. However, as is also the case in the vast majority of inflation-targeting countries, the CBC sets the target in terms of the CPI, because its advantages in representativeness and reliability more than offset its disadvantage of volatility.

The level of the inflation target is set at 3% annually. This means that monetary policy is oriented at having the year-to-year change in the CPI fluctuate around 3%. The Central Bank of Chile chose this quantitative value because any inflation rate standing permanently above this level is hardly an indication of price stability, and it would bring the country closer to an inflation level that might affect economic growth and people's welfare. Moreover, higher inflation may cause distortions in relative prices and be a source of volatility that could magnify shocks.

A rate of inflation below 3% has its costs too, due to three factors. First, it may increase the loss of output and employment when a negative activity shock hits the economy. Due to downward stickiness in price levels, influenced by the widespread indexation to past inflation, many consumer prices and wages adjust either too little or too late. In the short run, this causes output and employment losses in a scenario of economic slowdown or recession. In this context, a positive rate of inflation can facilitate the adjustment of relative prices, mitigating the real effects of the shock.

Second, in any country, prices indexes such as the CPI may overestimate actual consumer inflation because they do not fully capture increases in product quality, or substitution between goods when relative prices change. Both phenomena reduce the average effective price of the goods and services actually consumed, resulting in a lower inflation than the CPI-change measure.

Finally, as there is a lower bound for the nominal interest rate, monetary policy loses room for maneuvering when inflation is near or below 0%. This, because it limits the minimum level to which the real interest rate (i.e. the difference between the nominal interest rate and expected inflation) can fall, which is an important factor in economic agents' investment and consumption decisions. If nominal rates are near 0% and deflation is expected, the real interest rates may put further strain on activity and employment. Thus, a higher inflationary objective reduces the risk of falling into such kind of scenario.

(i) The operational goal of monetary policy is for annual projected inflation to be 3% over a two-year policy horizon. The policy horizon is the maximum period over which the CBC drives inflation to 3%.

Three factors explain why the CBC orients its present policy to a future inflation target, in particular a two-year horizon. First, because evidence shows that changes in monetary policy affect the levels of activity and prices with a lag of up to two years. Second, because controlling inflation at shorter horizons can cause high volatility in interest rates, activity, employment and other variables. Third, because of temporary fluctuations in some CPI prices that should not be targeted or neutralized by monetary policy.

Strictly speaking, the best timing for inflation to return to the center of the target range depends on the shock, which on occasion could be less than two years. The chosen horizon is what is typically the longest. Setting an annual 3% as the projected inflation rate over the policy horizon thus becomes an effective nominal anchor.

Current inflation and the inflation outlook at other horizons are also a relevant for monetary policy decisions. Studying other horizons for the likely future course of inflation helps to evaluate the consistency of the monetary policy trajectory with convergence to the target. In addition, current inflation matters to the extent it affects expected inflation.

It is important to underline that, given the shocks typically faced by the Chilean economy, having this operational objective means that inflation should fluctuate most of the time within a 2% to 4% range (see figure 1). This range highlights three features of the CBC's inflation-targeting framework: first, that the CBC tolerates transitory deviations of inflation from the 3% goal. These deviations are inevitable because of the multiple shocks to which the Chilean economy is exposed, the usual lag with which monetary policy operates, and the inconvenience of having constantly changing interest rates and other macroeconomic variables. That inflation is within the range most of the time implies that there will be occasional deviations outside the range, which are not troublesome as long as they are bounded and inflation can be expected to return to 3% in a reasonable time. A second feature is that the range defines the normal expected volatility for inflation throughout the business cycle. The third is that the symmetric width of the range indicates that the CBC is similarly concerned about deviations in one direction or the other. Thus, it reacts just as quickly and intensely to shocks involving persistent deviations below or above the 3% mark.

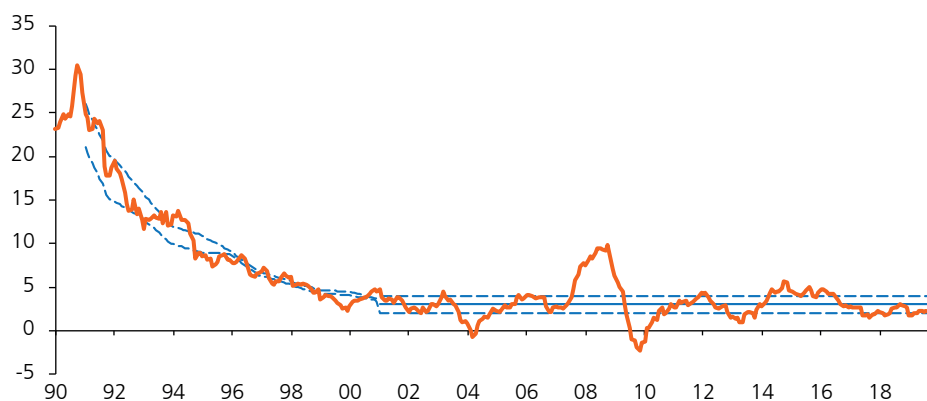
It is worth mentioning that the width of the range does not mean that, if inflation deviates outside that range, monetary policy will react in a discreet, more intense manner. The intensity of its reaction will depend on other elements affecting projected inflation, including the nature and persistence of the shocks, the initial state of the economy, and the evolution of inflation expectations. As will be discussed below, the 2% to 4% range also provides a metric for the assessment of monetary policy and its success in achieving its inflationary goal.

(ii) The main operating instrument of monetary policy is the MPR. Through open market operations, which will be described later, the Central Bank of Chile influences the interest rate of overnight inter-bank loans so that it stands near the MPR.

Figure 1

Inflation target and actual inflation, 1990-2019

(percent)



Source: Central Bank of Chile.

3.2 Floating exchange rate

The CBC has an exchange rate regime in which the exchange rate is freely determined by market supply and demand. In a context of free capital mobility, this regime is essential for the conduct of an independent monetary policy, i.e. the ability to have a different monetary policy stance from that of other countries with larger financial markets. The main advantages of a floating exchange rate are that it facilitates the adjustment of the economy to real shocks, allowing the exchange rate not to deviate significantly and persistently from its fundamentals; to avoid a more costly adjustment in terms of output variability; and, in principle, to mitigate speculative capital movements. A floating exchange rate, therefore, is essential in a counter-cyclical monetary policy regime, as it allows the monetary authority to use its policy tools in a floating and independent manner, and respond to the shocks that hit the economy by helping to bring the GDP level closer to the economy's productive capacity.

A floating exchange rate implies a more volatile currency compared with other exchange rate regimes. A developed domestic financial system and a credible monetary policy aimed at stabilizing inflation reduce the potential costs of exchange rate volatility.

A developed and well-regulated financial system prevents fluctuations of the exchange rate from having destabilizing effects because it enables, for example, forex hedging by various agents. The adjustment mechanism of the exchange rate, thanks to the presence of institutional investors that help develop a long-term capital market and hedging instruments, also reduces the exposure of domestic long-term rates to external events.

Monetary policy credibility minimizes the medium-term impact of exchange rate fluctuations on inflation. Credibility implies that the impact of exchange rate fluctuations on current inflation does not cause significant alterations to inflation expectations.

Under the float, the CBC reserves the right to intervene the exchange rate market in exceptional circumstances, via forex operations and/or supplying derivative instruments (see box 5). Conceptually, there is exchange rate overreaction whenever, absent a significant change in fundamentals, the exchange rate suffers a sharp rise or fall, which may be followed by movements in the opposite direction for some time. This appreciation or depreciation phenomenon may erode the economic agents' confidence by causing an impact on inflation that calls for monetary policy actions, as well as increase the volatility of financial markets or send confusing price signals that affect resource allocation. The Board may intervene in the forex market during these episodes where the exchange rate overreacts with potentially adverse effects on the economy. However, determining with accuracy whether the nominal (real) exchange rate has deviated significantly away from its fundamentals at a given moment is no easy task, so any decision to intervene is thoroughly analyzed.

In line with its objective of safeguarding the stability of external payments, and consistent with the possibility of conducting exchange rate interventions, the CBC maintains a stock of international reserves. These assets also reduce the probability of liquidity disruptions and make it possible to deal with exceptional situations of interruptions in access to international markets, minimizing the likelihood of having balance of payments problems. However, maintaining reserves is costly, because their returns are lower than that of their underlying liabilities. The optimal amount of reserves and their composition are evaluated on a regular basis using different metrics.

