



# Monetary Policy in Chile

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Governor

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CENTRAL BANK OF CHILE

29 NOVEMBER 2006



## Agenda

1. Introduction
2. Basic principles of monetary policy
3. Monetary policy at the Central Bank of Chile
4. Transparency and communication
5. Results and efficiency
6. Conclusions

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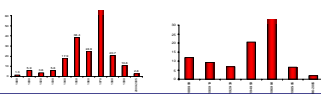


# 1. Introduction



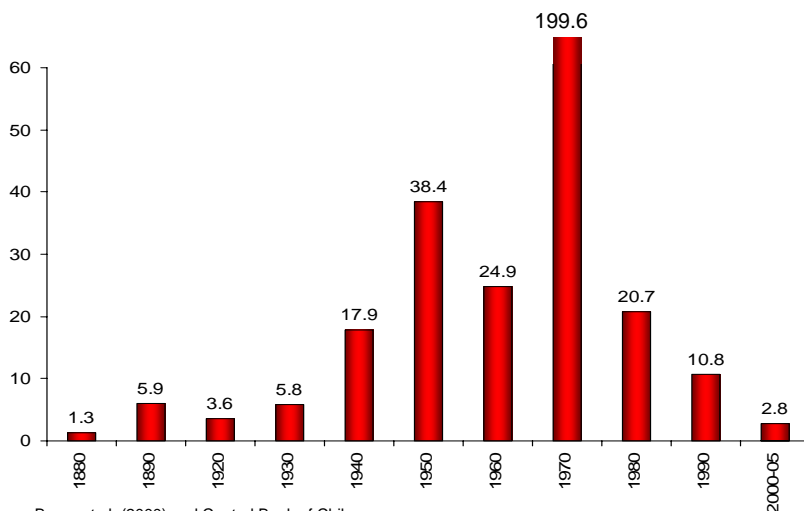
## Introduction

- The main objective of the Central Bank is "to safeguard the stability of the currency", that is, price stability.
- The actions and decisions related with this objective constitute what is known as Monetary Policy.
- In the Chilean history, price stability has been an elusive objective, due to:
  - Lack of clarity with respect to the objective of monetary policy.
  - Incapacity to control fiscal deficit.
  - Incoherence among foreign exchange, fiscal and monetary policy.





## Annual inflation (decade average, %)



Sources: Braun et al. (2000) and Central Bank of Chile.

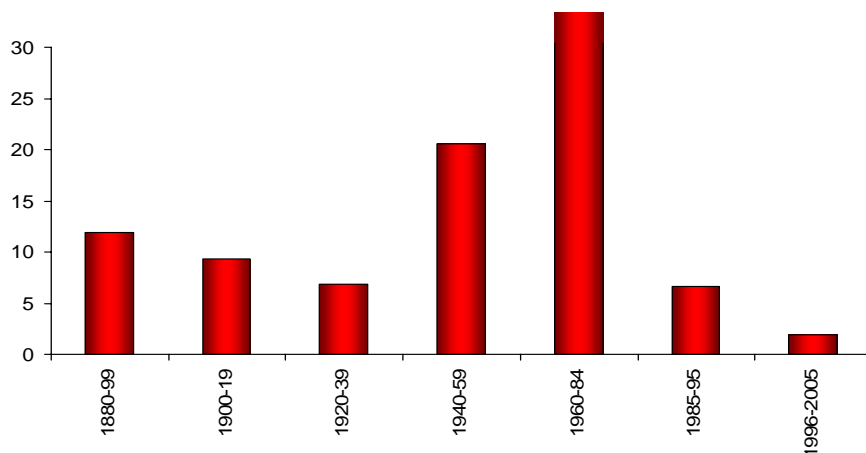
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## Inflation volatility (average on indicated period, standard deviation of annual percent change in inflation)



Sources: Braun et al. (2000) and Central Bank of Chile.

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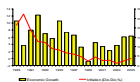
# Introduction

- The Constitutional Law that governs the CBC since 1990 provides the following instruments to attain its objective:
  - Autonomy to conduct MP.
  - Legal authority (issue of currency, conduct of monetary and foreign exchange operations).
  - Technical and material resources.
- From the early nineties, the framework of monetary policy has evolved into one of inflation targeting.



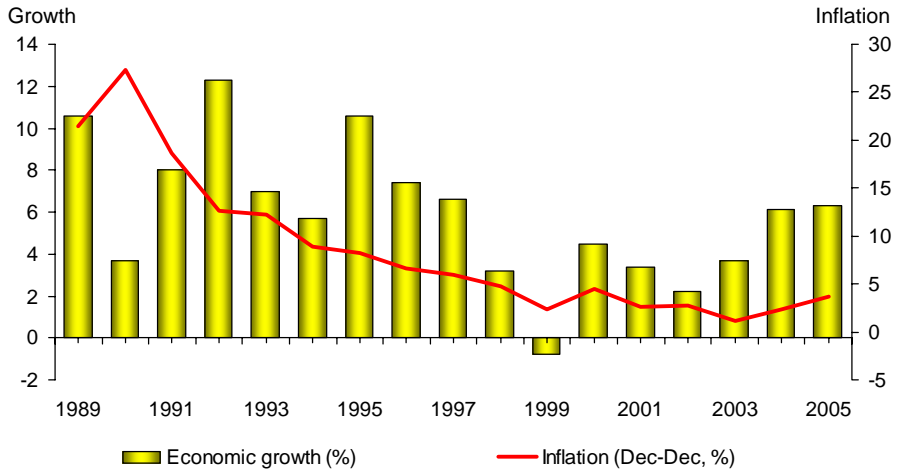
# Introduction

- The inflation-targeting scheme, combined with a floating exchange rate, a solvent fiscal sector and a solid financial system have allowed Chile to reach macroeconomic stability:
  - Gradual reduction in inflation during the nineties, along with high economic growth.
- Reduction in both inflation and growth volatility.





# Inflation and growth



Source: Central Bank of Chile.

