The Chilean Inflation Targeting Experience

Vittorio Corbo

Centro de Estudios Públicos

Former Governor Central Bank of Chile

Prepared for presentation at the Anniversary Conference of the Czech National Central Bank, Prague, Czech Republic, April 8, 2008.

Agenda

1. Basic principles of monetary policy
2. Monetary policy at the Central Bank of Chile
3. Conclusions

Basic principles of monetary policy

Main changes in the last 30 years

- Common thought until mid-1970s: inflation can permanently stimulate employment and activity.
- Today: consensus on the inexistence of a long-run tradeoff.
  - Unemployment < natural U rate => accelerating inflation.
- Long run: inflation is determined by MP.
- Short run: MP affects output and employment.
  - However, the scope for fine tuning is small.

Monetary policy design

- To control the inflation trend, the CBC adjusts the interest rate to achieve the target inflation in the policy horizon.
- Three channels of MP pass-through to activity and prices:
  - Inflation expectations: importance of communication, transparency and actions.
  - Interest rates and financial-asset prices.
  - Monetary aggregates and credit trends.

Importance of price stability

- Price stability contributes to macroeconomic stability and growth:
  - It reduces undesirable movements in relative prices, contributing to improve efficiency, financial development and investment. ⇨
  - It avoids deterioration of income distribution. Inflation is a regressive tax that damages with particular intensity the ones who have less.

Monetary policy framework

- ✓ In early 1990 the recently appointed Board of the autonomous Central Bank decided to fulfill its constitutional mandate of price stability using a combination of active monetary policy and a moveable and wide exchange rate band.
- ✓ Price stability was to be pursued gradually to minimize output loses in a highly indexed economy.

Monetary policy framework

- ✓ An annual target (dec-dec) was set for the inflation rate to anchor inflation expectations and to guide monetary policy.
- ✓ This monetary policy framework converged later on to a fully-fledged inflation targeting regime.

Monetary policy at the Central Bank of Chile

Inflation-targeting regime

- Gradual implementation of the IT regime:
  - 1991-1999: Gradual adoption of inflation targets but without full framework (phase one);
  - 2000 to the present: Full-fledged IT regime (phase two).
- Phase one falls short of a full-fledged inflation targeting regime. MP was focused on two targets (inflation and the moveable exchange rate band).
- Phase two features a single inflation target and an active communication strategy for MP.

First phase of the Inflation-targeting regime

- The first phase of the inflation targeting (IT) regime was introduced partially in 1991:
  - Annual announcements of CPI target inflation for next year (Dec-to-Dec) were made in September of each year.
  - Announcement of annual target ranges (1990-1996) and annual point targets (1997-1999).
  - Annual targets were reduced 1.5 percentage point per year on average. ⇨

Conflict with the exchange rate target

- Of the three conditions for a successful inflation IT regime (lack of fiscal dominance, instrument independence and a unique nominal anchor) only the first two were fulfilled in the early nineties.
- As in Israel and Colombia, in Chile there was a coexistence of the inflation target with an exchange rate anchor and capital controls.
  - Independence and effectiveness of MP were hindered by conflicts between exchange rate band commitment, annual inflation targets, and capital controls.
  - However when there were conflicts between the two anchors, preference was given to inflation control.

Conflict with the exchange rate target

- ✓ Even with the duality of objectives, the inflation targets were reached with substantial success during the 90's: Annual inflation was reduced from 20 to 30% to single digit levels. ⇨
- ✓ However, the scheme was put to test during the Asian crisis when it became difficult to adjust with the two targets. As a result, interest rates increased dramatically and economic activity suffered.

The adoption of a full-fledged IT: 2000

- The transition to a full-fledged IT regime was done in 2000 when:
  - The annual inflation rate was converging to near 3%;
  - There was high credibility towards the IT commitment;
  - In September 1999 the exchange rate band had been replaced by a floating exchange rate regime and capital controls had been suspended. (The capital controls were abolished in 2000).

The adoption of a full-fledged IT: 2006

- Between 2000 and 2006:
  - The inflation target was defined to keep annual inflation most of the time within a range of 2 to 4%.
  - Operationally MP became oriented to achieving an annual inflation rate of 3% in a policy horizon of 12 to 24 months.
  - The length of the horizon was chosen to reduce the need to respond to transitory price shocks and to provide greater flexibility in promoting the objective of price stability.
  - This flexible inflation target regime recognizes that monetary policy works with a considerable lag and that output volatility is costly.