Box 5: Types of interventions in the foreign exchange market

Exchange rate interventions are typically classified as either sterilized or non-sterilized. In the former, a central bank, when buying or selling external assets, neutralizes the effect of this operation on monetary policy by buying or selling local currency bonds, to keep the monetary policy interest rate constant or, in money aggregates regimes, the monetary base constant. In non-sterilized interventions, on the other hand, it buys or sells external assets without undoing the effects of these actions on the money supply and the interest rate. For this reason, a non-sterilized intervention can be interpreted as the sum of a sterilized intervention and an open market monetary operation. There are particular situations, when the interest rate is close to its lower bound, where both types of intervention are equivalent. Leaving aside these situations, exchange rate interventions are generally sterilized if the monetary authority does not wish to make changes in its monetary policy at the same time.



Under capital mobility, (sterilized) interventions may influence the exchange rate in three ways: the portfolio channel, the signaling channel, and the information channel. In the portfolio channel, sterilized interventions affect the exchange rate because relative asset holdings in the hands of investors change, influencing the risk premium assigned to assets in local currency, when there is imperfect substitution between domestic and external assets. When intervention affects the composition of the agents' portfolio, it also affects the exchange rate, which responds to adjust the value in local currency of external bonds and their expected return.

In the signaling channel, the effect of a sterilized intervention occurs when the private agents modify their expectations on the exchange rate, because they anticipate a future alteration in the monetary policy rate or because the authority reinforces its commitment with the monetary policy goal. The monetary authority conducts exchange rate interventions that are consistent with monetary policy actions and objectives. If monetary policy is credible, so will be its actions.

A sterilized intervention can also influence the exchange rate through the information channel. This can occur if markets have information asymmetries, heterogeneous and/or non-rational agents, which prevent the exchange rate from correctly reflecting its fundamentals. Hence, this channel assumes that the exchange rate is misaligned with respect to its equilibrium level and, in this case, the actions of a central bank can help to eliminate the information asymmetries or to counteract the speculation induced by certain economic agents.

Over the period of a floating exchange rate regime, i.e. from December 1999 to the date this document was written, in December 2019, the CBC has announced its intention to intervene in the forex market on five occasions. In all these episodes, the aim was responding overreactions in that market that would put the CBC's objectives at risk, but never having as a final target a specific value for the exchange rate.

The first time, in August 2001, the CBC communicated that from that date and until the end of that year, the foreign exchange market could be intervened. The justification were fast, successive exchange rate movements in the same direction that had exacerbated the peso's depreciation and volatility, causing a degree of concern in financial markets, although a significant part of the weakening of the peso was due to more negative external conditions. The effective intervention consisted of the sale of foreign currency for just over US\$800 million and the issuance of debt indexed to the exchange rate and payable in pesos for US\$3 billion (including reissued maturities).

In the second intervention announcement, in October 2002, the CBC considered that the depreciation observed at that time reflected the movements of a market operating with low liquidity and high volatility and, consequently, with some degree of overreaction. The effective intervention contemplated only the issuance of US\$1.5 billion of exchange-rate-indexed debt.

In its third intervention announcement, in April 2008, the Bank communicated its decision to increase the level of international reserves by US\$8 billion to strengthen the international liquidity position of the Chilean economy in the face of the complex situation of developed economies caused by the sub-prime crisis. Dollar purchases were made through auctions of US\$50 million per day. The program was suspended in September 2008, reaching an effective amount of US\$5.75 billion.

In its fourth intervention announcement, in January 2011, the CBC communicated its decision to increase the level of international reserves by US\$12 billion, to reach levels compatible with those of comparable economies. The purchases were made through auctions of US\$50 million per day, executing the program in its entirety.

In its fifth intervention announcement, the Bank implemented in November 2019 a program of foreign exchange sales, in response to what was perceived as an excessive degree of exchange rate volatility that could hinder price formation and spending and production decisions by individuals and firms, as well as affect the healthy adjustment of the economy and create concern in markets. The program is associated with an amount of up to US\$ 20 billion, from December 2019 to May 2020, with spot sales of US dollars for up to US\$10 billion and sales of exchange rate hedging instruments to reach a stock of up to US\$10 billion. The Central Bank pledged to inform, through a statement at the end of each week, the amount and other terms and conditions of the sale auctions for the following week.

The CBC distinguishes between foreign exchange interventions such as those mentioned above, which change the position of net international reserves, and other exchange operations associated with the provision of liquidity in foreign currency. The latter are intended to facilitate the normal functioning of the foreign currency money market and interbank liquidity in foreign currency and are usually implemented by borrowing (not buying) international reserves at different maturities. Since these operations do not change the foreign currency position on the CBC's balance sheet, they do not affect the portfolio channel mentioned above. Examples of this type of measures are the operations performed as from October 2008, as well as, more recently, in December 2017 and November 2019.

The communication and rationality of foreign exchange interventions and other exchange operations are consistent with the CBC's general policy of transparency, which reflects in the fact that foreign exchange intervention decisions are subject to previously established procedures.



3.3 Transparency, communication and evaluation of monetary policy

The need of central banks to attain greater transparency and better communication with the public stems from two principles that are mutually reinforcing for the correct management of monetary policy, namely accountability and effectiveness.

On the one hand, CBC autonomy by itself motivates increased accountability in the provision of information on its actions. For this reason, the CBC's communication with the public is one of the pillars of its monetary policy regime and, therefore, is a priority in its agenda. An autonomous monetary authority must report on its actions and the degree of compliance with its objectives. In the case of the CBC, the law establishes that it must inform the President of the Republic and the Senate of its policies and regulations, and the Minister of Finance and the Senate of the progress of its annual policies and programs. In practice, the CBC has gone far beyond these statutory reporting requirements, increasing the frequency, breadth, and depth of its reports. To meet this challenge, the Bank has defined a corporate governance and strategy that supports the achievement of its objectives, while regularly reporting on its operation and monetary and financial policy actions.

On the other hand, for monetary policy to be effective and thus influence future inflation, it must be understood by economic agents. Monetary policy is implemented by regulating liquidity so that the overnight inter-banking interest rate stands near the desired level, as determined by the MPR. At a macroeconomic level, this interest rate has relevance almost exclusively because of its effects on other financial indicators, such as the interest rates for medium- and long-term operations, the exchange rate and other asset prices that have a bigger impact on the decisions of the various economic agents. These other indicators partly reflect the current level of the MPR but, more importantly, expectations about the future path of this rate.

Thus, the effect of monetary policy on the economy (i.e. its pass-through) originates largely in the agents' perception on its most likely course into the future. Accordingly, the CBC is in a constant quest to enhance the effectiveness of its communication with the public, so that they can understand the current monetary policy stance and how it may change with new events.

Transparency and communication are particularly important under inflation targeting, as the expected path of inflation is crucial. The ability to convey the rationality of the inflation forecast and the CBC's actions are essential to the credibility of the policy and the CBC's commitment with price stability.

A transparent monetary policy strengthens the central bank's actions. There may be times, however, where some degree of discretion is desirable. For example, when there is doubt about the central bank's commitment with its goals, the situation may call for more aggressive policy actions than those previously announced, even if they take the markets by surprise. This may be due to changes in the expected conditions or a mistake in the previous assessment, in which case responsible transparency mandates to clearly explain the rationale behind monetary policy surprises. There are also issues—possibly relating to stability and regulation—where central banks may choose to provide less information in pursuit of their ultimate stability objectives. However, these episodes are more the exception than the rule. In general, the transparency of monetary policy strengthens its credibility and thus its effectiveness and the speed of the pass-through.

The existence of evaluation instruments also reinforces monetary policy transparency. These instruments analyze how the CBC has complied with its price stability objective. In order to make this evaluation more rigorous and an effective accountability mechanism, four instruments may be considered.