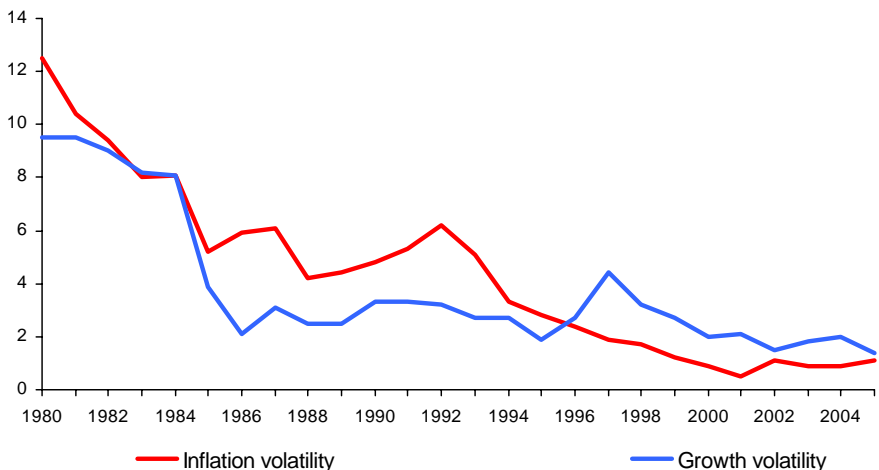
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# Inflation volatility and growth volatility



Note: Standard deviation of the moving average of 5 years.

Source: Central Bank of Chile.

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## 2. Basic principles of monetary policy



## Major changes in monetary policy in the last 30 years

- Until the mid-seventies, common thought was that inflation could permanently stimulate employment and activity.
- Today there is broad consensus among economists that in the long run there is no tradeoff between inflation and unemployment.
  - Attempts to reduce unemployment below the natural rate not only push inflation to a higher level, but accelerate its pace.
- In the long run, inflation is determined by monetary policy (MP).
- In the short run, MP affects the level of output and employment, thus MP based on inflation targeting incorporates this effect. However, the scope for fine tuning is small.



# Nominal anchor

To control the price trend, monetary policy needs a nominal anchor:

- Traditional anchors: monetary aggregate and exchange rate have problems.
- Most recent anchor: ***Inflation Targeting*** (IT).
  - The Central Bank adjusts the interest rate with the objective of achieving target inflation in the usual policy horizon.
  - Interest rate rises are applied when CBC foresees that inflation will surpass the target in a sustained form, and vice versa.



# Transmission channels

Monetary policy acts through 3 channels:

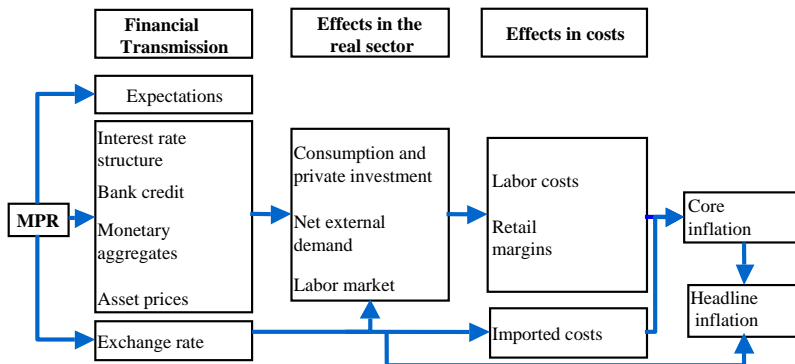
- 1. Inflation expectations.
- 2. Interest rates and financial-asset prices.
- 3. Exchange rate, monetary aggregates and credit trends.



- For expectations to contribute to stability, it is necessary to know the objective and the strategy of MP.
  - This requires explaining decisions (communication and transparency).



# Transmission of monetary policy



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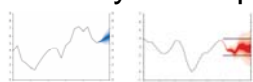
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## Monetary policy should anticipate future changes

Lagged MP effects require a forward-looking approach:

- Great technical capacity and judgment is needed to make projections of price changes.
- A set of economic and statistical models, in continuous improvement, are used in interaction with the judgment of the Board members.
- The result of the forward-looking exercise is a baseline or most likely scenario and alternative risk scenarios, that take into account the uncertainty of the process.



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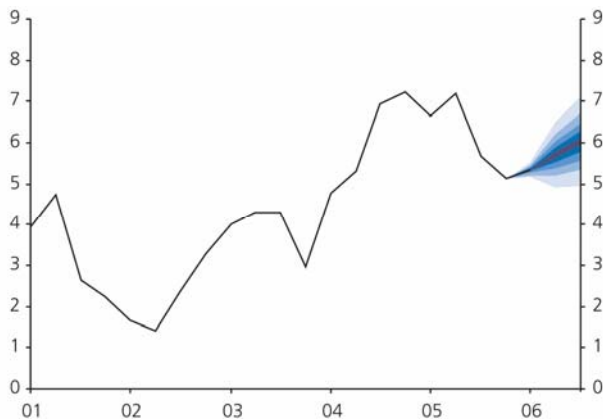
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## Quarterly GDP growth scenarios (annual percent change)



Source: Monetary Policy Report 2006, Central Bank of Chile.

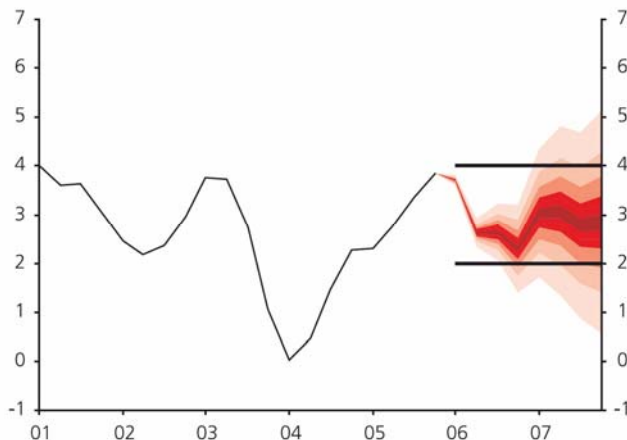
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## Projected CPI inflation (annual percent change)



Source: Monetary Policy Report 2006, Central Bank of Chile.