The 2007 adjustment to the framework

- Since 2007:
  - The main MP objective is to keep the annual CPI inflation rate most of the time at around 3%, within a symmetric tolerance range of one percentage point and the policy horizon was extended to two years.
  - The changes were introduced to strengthen the 3% mid point as the nominal anchor of the economy and to accommodate temporary shocks with more persistence.
    - It also acknowledges that inflation can temporarily deviate from the 3+/-1 pp range to accommodate transitory shocks.

The 2007 adjustment to the framework

- ✓ The changes were not abrupt as in practice monetary policy had already moved in that direction.
- ✓ The changes were made public in an official document published in the web page of the Central Bank and in a press conference.
- ✓ The length of the horizon and the migration toward a point target are consistent with the emerging international practice.⇨

The performance of the IT regime

- ✓ Price stability has been an objective difficult to achieve. However, the current monetary policy regime has made a great improvement in reducing and stabilizing inflation, while reducing its inertia. ⇨
- ✓ Together with inflation reduction, the volatility of both inflation and growth was diminished. ⇨
- ✓ To isolate the contribution of the monetary regime from other reforms and shocks is a difficult task, but there are clear indications that the IT regime has made an important contribution to the results obtained.

Results of the IT regime

- ✓ Inflation expectations are well anchored around the 3% target. ⇨
- ✓ The inflation target, maintaining inflation most of the time around 3% with a tolerance range of +/-1 percentage point, has been reached successfully. ⇨
- ✓ Among IT-countries, Chile has a good record of reaching the target. ⇨
- ✓ Overall, MP has contributed to the macroeconomic performance. ⇨
- ✓ As a result of the above, it has been possible to use MP as a counter-cyclical instrument. ⇨

Conclusions

Conclusions

- ✓ Price stability is a prerequisite to achieve high and sustained growth rates. The constitutional law that gave autonomy to the Central Bank of Chile recognized this principle.
- ✓ Chile adopted the IT regime in two distinct phases and implemented a solid macroeconomic framework based on central bank autonomy with a clear focus on price stability.

Conclusions

- ✓ This was supported by a an autonomous central bank, by a solvent, responsible, and predictable fiscal policy and a solid and well regulated financial system.
- ✓ Low inflation and a credible monetary policy represent an essential macroeconomic achievement.
- ✓ Chile’s good record of attaining inflation levels close to the target has strengthened private sector confidence in the CBC and raised MP effectiveness and credibility.

Conclusions

- ✓ Additionally, by improving its policy framework, supported by strong transparency, accountability, and communication, the CBC has laid an important foundation to Chile's macroeconomic stability.
- ✓ However, conquest and predictability of inflation are not guaranteed. Every central bank has to remain vigilant, improving its policy framework as needed to continue delivering high levels of macroeconomic stability.

Conclusions

- ✓ In particular, the recent inflationary shock associated to food and energy prices and its apparent persistency, imposes important challenges for monetary policy in Chile and around the world.