A first evaluation instrument are market's inflation expectations at a two-year horizon. To the extent that the Central Bank's inflation target is credible, these expectations—in the horizon that is consistent with the target—should be anchored in 3%, even if actual inflation deviates temporarily from the target. This would reflect that the market trusts the capacity of monetary policy to drive inflation to converge to its target in the relevant horizon, and makes decisions based on this expectation. From 2001 to date two-year ahead inflation expectations — as measured by our Economic Expectations Survey— have remained at 3%, most of the time (see figure 2). Even when expectations drifted temporarily away from 3%, deviations were limited in both magnitude and duration. Thus, between December 2001 and December 2019 inflation expectations at two years averaged 3.03%.

A second evaluation instrument is the annual average inflation observed since the complete adoption of inflation targeting. The inflation target does not imply that annual average inflation will be exactly 3% all the time. It can be expected, however, that in the long run, when the various temporary shocks facing the economy fade out, average inflation will closely mirror the inflation target. In Chile, annual inflation between 2001 y 2019 averaged 3.2%, that is, very close to the 3% target.

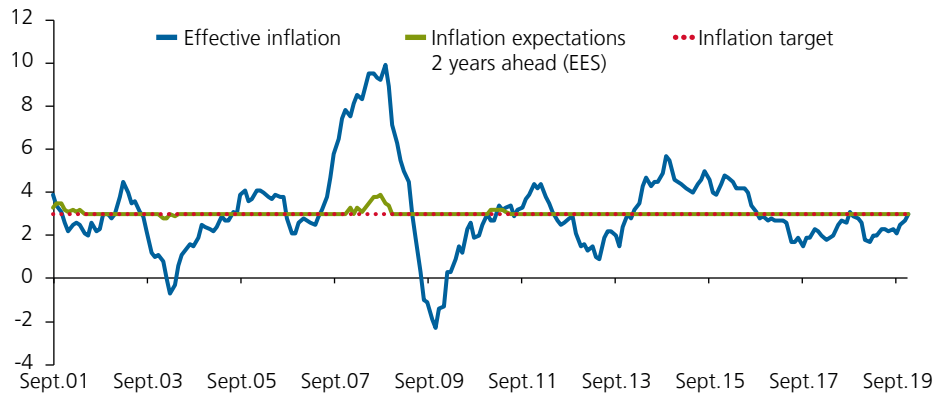
As discussed, it is possible to rationalize the inflation target as one that aims for actual inflation to remain most of the time between 2% and 4%. This is, therefore, a third instrument that can be used to assess the effectiveness of monetary policy.. In Chile, between 2001 and 2019, annual inflation has remained 55% of the months within the 2% to 4% range (see figure 1).

Lastly, a fourth way to evaluate monetary policy comes from having transparency on the methodologies the Central Bank uses in its analytical and forecasting processes. Thus, the public can know and assess the technical inputs that are used in decision-making. This objective is fulfilled with the publication of the document entitled "Macroeconomic models and forecasting at the Central Bank of Chile – 2020," containing a comprehensive description of the forecasting and analytical models used by the CBC, accompanied by a free-access web-based repository with the codes of the main models used. With this document, the market has the same tools of formal analysis that the Central Bank has for its monetary policy decisions, so it can directly evaluate the diagnoses and determinations of the monetary authority. This also renders monetary policy more efficient as it facilitates the market's understanding of the actions of the CBC.



Figure 2:

Inflation target, 12-month inflation rate (CPI) and inflation expectations two years ahead in Chile, 2001-2019
(percent)



Source: Central Bank of Chile

4. MONETARY POLICY CONDUCT

4.1. Forecasting

The key ingredient for monetary policy decisions is the evaluation of the expected inflation path. This exercise of forward-looking evaluation, or forecast estimations, is intrinsic to an inflation-targeting regime, and assesses the consistency between the present monetary policy and the expected price dynamics. Given that the future evolution of inflation depends on the expected behavior of macroeconomic variables, forecasts for these variables are required to make monetary policy decisions. Thus, under inflation targeting, it is necessary to forecast the key macroeconomic variables that influence the behavior of inflation, as well as the pass-through mechanisms of monetary policy (see box 6).

One of the tools the CBC uses for performing forward-looking exercises is a set of statistical and economic forecasting models. As other central banks, the CBC constantly invests in improving its models, to strengthen the analytical framework that sustains the transmission mechanisms of monetary policy and to support the Board's judgment in formulating medium-term projections. For shorter-term projections, e.g. two quarters, time series models and detailed analysis of price and activity dynamics are used to extrapolate immediate trends.

Medium and long-term forecasts require richer models that can represent the structure of the economy and the monetary policy transmission mechanisms. It is also necessary to have a good analysis of the structural parameters of the Chilean economy: unobserved variables that define how expansionary or contractionary the MPR is with respect to the inflationary objective. The neutral interest rate, as well as trend growth, which are the values of the interest rate and the GDP growth to which the economy will converge in the long term, in the absence of macroeconomic shocks, play a crucial role in the analysis of monetary policy. In the June *Monetary Policy Report* of each year, the Board carries out a review of these parameters.

The analysis and understanding of transmission mechanisms and structural parameters are enhanced by economic research carried out inside the Central Bank, oriented to improve the quality of the analytical and projection process. The CBC is constantly searching for more evidence and developing its ability to analyze variables that affect the Chilean economy and are critical for monetary policy



decisions. This has led to the development of a series of models that have increased the CBC understanding of core aspects of the economy, such as the operation of a labor market with job search frictions, or the determinants of the pass through from the exchange rate to inflation. At the same time, new sources of microeconomic data are now part of the analytical process, such as administrative records of workers and firms. Meanwhile, research on the determinants of long-term growth has refined the measures of trend and potential output that are key to the process of monetary policy forecasting and decision-making.

Aside from the assumptions regarding the structure of the economy, forecasts must incorporate a future path for the MPR that is consistent with inflation that converges to the target within the target horizon. Typically, multiple MPR paths are consistent with inflation convergence. In practice, forecasts assume that in the medium and long term, the CBC will follow a policy rule that reflects the historical relationship between the MPR and two key variables: the gap between projected and target inflation and the output gap. For shorter horizons, the initial state of the economy, as well as a weighting of the effects and costs of the main possible scenarios, affect MPR assumptions.

Box 6: Determining inflation and monetary policy pass-through mechanisms

In the long term, inflation is a monetary phenomenon. This means that money and prices are closely related over long time horizons. On the other hand, the trend growth of output depends on institutional development and technological progress, as well as on the quantity and quality of the production factors and the efficiency with which they are used, which in turn depend on public policies, among other factors. The main contribution of monetary policy to economic growth is that it can generate an environment of low, stable inflation that favors economic development. Monetary policy, however, cannot determine the economy's output growth rate over the long term.

Under inflation targeting, the main monetary policy instrument is the interest rate and not money per se. This does not invalidate the relationship between money and prices. On average, prices rise following the target, and expectations about the future behavior of interest rates will determine inflation.

Many reasons explain why, over shorter time spans, the markets' reaction to changes in interest rates does not translate instantly into price changes, leaving room for effects on economic activity. For example, price adjustment costs, nominal price and wage rigidities or information problems cause prices and wages to adjust gradually to monetary changes in the short term. Thus, real variables such as employment and capacity utilization fluctuate, deviating from their potential or long-term values. As time passes, prices adjust. However, in periods of very high inflation or hyperinflation, the adjustment of prices and wages occurs very rapidly, and the effect on activity is very small and may even go on an unintended direction.

The high frequency volatility of CPI affects the evolution of inflation, and relates mainly to movements in specific prices. One example is perishable goods--whose prices are mostly linked to supply factors--, imported goods --whose prices depend on the evolution of the exchange rate-- or managed prices or utility rates--whose prices depend on indexation mechanisms-, among others. In a short period, e.g. a few months, these factors can explain a large share of the fluctuations in inflation. At longer terms, the inflationary effects of these events depend on their propagation through expectations and inertia. If the monetary authority acts in a timely fashion and the inflation target is credible, propagation is limited.

Given the multiplicity of factors that affect inflation, a requisite for effective monetary policy is a precise understanding of the magnitudes and speed of these effects. This requires a permanent evaluation of the power with which monetary policy affects the economy, possibly distinguishing each one of its transmission mechanisms.