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### 3. Monetary policy at the Central Bank of Chile



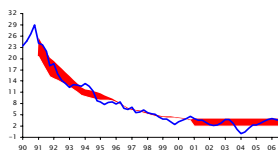
## Monetary policy

- In Chile, the inflation-targeting scheme is well developed:
  - Solid capacity of analysis and research.
  - Forward looking.
  - Transparency.
  - Accountability.
- Since 2000, the explicit objective of the CBC has been to maintain most of the time inflation within a range of 3+ /- 1%:
  - Throughout the year, not only in December.



# Monetary policy

- The “policy horizon” ranges from 12 to 24 months.
  - It incorporates the lag in the effects of MP. The maximum effect of MP occurs in that horizon.
  - It accommodates the effects of transitory shocks.
- MP is oriented to having projected inflation around 3% over that horizon. This maximizes the probability of being inside the target range.



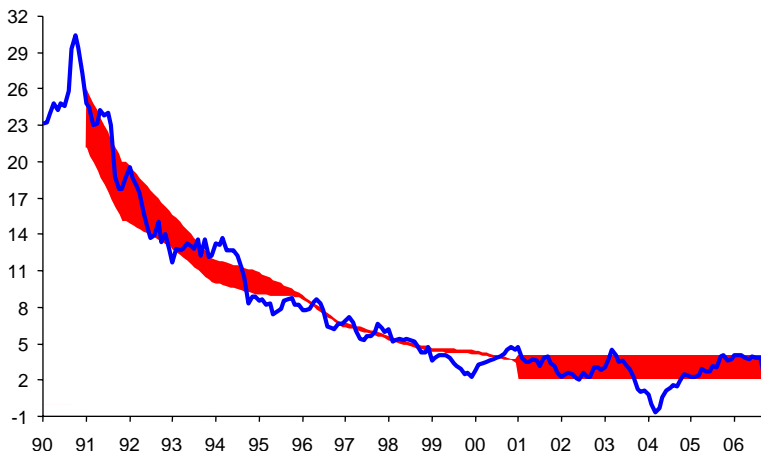
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# Inflation target and inflation rate (monthly average, annual percent change)



Source: Central Bank of Chile.

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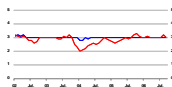


# Successful monetary policy

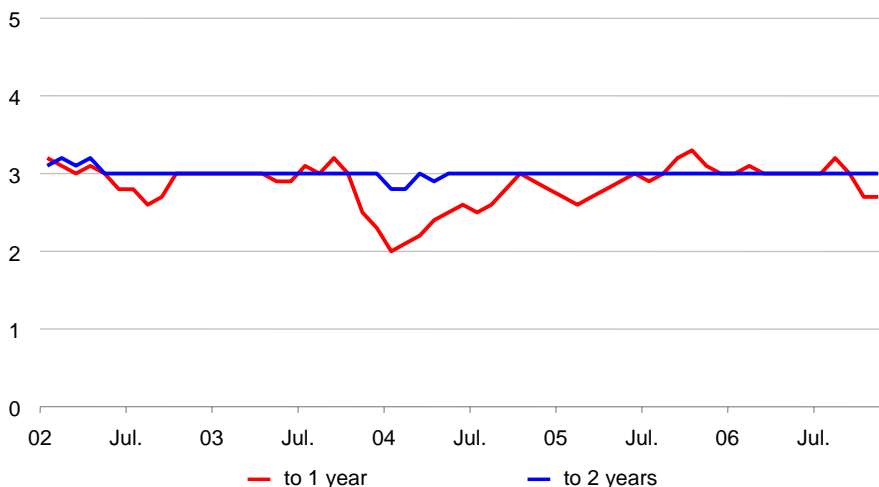
- The target has been reached successfully:
  - Annualized inflation has averaged 2.9% from January 2000 to October 2006.
  - As a percentage of time (months), annual inflation has fallen

Below 2%	Between 2% and 4%	Over 4%
15.9%	73.2%	11.0%

- Expectations are well anchored around 3%.



# Survey on inflation expectations (percent, weekly observations)

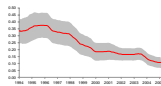


Source: Central Bank of Chile.



## Successful monetary policy

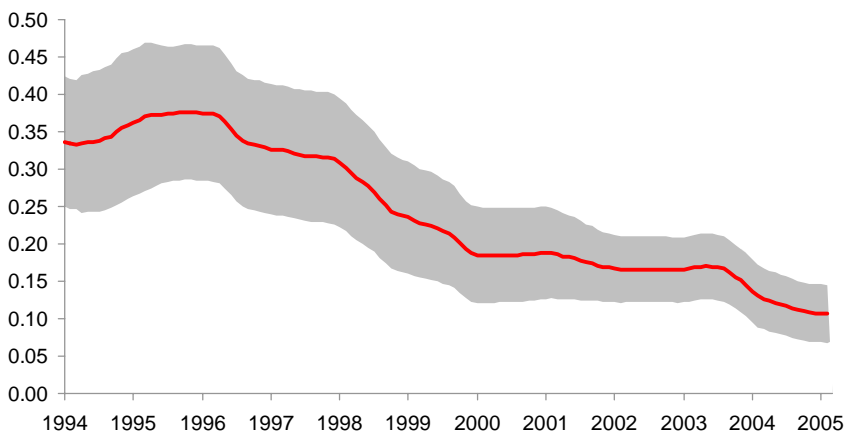
- With the increased credibility on the Central Bank, the exchange rate variation passthrough to inflation has diminished.



- This has allowed the use of monetary policy as a counter-cyclical tool.