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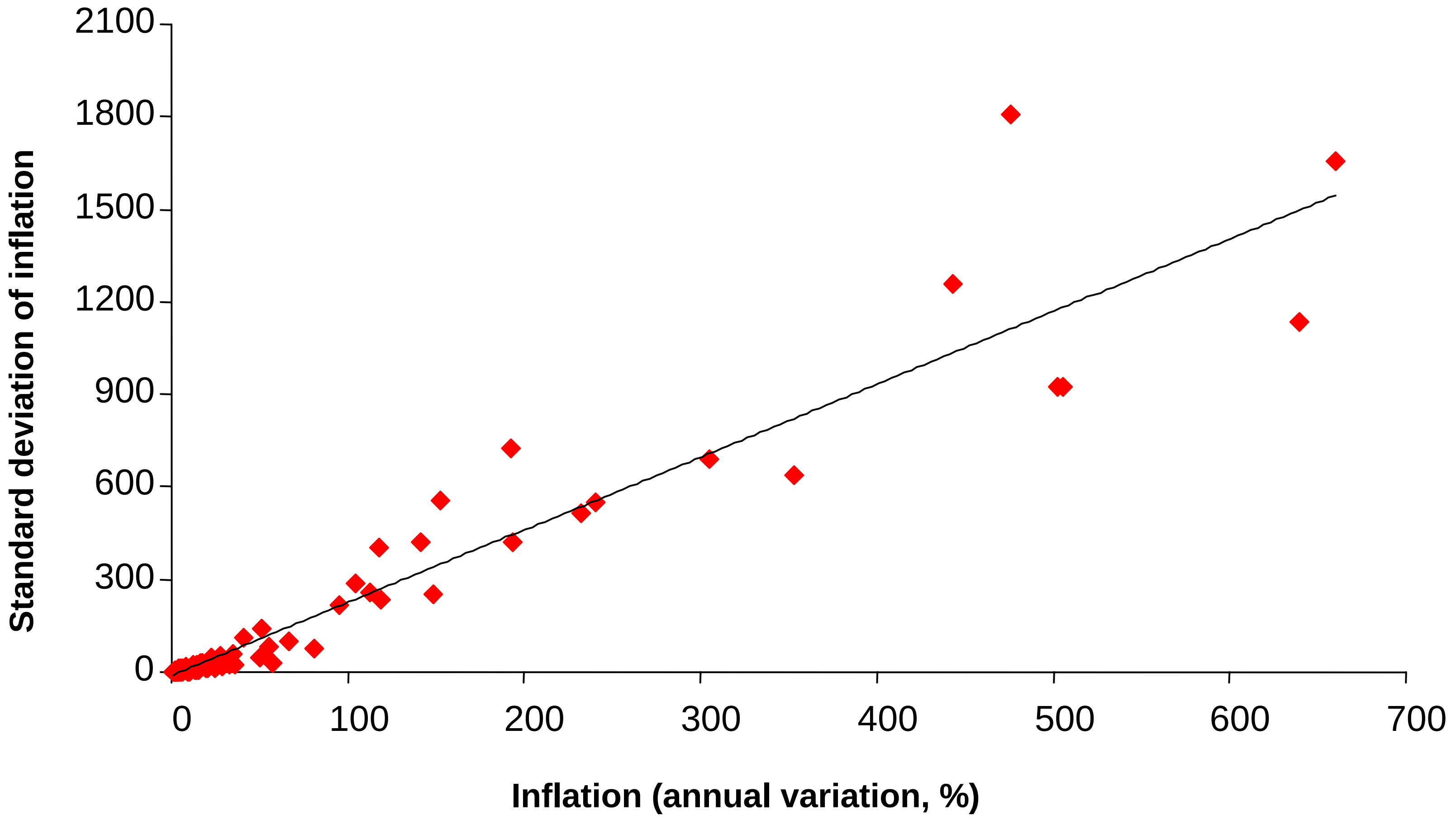
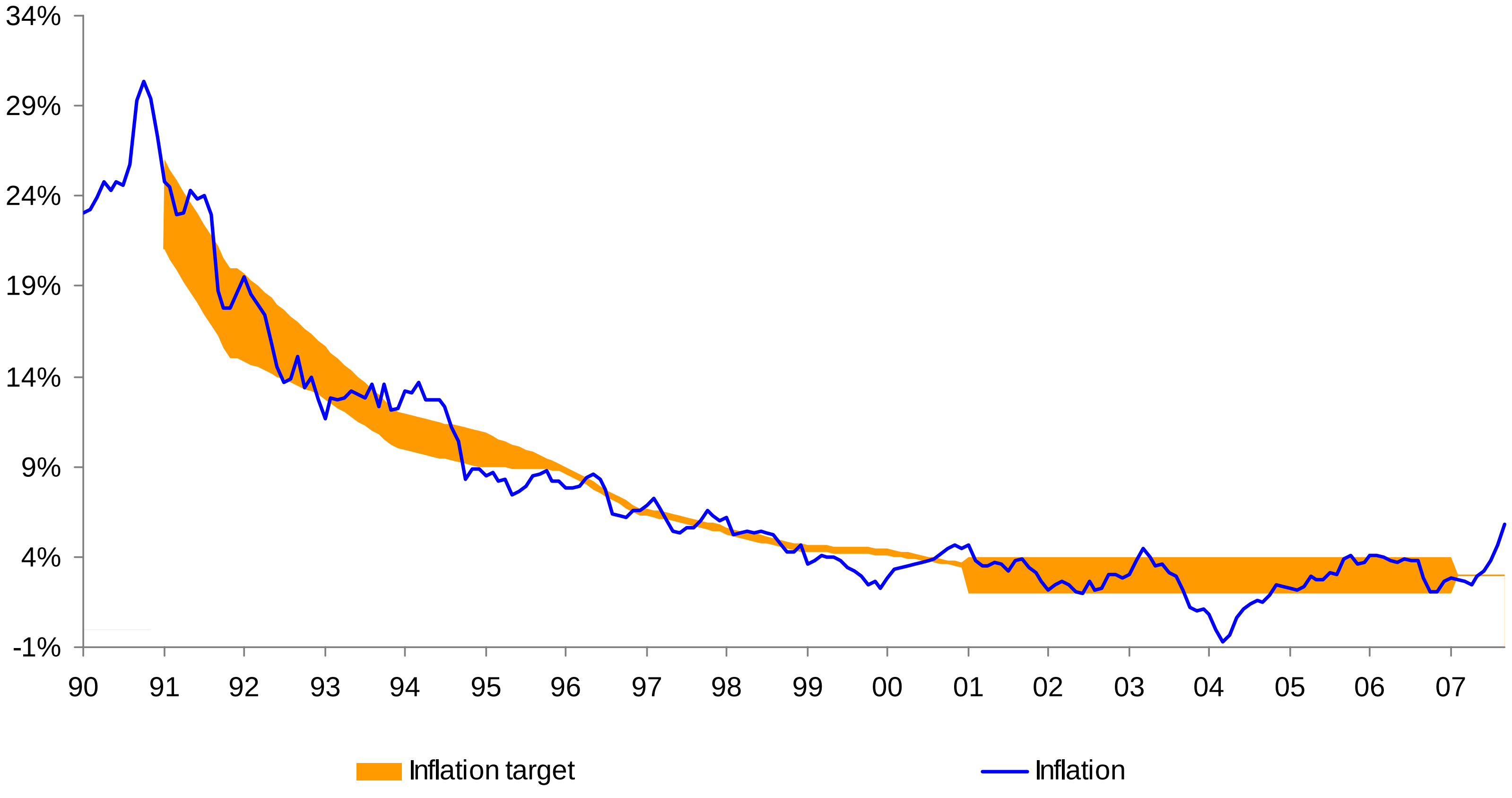
Level and volatility of inflation
(average 1990-2006)