Monetary policy influences inflation through multiple channels, all of which are interrelated and largely simultaneous. By announcing changes in the MPR, the CBC affects the interest rates that banks pass on to firms and households (i.e. the market interest rate channel). In addition, it affects the exchange rate (the exchange rate channel) and the prices of other assets (the asset valuation channel), and influences savings and spending decisions (the demand channel). Through these channels, monetary policy affects production and employment decisions in the economy, the determination of costs and margins, and the formation of inflation expectations. In this way, it is able to influence price movements. Also, beyond the effects of contemporary changes in the interest rates, a fundamental part of the power of monetary policy lies in credibly communicating the expected future trajectory of the MPR (the expectations channel), absent new information affecting the inflation outlook.

Changes in the TPM have an impact on the interest rates at which commercial banks operate. This occurs both directly, by affecting liquidity costs, and indirectly, through the impact that policy decisions may have on business and household risks. These changes have important additional effects through expectations about the MPR, because they affect longer-term interest rates, at which households and firms borrow to finance their spending. Typically, these changes also affect credit volumes and the liquidity of investors' portfolios.

In an environment of global financial integration, the exchange rate should respond to the difference between interest rates in pesos and other currencies. By arbitrage, expectations of exchange rate appreciation or depreciation should compensate for these interest rate differentials. Thus, by affecting peso-denominated interest rates, the CBC affects the exchange rate's contemporary value and its expectations. This affects the relative price of tradable and non-tradable products, which in turn affects spending and production decisions. As the peso depreciates, the relative price of tradable goods increases, inducing a greater allocation of productive resources towards that sector, and diverting expenditures towards non-tradable goods. This mechanism reinforces the counter-cyclical role of monetary policy, as long as the inflation objective holds. On the other hand, given that tradable and imported goods are part of the consumption basket, exchange rate variations directly affect the level of inflation, if they are transferred to domestic prices (transmission or pass-through effect).



Changes in the MPR also affect a number of other asset prices, including stocks, bonds and real estate. The asset (and liability) valuation channel generates a wealth effect that alters the decisions of households and firms.

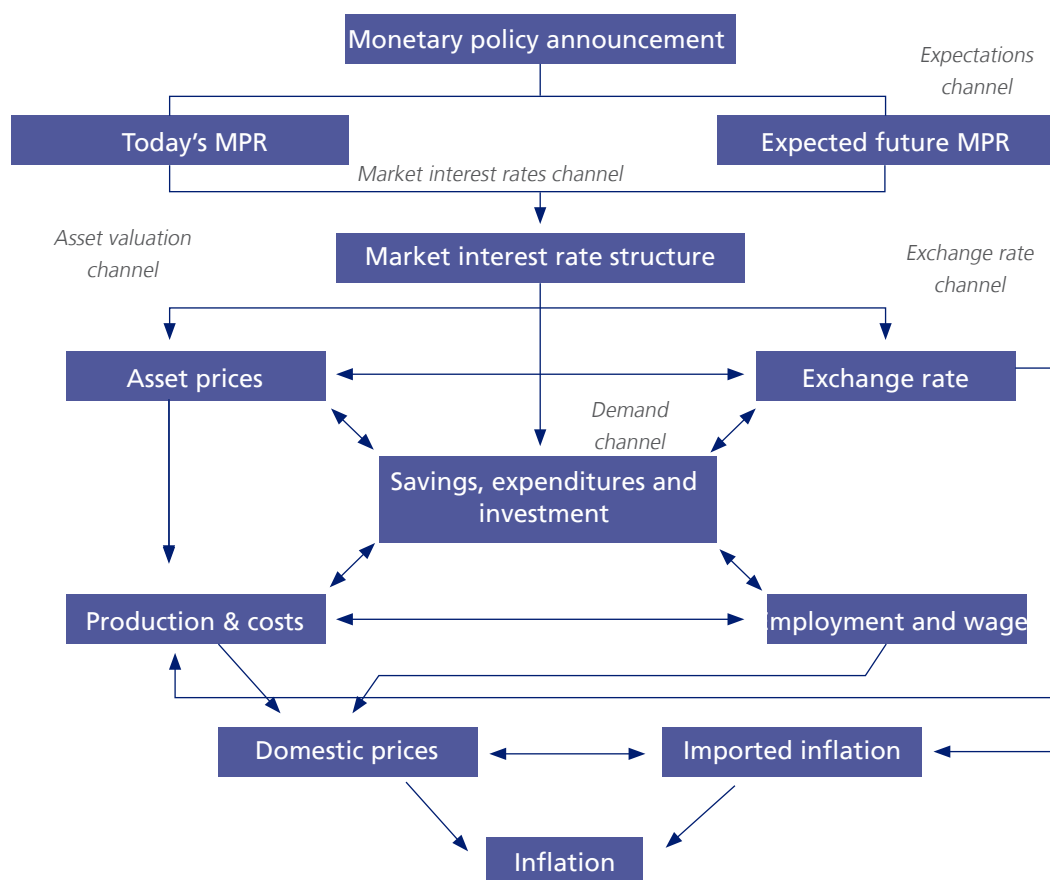
Inflation expectations have a direct impact on wage formulation and price setting, which, in turn, determine the future path of inflation. Significant adjustments in the MPR, or movements in the exchange rate level caused by it, can modify the agents' expectations about the future evolution of prices.

Spending, production and employment decisions by economic agents, which affect profit margins and labor costs, change in line with the economy's financial conditions. However, this does not happen instantly, because many spending decisions involve adjustment costs.

Therefore, monetary transmission operates with lags, so its effects are observed with the passage of time. Over the course of a few quarters, monetary policy decisions affect the real economy. As changes in aggregate demand persist over time, prices begin to adjust and inflationary pressures finally show up.

Diagram 1

Monetary policy pass-through mechanisms



4.2 Decision making

The monetary policy meeting (MPM) is the event where the Board adopts its monetary policy decisions (see box 7). At each MPM, participants examine developments since the previous meeting, together with their implications on the inflation outlook over a two-year horizon, and discuss policy options. In March, June, September and December of each year the MPR coincides with the Monetary Policy Report, a publication that reviews medium-term projections for inflation and growth, among other variables.

Events between meetings are detailed and discussed in documents prepared by the Monetary Policy Division. These include relevant news about the world economy, domestic financial markets, aggregate demand, the economy's external sector, activity and employment, as well as issues affecting prices and costs issues. A discussion on their implications for short-term forecasts and



inflationary convergence is followed by a presentation of different monetary policy options. This analysis is complemented with specific sources of information--such as investment surveys--, with the expert judgment of staff, and with background information provided by the Financial Markets Divisions and the Financial Policy Division.

The diagnosis and assessment of the events starts with an analysis and interpretation of the available data. For this, the CBC uses a battery of models that support the judgment of the Board in the formulation of the baseline scenario forecasts over a period consistent with the monetary policy horizon. The models provide an analytical and quantitative framework to understand the most likely response of the economy, and especially inflation, to different events and to alternative monetary policy responses.

After a discussion on the alternative scenarios for monetary policy and the most plausible policy options, the Board determines the level of the MPR. The meeting ends with the writing of the Board's official statement, which informs the policy decision, presents the main underlying arguments and delivers a signal regarding the short-term orientation of monetary policy. When the meeting coincides with the MP Report, the report provides a richer description of the context for monetary policy decisions. The minutes of each MPM are released to the public 11 working days later, containing the arguments for and against each of the options analyzed (see box 7).

Box 7: The monetary policy meeting (MPM)

The Monetary Policy Meeting is the instance where the level of the MPR is determined. Participants include the Board, the Finance Minister, the General Manager and the General Counsel and Attestor, as well as a group of CBC directors and managers. In addition, with the approval of the CBC Governor, an Advisor to the Finance Minister and up to two CBC Senior Economists may also attend. As from 2018, eight MPMs are held each year, the dates of which are set by the Governor every September for the next year. The Governor may also call, on his own behalf or at the written request of two or more Board members, an extraordinary or special meeting not in the announced calendar, which since 1999 has occurred only once, in August 2000.

Only Board members have the right to vote at the MPM. At the end of each meeting, the Board's official statement communicates the policy decision. The statement includes the most salient economic developments considered in the analysis, the grounds for the decision, and the detail of the underlying votes.