## Passthrough coefficient of nominal devaluation to inflation

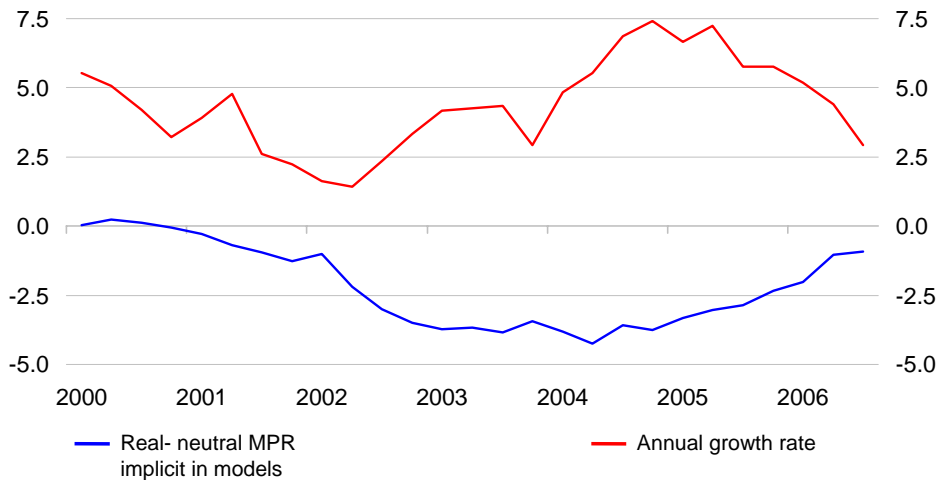


Note: In grey color confidence interval.

Source: Central Bank of Chile.



# Counter-cyclical nature of monetary policy in Chile



Source: Central Bank of Chile.

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## 4. Transparency and communication

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## Transparency and communication

- In the last decade, central banks around the world have significantly improved communication with the market. This serves to:
  - Provide institutional legitimacy and accountability.
  - Promote MP effectiveness.
    - The efficacy of MP depends on agents' understanding of how it is formulated and how it operates.
    - MP influences expenditure and prices through the expectations on the future course of monetary policy, rather than by the direct effect of a change in the MPR.



## Transparency and communication

- The CBC has done a great effort to deliver more and better information to the market and to explain how its IT scheme operates:
  - Disclosure of relevant data with minimum delay.
  - Information available on the website and great number of technical publications.
  - Publications: *Monetary Policy Report* since 2000; policy framework (May 2000 and new in revision); models book (2003).
  - MP meeting date is announced six months in advance.
  - Transparency in MP decision at every Monetary Policy Meeting.



## The monetary policy meeting

- Monthly meetings in which the monetary policy rate (MPR) is set for the next month.
- Normally, it has two parts:
  - 11:30-13:30 hrs. – Review of new developments and their implications on projected inflation.
  - 16:00-18:00 hrs. – Analysis of options, voting, and press release.
- Participants:
  - All five Board members of CBC with a right to vote.
  - Minister of Finance with a right to speak only.
  - Senior CBC staff (several managers, legal counsel, certifying officer, some advisors).



## The monetary policy meeting

- Press release with MPR decision and justification.
- Three weeks after MP meeting, a minute is published that includes:
  - A summary of information reviewed in the meeting and main points analyzed.
  - The policy options considered.
  - The main arguments evaluated by the Board members in the decision.
  - The vote of each Board member.





# Example of press release

Santiago, November 16, 2006

## Press Release

In its monthly monetary policy meeting, the Board of the Central Bank of Chile decided to maintain the monetary policy interest rate at 5.25% (annual).

The external scenario relevant to the Chilean economy remains favorable. Oil prices remain below projections in the last Monetary Policy Report, world financial conditions are still positive and the copper price, despite recent reductions, is still high.

Domestic output continues to grow at a low pace, below earlier projections, and beyond specific developments in manufacturing industry and mining. Nonetheless, salaried employment continues to rise, while unemployment falls and consumption grows steadily with relative strength. Domestic financial conditions remain favorable. This information, combined with the evolution of the external scenario and increases in investment intentions, is consistent with economic growth picking up during next year.

Annual CPI inflation dropped significantly, largely influenced by the decline in fuel prices, and is now in the lower part of the target range, below earlier projections. This also reflects the decline in core CPIX1 inflation (which excludes fuels and perishables, plus some regulated services). Other indicators of trend inflation also show a decline, and cost pressures are well contained. These events permit to forecast that inflation will be, for some months, below the center of the target range. Long-term inflation expectations continue to be anchored around 3%.

The Board reaffirms its commitment of conducting monetary policy to assure that projected inflation will be at 3% over the policy horizon. Future changes in the monetary policy rate intended to achieve this objective will depend on incoming information and its implications for projected inflation.

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## Concrete examples:



### World scenario

Growth (annual percent change)									
	90-99 Prom.	2004 Est.	2005 Est.	2006 Est.	2007 Est.	2008 Est.	2009 Est.	2010 Est.	2011 Est.
World (1)	5.2	5.3	4.8	4.8	4.8	4.8	4.8	4.8	4.7
EU15	3.1	4.2	3.5	3.6	3.4	3.4	3.2	3.1	3.1
Zone Euro	2.2	3.8	3.4	3.6	3.4	3.4	3.2	3.1	3.1
Japan	1.5	2.3	2.7	2.5	2.2	2.2	2.2	2.7	2.7
Reste du Asia	6.0	6.7	6.4	7.7	7.8	8.2	7.1	7.6	7.8
Chine	10.0	10.1	9.8	9.0	9.1	9.5	8.7	8.6	9.0
Amérique Latine	2.8	3.8	4.2	4.1	4.2	4.3	3.6	3.6	3.6
Bras. Brésil	2.7	3.4	2.7	3.1	3.0	3.0	3.1	3.0	3.0
Inde	5.1	4.5	3.8	3.9	4.1	4.2	3.7	3.8	3.8
Moy. à TC South	2.4	4.0	3.4	3.5	3.6	3.6	3.2	3.4	3.4

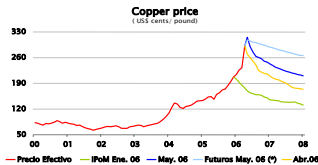
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### World scenario