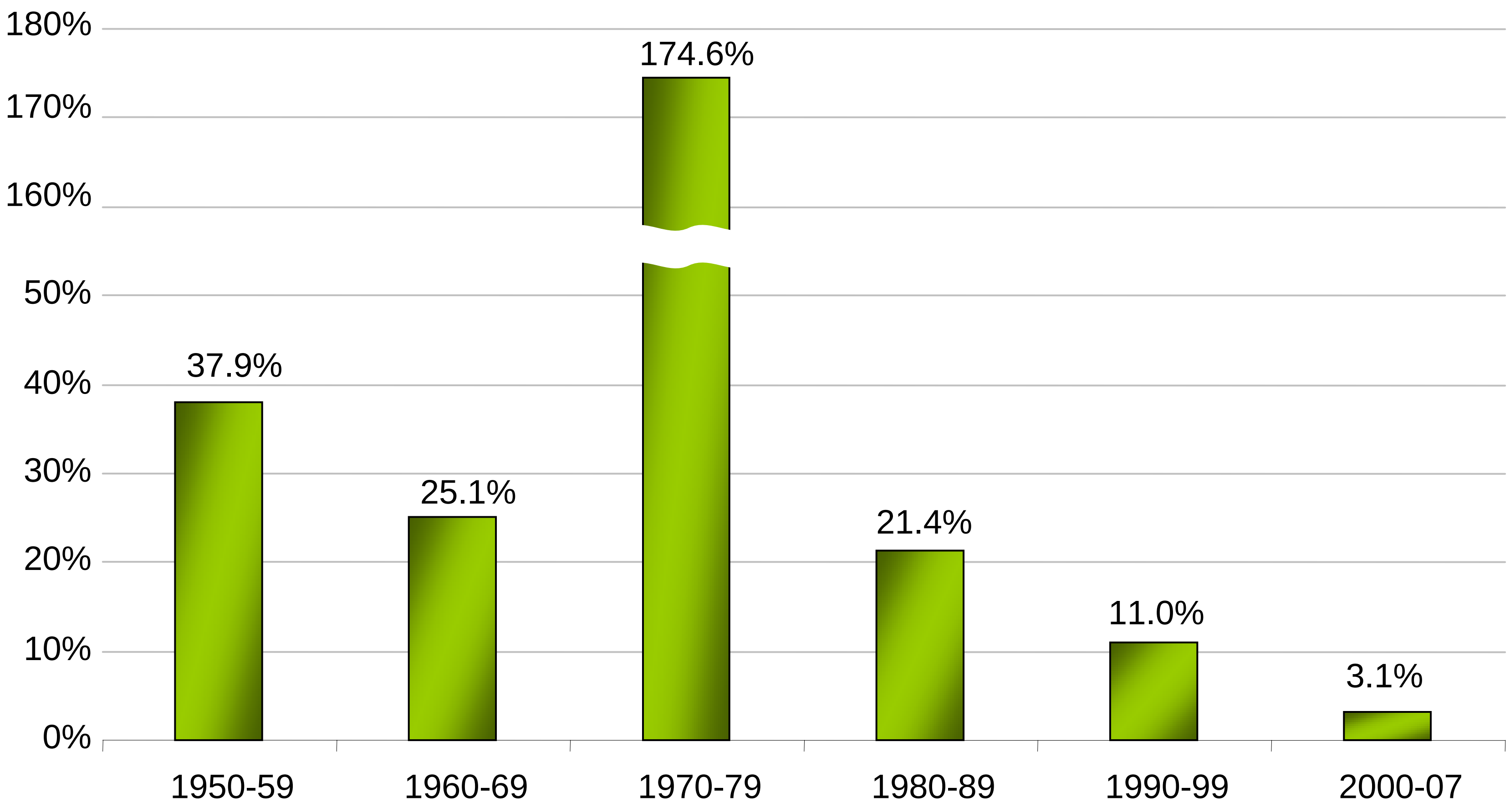
Source: Own elaboration, based on WEO October 2007 (IMF).