The structure of the MPM varies depending on whether or not it coincides with the publication of the MP Report. In March, June, September and December --when the Report analysis provides relevant background for policy discussion-- the MPM is extended by one day.

When the MPM does not coincide with a MP Report, the first session reviews the general background from the previous meeting, with special emphasis on its implications for the short and medium term forecasts that will be contained in the Report. The second session analyzes the monetary policy options consistent with the convergence of inflation to the target, and

ends with the choice of the relevant policy options for the MPM. In the third session, the Board members argue and vote for what they consider the most appropriate policy option. Finally, they approve the statement informing the public of the chosen decision, along with the main arguments that justify it. The document is then uploaded on the website, usually at 6:00 pm of that day in Spanish and English. This press release also details the policy option chosen by each Board member.

Each January, May, July and October, the MPM takes place over two days. In the first day, the Divisions of Monetary Policy, Financial Markets and Financial Policy present an analysis of the economic and financial news accumulated since the previous meeting. The second day follows a similar schedule, on a day that begins with the review of the short- and medium-term prospects of the main macroeconomic variables, continues with a discussion of the monetary policy alternatives and the relevant options, and ends with the reasoned vote of each Board member. The respective statement is then approved.

The monetary policy decision is the result of a simple voting among the Board members present at the MPM, with the Governor having the power to decide in the event of a tie. Minutes of the MPM after eleven working days, detailing the contents and arguments of the vote. This document is published on the CBC website in Spanish and English. In case of minority votes, the minutes identify the arguments that the Board Member(s) brought up to choose a different option.

4.3 Rationale behind changes in the monetary policy interest rate

There are two main reasons to modify the monetary policy rate at a given moment: (a) to validate an expected MPR path, in a context where nothing warrants a change in the previous signals; and (b) when the two-year inflation forecasts are not consistent with the target.

The first reason has to do with the fact that both the current MPR and the likely sequence of future interest rates matter for inflation forecasts. In this context, the MPR can change to remain consistent with the expected path of monetary policy included in the forecasts and communicated to the public. This is not a change in monetary policy stance; rather it responds to the fact that, as the inflation rate converges to the target, the MPR should move towards its neutral or long-term level.

As for the second reason, the MPR and/or its expected future evolution should change when inflation forecasts persistently deviate away from the target. This may occur, for example, when new information modifies the likely evolution of inflation. Between two monetary policy meetings,



shocks can affect the expected behavior of exogenous variables, e.g. the expected price of copper, or cause surprises on the behavior of variables like activity or inflation. This news can alter the future path of inflation and could even affect the Board's vision on how the economy works; in particular, on the transmission of different shocks.

Under inflation targeting, the monetary policy adjustment should be such that the new path of expected inflation will converge to the target in the policy horizon. Accordingly, changes in future inflation projections lead to changes in monetary policy, both currently and on its expected path, that are consistent with the inflation forecast standing at 3% over the two-year horizon.

4.4 Communicating monetary policy decisions

To make monetary policy more effective, it is paramount that the market understands how the central bank operates. A systematic and well-explained policy is crucial, as it allows the financial markets to reach the proper conclusions about the way economic news affects the central bank's decisions, minimizing confusion regarding the future course of monetary policy and enhancing its effectiveness. The Central Bank of Chile uses different instruments to communicate the rationale behind its monetary policy decisions, regarding both the level of the MPR at a moment in time and its future behavior under different possible macroeconomic scenarios.

As mentioned earlier, the rationale of all monetary policy decisions— that include an assessment of the economy's current behavior and likely future scenarios—is made public through various channels, most importantly the Monetary Policy Report, and the monetary policy meeting Statement and Minutes.

The MP Report is the Board's quarterly publication (every March, June, September and December), and has the following core objectives: (i) to inform and explain to the public the Board's vision on the recent and expected evolution of inflation and its consequences for the conduct of monetary policy; (ii) to share with the public the medium-term analytical framework used by the Board in formulating monetary policy, and (iii) to provide useful information for economic agents to form their expectations about the possible future dynamics of inflation, GDP and the MPR. The CBC publishes the MP Report at the start of the working day following the MPM of March, June, September and December, adding relevant information that explains the monetary policy decision.

The Monetary Policy Report summarizes the main developments of the global economy, financial markets and domestic events. This background provides context to forecasts of the main macroeconomic variables, including the MPR, and their impact on the convergence of inflation in the most likely scenario, the so-called baseline scenario. Because of the many sources of uncertainty inherent in any forecasting process, the Report also analyzes alternative scenarios that might require a different monetary policy to ensure the inflationary convergence and thus adds information on other possible future MPR paths. The analysis of these possible scenarios includes sensitivity and risk scenarios. The former begins by identifying the key judgments and MPR trajectories considered as likely as the baseline scenario. The latter consider more significant deviations estimated to be less likely.

Information on the baseline scenario and its variants is important decision-making process of different agents. These scenarios reflect the conditionality of monetary policy to diverse aspects, including shocks, changes in the interpretation of the economy's initial position and its short-term evolution in response to incoming news, and diverse strategic aspects that can affect the specific sequence of MPR adjustments for a given monetary policy orientation.

4.5 Stability and credibility considerations

The way and intensity with which the CBC responds to the accumulation of news that are relevant for monetary policy decisions can change as the risk scenarios become more likely. These risk scenarios, which by definition have a low probability and therefore are not included in the baseline scenario or the sensitivity scenarios, can have serious consequences for inflation and activity, which warrants special evaluation.

Several types of risks would justify a preventive policy action, where the MPR movements would differ from those that would occur in a normal scenario. We examine a few: the risks of deflation, loss of target credibility, and financial events that could endanger financial stability or obstruct monetary policy's transmission mechanisms.

One risk scenario is that certain shocks, or a combination of them, could lead, with some probability, to a deflation. That would entail the risk that the Board would need to resort to unconventional instruments to further boost the monetary stimulus under conditions where the MPR was at its effective lower limit (or close to zero). Should the CBC assess that the use of such non-conventional instruments could complicate the communication or implementation of its policies, it could consider preventive actions, with stronger MPR adjustments. In any case, the scope of non-conventional monetary instruments is quite broad, as reflected by the Chilean experience of 2009 when the MPR hit its estimated possible lowest of 0.5%, and the Board implemented the Term Liquidity Facility (FLAP) to provide a strong signal of stable low rates that would persist for a long time. In addition, there is evidence of what several central banks have done in the aftermath of the 2008-2009 global financial crisis.

A second risk scenario, partly related with previous one, is one in which the credibility of the inflation target is threatened. Under certain circumstances, private inflation expectations at different horizons could systematically differ from the target. If these discrepancies are persistent and accentuated over longer horizons, they could reflect that the nominal anchor is no longer credible; that is, the public may believe that the target could be modified or that the CBC lacks the will or capacity to fulfil its commitment. In these cases, more intensive policy actions might be needed to reaffirm the CBC's commitment with the target. An example of such action occurred during the second and third quarters of 2008, when the Board implemented consecutive aggressive increases in the MPR to realign expectations.

Finally, there may be shocks that jeopardize financial stability and the proper functioning of the payment system, and thus restrict the action of monetary policy by eroding the influence of the MPR on market rates. In these cases, if the alternative instruments that the central bank can use to ensure financial stability and the functioning of the payment system are exhausted, the optimal



MPR might change. Particular cases could occur if, for example, the business cycle that determines inflation is not synchronized with the credit cycle. In that situation, MPR decisions made to attain the inflation target could exacerbate the risks to financial stability. The existence of prudential macro-financial instruments at the CBC's disposal, aimed at specifically addressing threats to financial stability, reduce this risk (see section 2.2 and box 3).