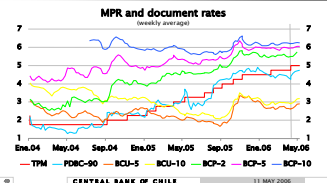
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### Financial markets



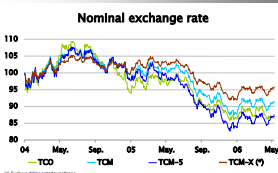
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### Financial markets



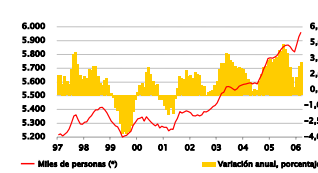
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### Employment



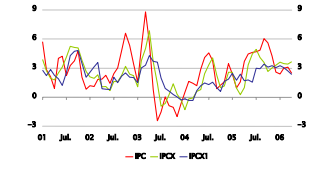
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### Prices and costs



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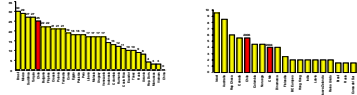
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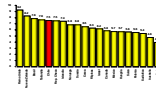


# Good international evaluation of CBC transparency

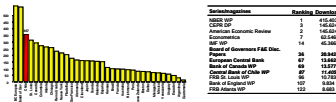
- Transparency.



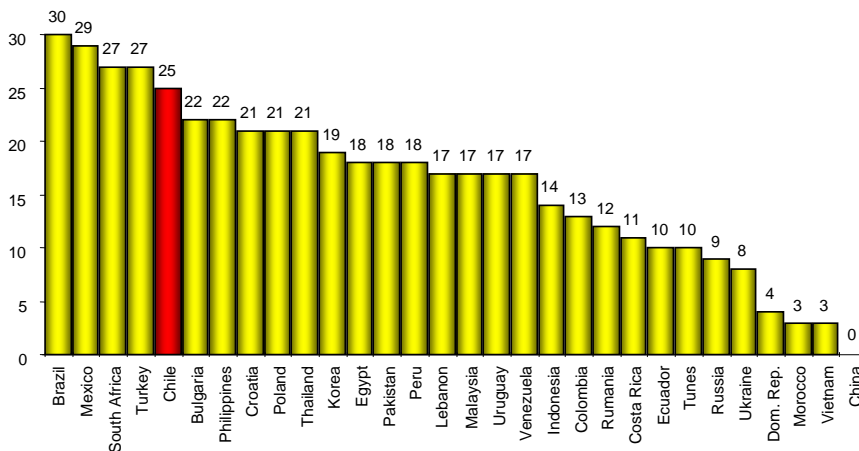
- Monetary policy reports.



- Economic research.



## Central bank transparency in information delivery, 2005

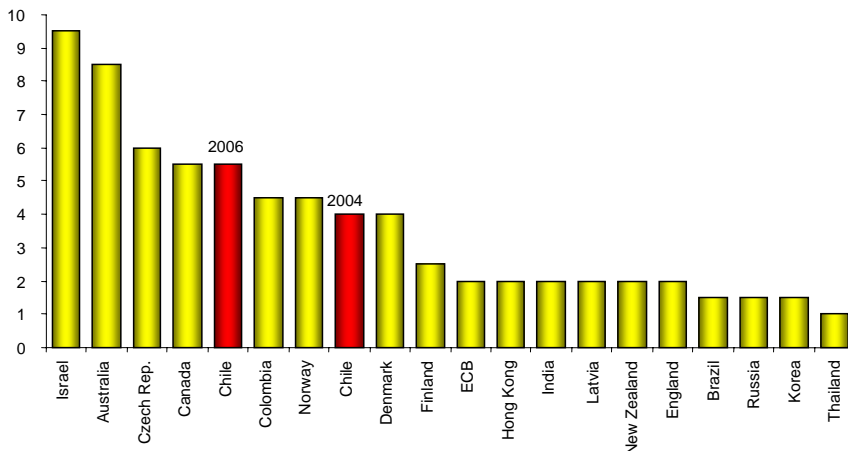


Note: It is quantified in a scale from 0 to 30.

Source: *Institute of International Finance* (2005), transparency in economic information delivery of 30 developing countries.



# Transparency in the management of international reserves, 2004-2006



Note: It is quantified in a scale from 0 to 10. The qualification for Chile in the year 2006 takes into account improvements in information delivery since evaluation in 2004.

Source: Adapted to Topf (2005), transparency in the management of reserves of a sample of 19 central banks of developed and developing economies.

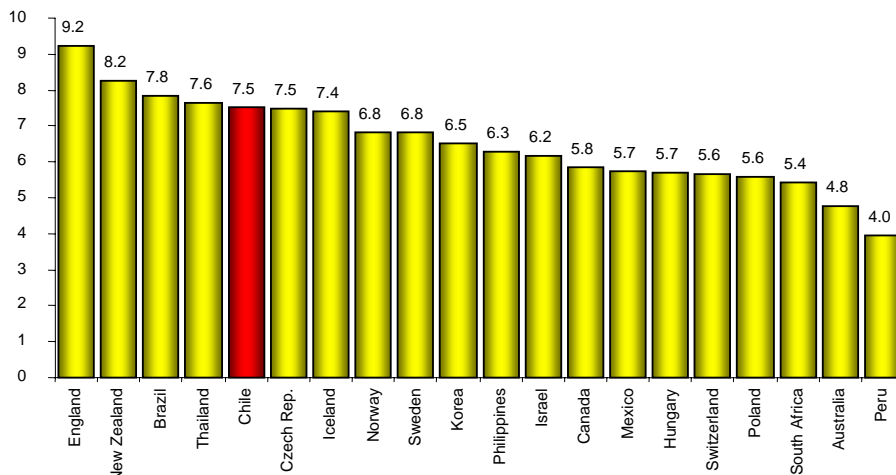
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# Quality of monetary policy reports, 2002



Note: It is quantified in a scale from 1 to 10.

Source: Fracasso et. al. (2003), evaluate the MP reports of 20 central banks with inflation-targeting schemes.