Inflation target and inflation rate

(annual change, percent)



Annual Inflation
(Average of period, percent)



Source: Central Bank of Chile.

Inflation targets and length of policy horizon in developed countries

	Target (2006)	Inflation Measure	Policy Horizon (2006)
Countries			
New Zealand	1-3	CPI	Medium term
Canada	1-3	CPI	6-8 quarters
United Kingdom	2 (+/-1)	CPI	All the time
Australia	2-3	CPI	Open
Sweden	2 (+/-1)	CPI	Within 2 years
Switzerland	<2	CPI	open
Island	2.5	CPI	All the time
Norway	2.5	Core CPI	4-12 quarters
Average	*2.2*		*7.5 quarters*
Standard Deviation	*0.2*		*0.71 quarters*

Source: Central Banks web pages ; Batini and Laxton (2005); Mishkin and Schmidt-Hebbel (2005).

Inflation targets and length of policy horizon in emerging countries

Emerging economies	Target (2006)	Inflation measure	Policy Horizon (2006)
Chile	2-4	CPI	12-24 months
Israel	1-3	CPI	End of year
Peru	2.5 (+/-1)	CPI	4 quarters
South Korea	2.5-3.5	Core CPI	4 quarters
Poland	2.5 (+/-1)	CPI	5-7 quarters
Czech Republic	3 (+/-1)	CPI	6-8 quarters
Mexico	3 (+/-1)	IPC	Annual target
Thailand	0-3.5	Core CPI	4 quarters
South Africa	6-3	Core CPI	4 quarters
Average	*2.81*		*5 quarters*
Standard deviation	*0.79*		*1.3 quarters*
Brazil	4.5 (+/-2)	IPC	Annual target
Colombia	4-5	IPC	Annual target
Philippines	4-6	IPC	Annual target
Hungary	3.5 (+/-1)	IPC	Annual target
Slovak Republic	<2.5	IPC	Annual target
Indonesia	5.5 (+/-1)	IPC	Annual target
Romania	5 (+/-1)	IPC	Annual target
Turkey	6 (+/-2)	IPC	Annual target
Average	*3.61*		
Standard deviation	*1.17*		
Average complete Sample	*3.18*		*5.6*
Complete sample Standard deviation	*1.18*		*1.6*