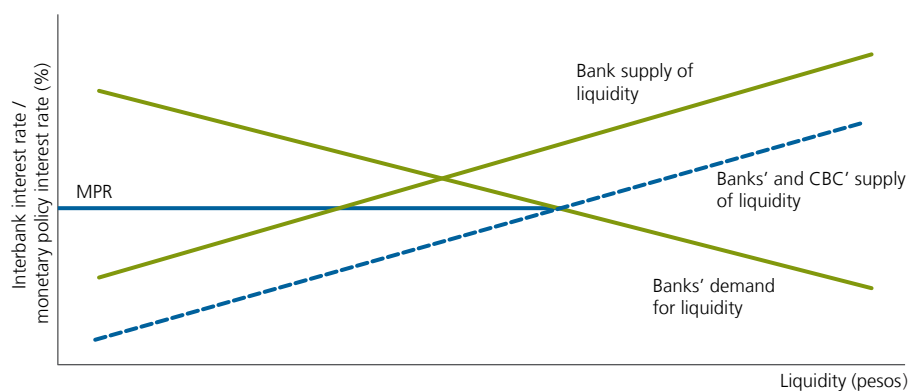
On the other hand, if the monetary policy transmission mechanisms are affected, it could be wise to support market liquidity by making use of the CBC toolkit. One such scenario occurred in November 2019, when the CBC implemented a number of financial operations with the purpose of providing liquidity to the dollar and peso markets, and thus allow an orderly adjustment of the large and unexpected changes in portfolios by market agents. The measures counteracted, on the one hand, the excess supply of fixed-income securities in pesos and, on the other, the relative scarcity of dollars due to these portfolio changes, averting the possibility of an abrupt credit contraction and safeguarding the usual channels through which the MPR acts in the economy.

5. IMPLEMENTING MONETARY POLICY

5.1. Interbank market structure

Since May 1995, the CBC has been executing its monetary policy through a defined objective for the overnight interbank interest rate, that is, the interest rate at which financial institutions (banks) grant each other unsecured overnight loans. As of August 2001, this rate is determined with reference to a nominal fixed value —formerly the rate was defined with respect to an indexed fixed value (UF). As in any other market, the price (in this case, the interbank interest rate) is determined by the supply-demand equilibrium of the good or service in question (in this case, loanable funds or liquidity between financial institutions). The CBC operationalizes its monetary policy by influencing the supply of funds from these institutions, so that the resulting interest rate equals the MPR. Thus, the latter corresponds to the interbank rate objective that the Bank wants to achieve. As we can see in figure 3, the CBC's supply of funds allows the banks to meet their demand for liquidity in such a way that the inter-bank interest rate stands at the same level set for the monetary policy rate.

Figure 3:
How the interbank market operates



Source: Central Bank of Chile



Two factors determine banks' demand for funds (liquidity). First, the demand to meet the legal reserve requirement and technical reserves. The reserve requirement is the fraction of deposits that financial institutions must keep in cash in their vaults or in their current accounts with the CBC. Today it stands at 3.6% for time deposits and 9% for demand deposits. They are calculated over a monthly average basis (the reserve period) from the 9th day of one month to the 8th of the next. The technical reserve is a special type of requirement that banks must deposit with the CBC or establish, among other options, with documents issued by the CBC or the Treasury of the Republic. It corresponds to the demand obligations of a bank in excess of some multiple of its effective net worth.

Secondly, banks demand funds to settle transactions, including payments or charges with other financial institutions. Some examples are transactions between private parties that take place through checks or electronic transfers backed with the funds in customers' bank accounts. This generates obligations between banks, which are settled daily in the interbank market, where some banks require and others provide liquidity. Banks also demand bank reserves for precautionary reasons, for extraordinary payments they face or because during the day they may face contingent liabilities due to the results of the clearing houses in which they participate.

The banks' demand for liquidity has an inverse relationship with the interest rate. If the latter is high, banks have incentives to reduce their liquidity, because the latter does not receive interest. Moreover, with a higher interest rate, the public has an incentive to transfer funds from demand deposits (such as current accounts) to time or other interest-bearing deposits. This change in the structure of bank liabilities reduces reserve requirements.

Private banks' excess funds or those from CBC operations determine the supply of liquidity, either from the maturity of their bonds and promissory notes or from the issuance of new debt.

The CBC can control the economy's available liquidity or monetary base by exchanging liquidity for debt documents, i.e. open market operations. The monetary base is the sum of banknotes and coins in circulation and the deposits held by banks at the CBC. The expansion (reduction) of the monetary base or an increase (decrease) of liquidity occurs whenever the CBC credits (charges) these bank accounts.

5.2. Monetary policy instruments and execution in Chile

Due to the variety and volume of the CBC's financial liabilities held by the private sector, it is common for some to be maturing on a daily basis. This creates a continuous injection of new liquidity to the financial market. This supply of liquidity is given, because it reflects the debt issuing policy decisions of the past, whose main —and permanent—objective, is to sterilize the increases in international reserves made through the purchase of dollars, protecting the impacts on the CBC's net worth in a context of minimal financing costs and limited risk margins.

The CBC has stepped up the issuance of discount notes (PDBC) between 30 and 360 days to the detriment of bonds in pesos (BCP) and bonds indexed according to the variation of the UF (BCU). The debt plan is published at the beginning of each year, informing the projected growth of the monetary base and the total amounts to be issued by instrument.

In practice, the CBC prepares each month a monetary program for the financial system that considers all known flows of expansion and contraction of the monetary base for the period in which the legal reserve is measured. It also estimates demand for the monetary base and the liquidity requirements of banks consistent with the MPR to be applied, including, among other aspects, seasonal factors. The renewal and issuance of new debt (promissory notes and bonds) allows the net supply of funds in the interbank market to be delivered gradually.

The scheduling of the amounts or quotas of new debt issues, whose agenda for short-term documents is announced one business day in advance of the start of the reserve requirement period, allows the CBC to make a coarse accommodation of liquidity funds on a monthly basis, consistent with the objective of bringing the overnight rate around the MPR.

Notwithstanding the above, the demand for and supply of liquidity may differ daily from those projected for a given MPR. As in other countries with developed financial markets, in Chile there is a variety of instruments to which the CBC can resort in order to accommodate liquidity more quickly, and thus achieve in bringing the observed interbank interest rate close to the target rate. The main tools used are the Permanent Liquidity Facility (FPL) and the Permanent Deposit Facility (FPD). Both allow market agents to play a stabilizing role, keeping the interest rate near the CBC target.

In the first case, the FPL is equivalent to a loan from the CBC to a financial institution secured by a financial instrument, which may be purchased by the CBC with a resale agreement to the financial institution (repo), or may be pledged in favor of the CBC. The funds provided by this facility are credited to the respective bank's current accounts at the end of the day, and are returned early the next day. As this modality of operation entails no credit risk for the CBC, this liquidity facility has no maximum amount and includes a single interest rate charge equivalent to the MPR plus 25 basis points. In the second case, the FPD, banks deposit their excess liquidity with the CBC during a banking day at a rate equal to the MPR minus 25 basis points.

Both facilities set a symmetrical band of automatic stabilization rates of plus/minus 25 basis points over the MPR, within which the interbank lending rate must fall. The width of this band is considered adequate because, on the one hand, a wider band would limit control over the interbank interest rate, forcing a more active management of discretionary instruments to avoid instability, due to global situations of liquidity surplus or deficit, or occasional concentrations in some financial institution. On the other hand, a narrower band would stabilize the rate more, but at the cost of inhibiting the development of the interbank liquidity loan market and would possibly increase vulnerability in the face of an expected MPR change, since it could encourage speculation against the liquidity or deposit rate.

If the funds available are far from meeting the demand of the financial system on a particular day, and it is deemed appropriate to support the standing facilities described above, the CBC participates in this market through adjustment operations that either inject or drain liquidity. If an injection of liquidity is required, the CBC offers it with a financial instrument as guarantee, which can be purchased by the CBC with a resale agreement to the financial institution (repo), or it can be pledged in favor of the Central Bank. The guarantees include instruments issued by the CBC (promissory notes and bonds), mortgage bills and bonds and, under the modality of pledge, bonds



of the General Treasury of the Republic are also accepted. In the event of an excess of loanable funds that may pull the interbank interest rate below the MPR, the CBC withdraws this excess by offering a liquidity deposit operation, usually between one and seven days. In both cases, transactions are generally made at the MPR.

In practice, recent years have seen negligible deviations between the overnight interbank rate and the MPR (see figure 4).

Figure 4

Interbank and monetary policy interest rates

(percent)



Source: Central Bank of Chile

6. INFORMATION DISSEMINATION AND TRANSPARENCY

As mentioned earlier, transparency and communication are essential elements in the CBC's monetary policy framework. The International Monetary Fund (IMF) has designed a Code of Good Practices on Transparency in Economic Policies, where it is possible to distinguish specific areas for monetary policy transparency. These practices allow agents to know in a suitable and timely manner the current policy regime. They also require informing the public on diverse aspects of decision making and formulation, including the data used, the prediction models of relevant variables, the discussion procedures and the decision making by the monetary authority.