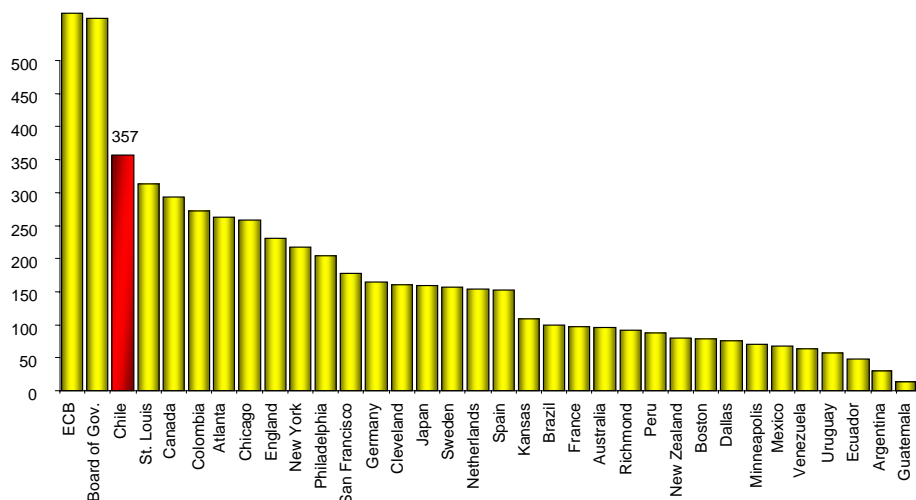
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# Volume of published working papers, 1975-2005



Source: Larraín and Schmidt-Hebbel (2006).

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# Downloads of working papers, 2005

Series/magazines	Ranking	Downloads
NBER WP	1	415.403
CEPR DP	3	145.624
American Economic Review	2	145.624
Econometrica	7	62.546
IMF WP	14	45.366
<b>Board of Governors F&amp;E Disc. Papers</b>	<b>36</b>	<b>20.942</b>
<b>European Central Bank</b>	<b>67</b>	<b>13.662</b>
<b>Bank of Canada WP</b>	<b>69</b>	<b>13.577</b>
<b>Central Bank of Chile WP</b>	<b>87</b>	<b>11.405</b>
FRB St. Louis WP	96	10.783
Bank of England WP	107	9.834
FRB Atlanta WP	122	8.683

Source: Larraín and Schmidt-Hebbel (2006).

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## 5. Results and efficiency



## Results and efficiency

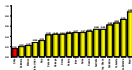
- Monetary policy in Chile has been positively evaluated in two dimensions:
  - Deviations of inflation from target.
  - Contribution to macroeconomic stability.



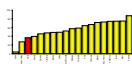
# Deviation of inflation from target

Among 19 inflation-targeting countries:

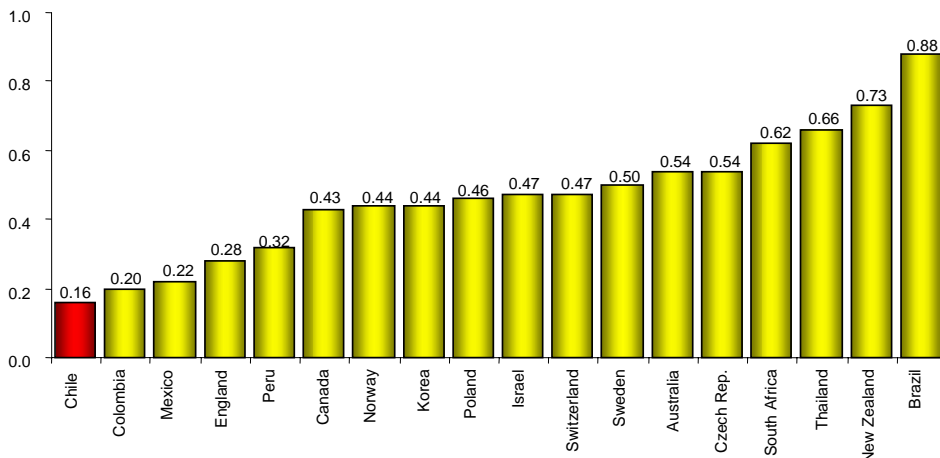
- Chile ranks first in terms of smaller deviation from target.



- Only 37% of the time, inflation deviates by more than 1 pp from the target center. This positions Chile as the third country with least frequent episodes of significant inflation deviations.



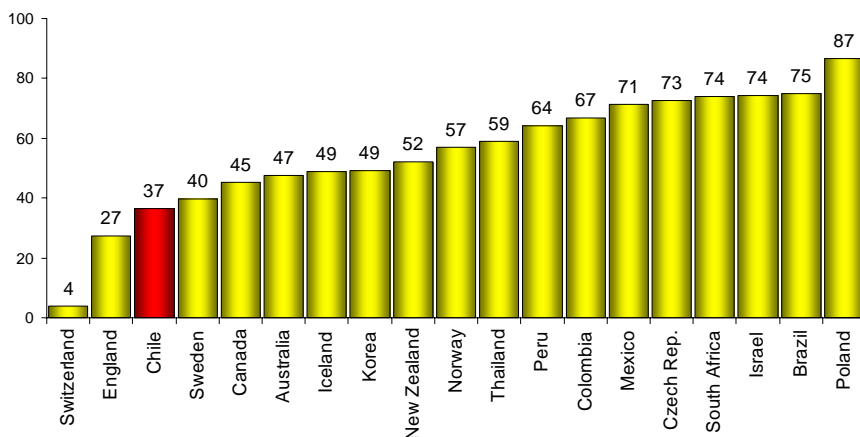
# Relative deviations to the year 2004 (%)



Note: Considers the starting period of an inflation-targeting scheme to the year 2004.  
The initial period of an inflation-targeting scheme varies across countries.  
Source: Albagli and Schmidt-Hebbel (2005).



# Frequency of deviations



Note: Considers the frequency of the average absolute deviation of the inflation rate with respect to the target in countries with inflation-targeting schemes in excess of 1 percentage point ( $|\text{inf}-\text{target}|>1\%$ ), since the start of inflation targeting through December 2004.