The first requisite of these good practices is clarity of roles, responsibilities and objectives, which in Chile involves the disclosure of the formal objectives pursued by monetary policy, as has been established by the LOC. This defines the tasks and objectives of the CBC, together with aspects relating to the appointment of Board members and the relationship between the Central Bank and the fiscal authority, including advisory, fiscal agency and net worth, among others.

In the current policy framework, this transparency is also achieved with the publication of the inflation target and informing on the preferences of the authority regarding the tradeoffs it faces in conducting monetary policy. This document is one example of communication and transparency of the objectives of the CBC. The institution's website, in Spanish and English, also contains a description of the policy framework.

As already discussed, transparency is also required in the use of monetary policy instruments. This implies transparency on the procedures leading to the monetary policy decisions and the information to the public on those decisions, their rationality and implications. This is fulfilled with the publication of the Monetary Policy Report, the Financial Stability Report, and the Statement and minutes of the monetary policy meetings, all of them described above.

In addition to the publication on the website, the CBC's Governor, accompanied by the Bank's Board and senior staff, presents the Monetary Policy Report and the Financial Stability Report to the Senate's Finance Committee or the Senate Plenary, as the case may be. These reports are also presented at meetings and seminars held in various cities throughout the country. This is complemented by presentations at press conferences and interviews in different media conducted by the Governor, the Board members and senior staff, to communicate the role and tasks of the Bank, as well as to provide different perspectives on current issues.



The analytical framework used by the CBC is reflected in the documents and books it publishes. Especially relevant for monetary policy is the document “Macroeconomic models and forecasting at the Central Bank of Chile - 2020”, that, as already mentioned, presents in detail the forecasting and analytical models used by the CBC. This document is complemented by a digital repository that grants free access to the computer codes that allow working with the main models used by the CBC. There are other CBC publications that are not subject to prior approval by the Board. Some of them provide information on current and expected macroeconomic conditions, while others present research activities within the Bank.

Among the first, the Business Perceptions Report stands out, while the second category includes the CBC Book Series, Working Papers, Economic Policy Papers and Studies in Economic Statistics. The CBC also publishes special reports containing applied research on economic issues relevant for monetary policy management, such as the 2017 Trend Growth Report or the 2018 Labor Market Report. The Bank also organizes, on a regular basis, research seminars and workshops and an Annual Conference on monetary policy issues open to the local academic community.

Third, good practices on transparency require background information for monetary policy. This implies the disclosure of economic statistics that meet minimum standards, information on the CBC’s balance sheet, and a preannounced calendar with the frequency and dates of the monetary policy meetings. Each September, the dates of the MPMs and of the publication of the monetary policy and financial stability reports of the next year are published on the Bank’s website. Similarly, a calendar of the bids and quotas of debt instruments (PDBC, and bonds) issued by the CBC is also published. These elements facilitate the evaluation of monetary policy.

The CBC has adopted the policy of minimizing the extent of non-public information it handles. With a frequency ranging from daily to annual data, the Bank publishes information on financial markets, credit, national accounts and various macroeconomic indicators, such as the Monthly Index of Economic Activity (Imacec). A complete economic database is available on the Bank’s website, which is complemented by a mobile application where the main macroeconomic statistics can be viewed. The quality of the data compiled by the CBC has been endorsed by reports from the IMF and the United Nations, and meets the standards required for the publication of statistics by OECD member countries.

The Central Bank of Chile’s balance sheet is analyzed in detail in the Annual Report, which is published on or before the 30th of April of each year. This document also includes detailed aspects of the CBC’s internal management. Before the 30th of September of each year, in accordance with the law, the Board submits to the Senate Plenary an evaluation of the progress of policies and programs of the current year and informs of those proposed for the next calendar year. This presentation is integrated with that of the Monetary Policy Report of the same month, which includes an annex on the Balance Sheet which, considering the overall economic projections, also presents the effects that could occur on the main items of the institution’s financial statements.

In compliance with the Transparency Code, the CBC has opened a mechanism to channel any doubts the public may have about the information it provides, technical or methodological aspects of published figures and others. In addition, beyond the requirements of the Law, it provides instances for the formulation of direct consultations with its technical staff on its website.

A final requisite calls for applying good practices in the so-called 0.1 transparency in aspects of accountability and safeguards for integrity, a concern that the LOC addresses by providing for the submission of reports by the CBC to the Senate, the publication of the Bank's Annual Report and the presence of an internal comptroller.

Table: 1

Publications of the Central Bank of Chile (*)

Frequency	CBC policies	Research	Statistics
Daily			<i>Daily News</i>
Monthly			Weekly economic indicators Statistical Bulletin Exchange Market Statistics Monetary & Financial Statistics Banking Data Series
Quarterly	<i>Monetary Policy Report</i>	<i>Business Perceptions Report</i>	<i>Foreign Trade Indicators</i> <i>Balance of Payments, International Investment and External Debt Position</i> <i>Quarterly National Accounts</i> <i>National Accounts by Institutional Sector</i> <i>Securities Market Statistics</i>
Twice yearly	<i>Financial Stability Report</i>		
Yearly	<i>CBC Annual Report</i>	<i>Book series: Central Banking, Analysis and Economic Policies</i>	<i>Annual National Accounts</i> <i>Chile's Balance of Payments</i> <i>Chile's External Debt</i> <i>Monetary & Financial Synthesis</i>
Sporadic	<i>CBC Macroeconomic and Forecasting Models</i> <i>Central Bank of Chile Monetary Policy Document</i>	<i>Economic Policy Paper Series</i> <i>Working Paper Series</i> <i>Studies in Economic Statistics</i> <i>Special reports</i>	Others. See www.bcentral.cl/esp/pub/

Source: Central Bank of Chile.

* Some publications are also available in English, including the *Monetary Policy Report*, the *Financial Stability Report*, the *Annual Report*, and the *Statistical Synthesis of Chile*.

(See: www.bcentral.cl/eng/stdpub/publications/).



7. GLOSSARY AND ABBREVIATIONS

Activity gap. A relevant measure for measuring inflationary pressures, calculated as the difference between the current level of activity and today's productive capacity of the economy for sectors other than mining (non-mining GDP).

Agents, economic. Economic agents encompass households, firms, the government and the external sector. Their decisions to consume, invest, produce and define their portfolio composition are reflected in the supply and demand of goods, services and assets of an economy, which together determine the prevailing market conditions.

Agents, rational. An assumption about the behavior of economic agents, which implies that they make their economic decisions aiming at maximizing their well-being, based on the information at hand at the moment of deciding.

Arbitration. Simultaneous purchase and sale operations of goods or assets aimed at obtaining a net profit due to the price difference. The presence of arbitration signals the existence of an imbalance in the market of goods or assets, and the associated operations help to reestablish such balance, by eliminating the price difference.

Balance of payments. The account that records all the traded financial products and goods and services of a country's economic agents with foreign countries in a given period of time. It comprises: the Current account, the capital and financial account, and errors and omissions.

Basis point (bp). One hundredth of a percentage point. For example, an increase in the interest rate from 6.00% to 6.01% is equal to an increase of one basis point.

Central Bank's external assets. A balance-sheet account made up primarily of international reserves.

Central Bank's internal assets. Balance sheet account composed of: Credits to state-owned enterprises, BancoEstado, commercial banks and other institutions, fiscal transfers and credit for financial institutions' subordinate obligations.

Consumer price index (CPI). Monthly index that shows the evolution of the general price level based on monitoring the monetary value of a representative basket of items for household consumption, which is periodically updated from the Household Budget Survey (HBS). The calculation of the CPI is the responsibility of the National Statistics Institute (INE).

Countercyclical policy. Fiscal or monetary policy aimed at mitigating the intensity of the economic cycle, thus contributing to the stability of output and employment. The Central Bank of Chile's monetary policy has a counter-cyclical orientation in order to safeguard price stability.

Deflation. A general decline in the prices of goods and services, reflected in a below-0% inflation rate measured by a general price index (such as the CPI).

Deposit insurance. An insurance policy that covers a percentage of bank deposits, with a certain limit, against the risk of loss caused by the insolvency or illiquidity of the deposit-taking bank.

Economic cycle. A trajectory for economic activity over time, characterized by recurrent but not periodic cycles, through the phases of; peak or boom, deceleration, recession and recovery.

External savings. Balance of the account of current transactions with agents from abroad. Includes exports of goods and services net of imports and other net current transactions, which include flows of current transfers and factor payments.

Floating exchange rate. Foreign exchange policy regime by virtue of which the parity, i.e. the price of a country's currency with respect to foreign currencies is freely determined in the exchange market, without systematic intervention by the fiscal or monetary authority in said market.

GDP, effective. The GDP level observed in the data and published by the National Accounts of the Central Bank of Chile.

GDP, potential. The GDP level consistent with stable inflation and, by nature, relevant for calculating the activity gap associated with short-term inflationary pressures.

Goods, non-tradable. Goods and services that cannot be traded internationally and are therefore intended for domestic expenditure.

Goods, tradable. Goods and services that can be bought or sold abroad.

Indexation. A mechanism for adjusting the prices of goods and services, wages and asset values based on the change in a specific index, usually the consumer price index (CPI) or an index derived from it, such as the Unidad de Fomento.

Inflation tax. Implicit tax paid by economic agents when holding money, whose real value (in terms of goods and services) is eroded by inflation.

Inflation, core. CPI inflation, removing the most volatile products from the basket. This measure is intended to capture trend inflation.

Inflation, effective. Inflation observed in the data and calculated using the CPI.

Information Asymmetry (or asymmetric information). This concept describes a situation where the parties involved in a transaction or economic interaction do not possess the same level of relevant information. This situation usually derives from a market imperfection that reduces well-



being. Therefore, the CBC delivers to the market a degree of information similar to what the Board has when making its monetary policy decision and makes available to it the relevant statistical data so that the market can understand said policy decisions.

Interest rate term structure. The relationship between interest rates on bonds (or other financial assets) at different maturities. The curve that describes the relationship between interest rates on zero-coupon bonds and the various maturities is known as the yield curve.

Interest rate, neutral. Defined as a rate that is consistent with the long-term equilibrium GDP level once the effects of transitional shocks on the economy have dissipated, and an inflation rate that stands at the 3% target. The neutral interest rate is one of the structural parameters that the Board uses to assess the current state of the economy, its outlook and the calibration of monetary policy. The monetary policy is considered expansionary (contractionary) when the effective monetary policy interest rate is lower (higher) than the neutral interest rate.

Interest rate, overnight. The interest rate that the banks apply in their reciprocal lending operations.

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

Liquidity. Ability to repay cash obligations in the short term. It relates to the holding of assets that can be easily converted into money without causing a significant loss of value.

Loanable funds. Supply of resources available to be loaned.

Long term. The period during which the values of economic variables, after a disturbance, have reached their stable or steady state values.

Monetary aggregate. Stock of money in the economy. It adopts different definitions depending on the degree of liquidity of the financial assets that compose it. The Central Bank of Chile considers three monetary aggregates: M1, M2 and M3. M1 represents the sum of current assets, current accounts net of exchange, demand deposits in banks other than sight current accounts, net of exchange and savings deposits on demand. M2 is M1 plus time deposits, time savings deposits, mutual fund shares with investment in debt instruments with a duration of up to one year and deposits from savings and loans cooperatives, minus time deposits from the above-mentioned mutual funds and credit cooperatives. M3 is M2 plus deposits in foreign currency, Central Bank of Chile documents, Treasury bonds, mortgage loans, bills of exchange, corporate bonds, quotas of other mutual funds and AFP quotas in voluntary savings, minus investments of mutual funds and AFPs in the assets that make up M3.

Monetary base. Central Bank of Chile liability made up of banknotes, coins and checks issued by it that are in free circulation, plus financial system deposits at the Central Bank of Chile.

Monetary impulse. Degree of monetary policy expansiveness or position at a given time. When the monetary policy rate is below its neutral level, monetary policy has an expansionary orientation (contractionary otherwise). In a long term equilibrium, when the output gap is zero and inflation reaches its target level, the monetary impulse is zero, reflected in the monetary policy rate achieving its neutral level.

Nominal anchor. The variable chosen by the monetary authority to orient the economic agents' inflation expectations and thus achieve its price stability objective. Central banks commonly choose between three nominal anchors that define, at the same time, their monetary regime: the nominal exchange rate, a monetary aggregate or an inflation target. In Chile, the CBC's nominal anchor is the inflation target.

Nominal rigidities. Inflexibility of certain prices of goods, services and wages, normally downwards, which hinders the efficient allocation of resources in the economy.

Open market operations. Purchase and sale of public certificates by the Central Bank, whose main purpose is to have the overnight interest rate stand around the monetary policy rate.

Policy horizon. The period defined by the monetary authority to orient its policy instrument so that inflation returns to the value of its target value. The Central Bank of Chile has set its policy horizon at around two years.

Reserve requirement. A provision mandating financial institutions to hold a certain amount of money as a proportion of their deposits and liabilities in local and foreign currency, either in cash or in a current account with the Central Bank of Chile, in order to ensure the necessary liquidity to meet their financial commitments.

Risk balance. It is the evaluation of possible alternative scenarios to the central or most likely projection scenario (considered to be the most likely in the Monetary Policy Report) and its effects on the evolution of GDP and inflation. The joint analysis of the varied sources of uncertainty in shaping the central projection scenario configures a risk balance that can present a downward, upward or balanced bias on growth and/or inflation, in comparison to the central scenario.

Scenario, central. It is the short- and medium-term forecast of the external and local economic variables that the Board assesses for each MP Report to determine the MPR trajectory that is compatible with achieving the 3% inflation target in the two-year horizon. This scenario does not consider a single MPR forecast but a general orientation of the monetary policy under which the inflation target is achieved.

Scenario, risk. It depicts significant, and less likely, deviations from the central scenario. In these scenarios, the behavior of the main macroeconomic variables, and the general orientation of monetary policy, can differ substantially from the central scenario.

Scenario, sensitivity. It considers possible deviations from the central scenario, with a similar probability of occurrence and consistent with the estimated growth ranges, but where the inflationary convergence could require an MPR trajectory different from the one described in the central scenario.



Seasonality. Periodical —hence, predictable— change in a variable.

Shock (disturbance). A sudden and unpredictable change in the conditions of a given market or variable, internal or external, whose effects spread to the rest of the economy. A shock can have positive or negative consequences on the economy.

Short term. The period during which the values of economic variables, after a shock, remain deviated from their long-term or steady-state values and are still adjusting.

Stock. The amount of any monetary or financial asset, whether capital or other assets that can be accumulated, at a given time.

Technical reserve. Reserve requirement for total deposits exceeding 2.5 times the capital. Banks and financial institutions must constitute the reserve with deposits in the Central Bank or in documents issued by it or the General Treasury of the Republic.

Unidad de Fomento (UF). A system used to adjust for inflation the credit operations in domestic currency authorized by the CBC, as established in Article 35 of the LOC. The value of the UF is reset on the tenth day of every month and covers until the ninth day of the following month, with daily changes based on the geometric average rate corresponding to the variation of the CPI as calculated by the National Statistics Institute (INE) or the agency that replaces it, in the calendar month immediately preceding the period for which said unit was calculated. Since 1990, the Central Bank of Chile has been in charge of calculating the daily value of the UF.

ABBREVIATIONS

CBC: Central Bank of Chile.
CMF: Financial Market Commission
CPI: Consumer price index
EES: Economic Expectations Survey
FRS: Financial Stability Report
IMF: International Monetary Fund
INE: National Statistics Institute
LOC: Constitutional Organic Law
MPM: Monetary Policy Meeting
MPR: Monetary policy rate
PDBC: Central Bank discount notes

Alejandro Zurbuchen S.

LEGAL REPRESENTATIVE

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Santiago, Chile

Agustinas 1180, Santiago, Chile

P.O. Box 967, Santiago, Chile

Tel.: 562 2388 2000

www.bcentral.cl

bcch@bcentral.cl

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