Source: Albagli and Schmidt-Hebbel (2005).

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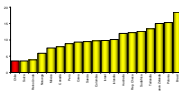
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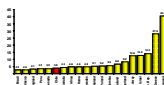


# Deviation of inflation from target

- The global index of inflation-targeting success, which combines magnitude, persistence and frequency of deviation episodes, ranks Chile as the country with the best performance, jointly with Switzerland. On the other extreme, Brazil has been the economy with the worst performance.



- This has been achieved with a relatively small number of employees.



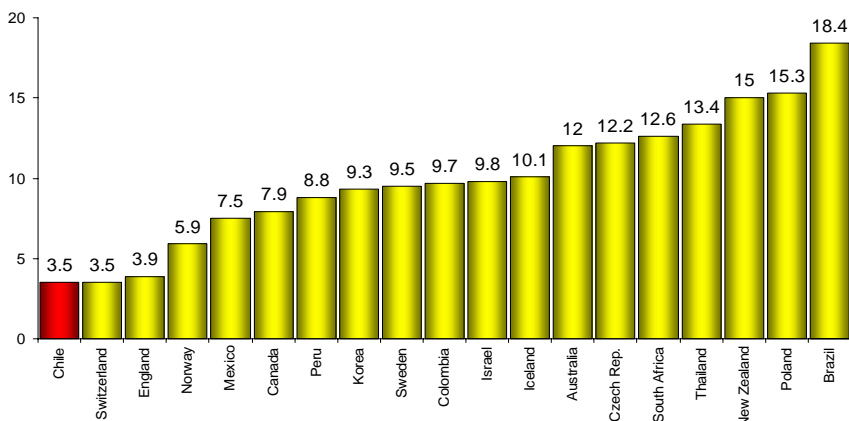
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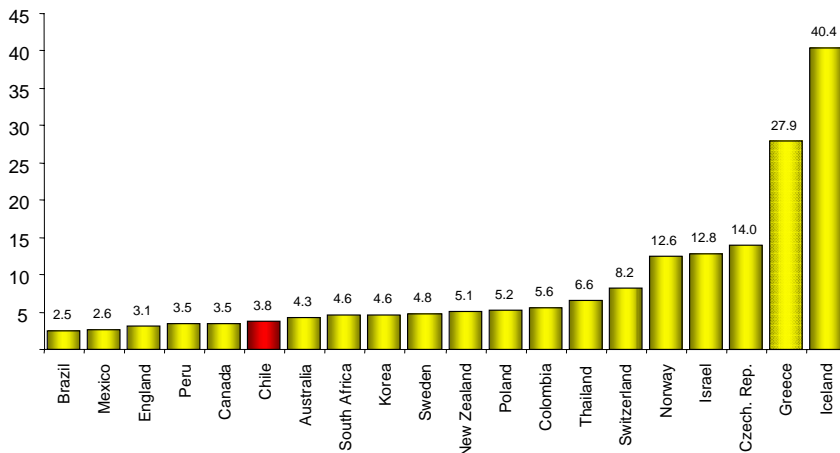
# Aggregate performance index



Note: The index considers inflation rate deviation with respect to the target in countries with inflation-targeting schemes, since the start of inflation targeting through December 2004.  
Source: Albagli and Schmidt-Hebbel (2005).



# Number of employees in central banks, 2005 (per hundred thousand inhabitant)



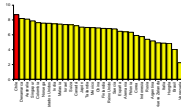
Source: Morgan Stanley (2006).



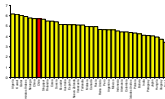


# Contribution of monetary policy to macroeconomic stability

- The *Institute for Management Development*, ranks Chile first in the existence of a positive contribution of MP to economic performance.

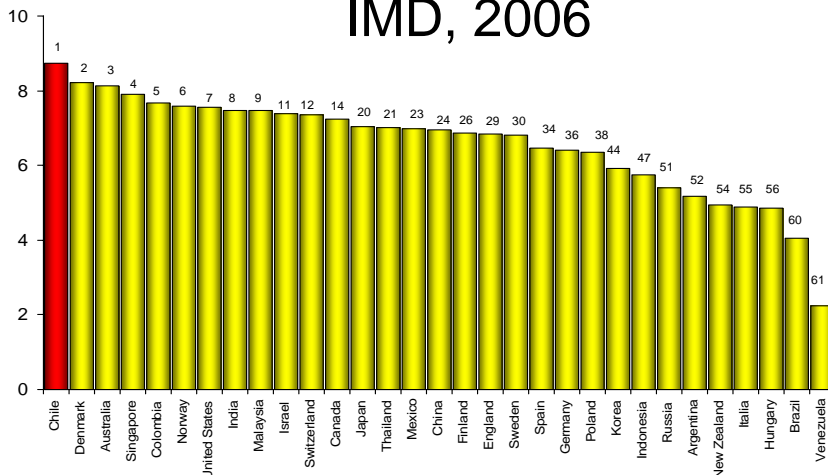


- *World Economic Forum* evaluates MP management as an important pillar to reach greater competitiveness.



# Contribution of monetary policy to macroeconomic performance:

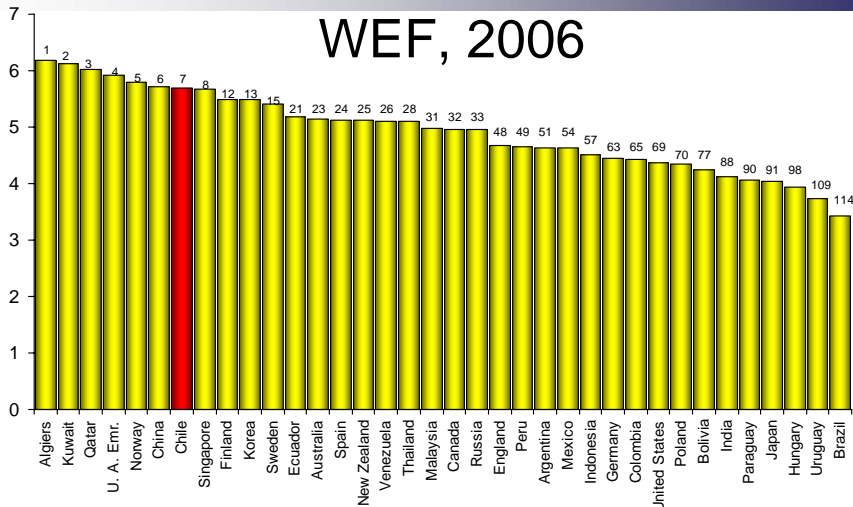
## IMD, 2006



Note: It is quantified in a scale from 1 to 9. The number over each bar represents the place in the ranking.  
Source: *Institute for Management Development* (2006).



# Contribution of monetary policy to macroeconomic performance:



Note: It is quantified in a scale from 1 to 7. The number over each bar represents the place in the ranking.

Source: World Economic Forum (2006).

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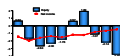
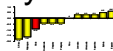
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## Financial strength

- Central banks do not go bankrupt, but their financial weakness can lead to lost credibility in countries with weak institutions and unsustainable fiscal policy.
- A study finds that the CBC is the third central bank in LA with largest losses in the year 2000 (Stella, 2002).
- If capital gains from foreign exchange fluctuations are included, the figures are somewhat different for the CBC.
- The CBC's net income and equity have fluctuated in recent years, and current equity is negative.



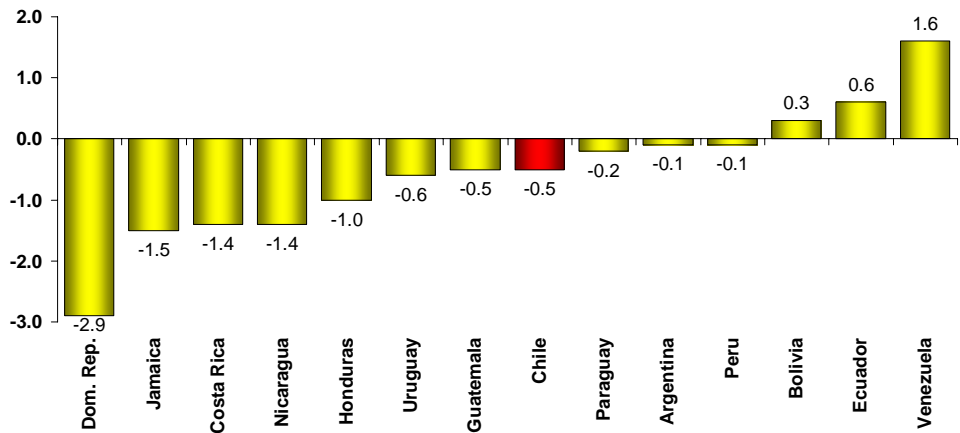
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CENTRAL BANK OF CHILE

29 NOVEMBER 2006



## Net income of central banks, 2005 (% GDP)



Note: Data Argentina 2001; Ecuador 2000; Nicaragua, Uruguay and Venezuela 2004  
Source: Stella (November 2006).

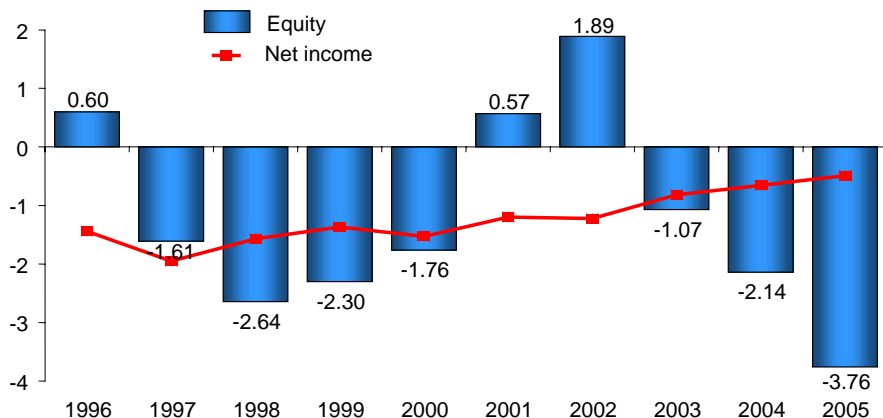
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## Central Bank of Chile's net income and equity, 1996-2005 (% GDP)



Note: Equity data from CBC, considers losses and profits derived from exchange rate movements and monetary correction.  
Source: IMF for net incomes and Central Bank of Chile for equity.

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## Financial strength

- Currency and maturity mismatch between assets and liabilities, inherited from the past, are the cause of present negative equity.
- But this is no serious risk for Chilean macroeconomic stability, thanks to the reputation of the Central Bank and solid fiscal accounts.
- The Law on Fiscal Accountability, authorized the Ministry of Finance to make capital contributions to CBC, up to 0.5% of the previous year's GDP during five years, when the actual surplus of the government is greater than 0.5% of GDP of the Pensions Fund Reserve.
  - This will grant gradual solution to the negative equity.



## 6. Conclusions



## Conclusions

- Price stability is a prerequisite to achieve high and sustained growth.
  - The Constitutional Law of the CBC embodies this principle. The inflation-targeting scheme puts it in practice.
  - Stable and low inflation is a very valuable conquest, but an achievement that is not guaranteed. It requires discipline and caution.



## Conclusions

- A consistent and strong macroeconomic scheme, with a good record of having reached inflation rates close to target, has strengthened private sector confidence in the CBC, increasing effectiveness and credibility of the monetary policy.
  - In this IT framework, transparency and market understanding of what the bank is doing are essential.
  - The final anchor is market confidence, in that the Central Bank will do all the necessary efforts to maintain macroeconomic stability.



# Conclusions

- To achieve maximum effectiveness, other elements should be present: an autonomous Central Bank with the clear objective of price stability, fiscal discipline and a solid financial system.



## Monetary policy in Chile

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