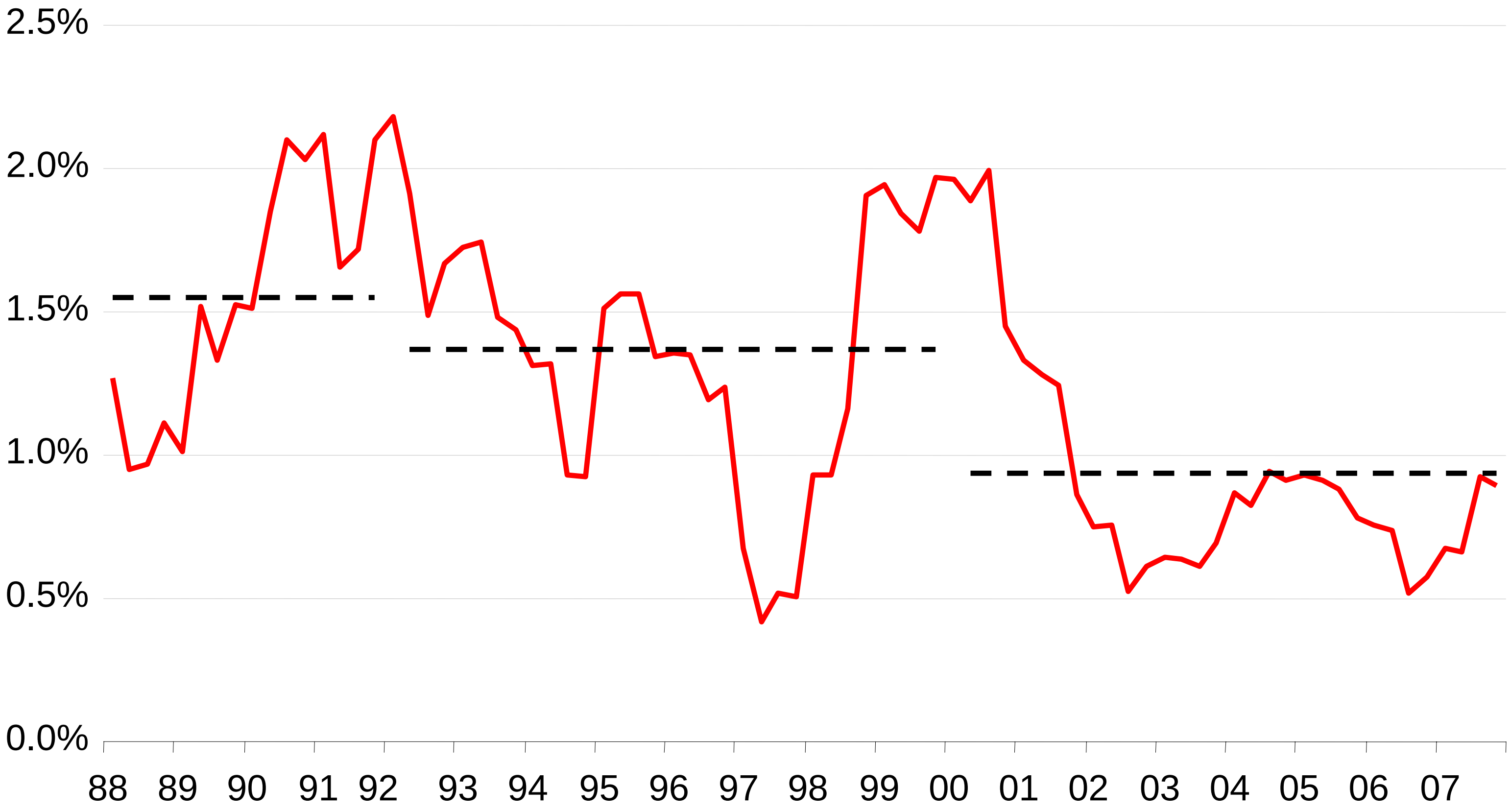
Sources: Central Banks web pages; Batini & Laxton (2005); Mishkin & Schmidt-Hebbel (2005).

Inflation dynamics
(Annual average based on quarterly data, percent)

	1960-1989	1990-1999	2000-2007
Average	76.1	11.8	3.1
Standard Deviation	135.2	7.3	1.3
Persistency I (1)	0.957	0.982	0.944
	1986-1989	**1990-1999**	**2000-2007**
Persistency II (2)	1.047	1.078	0.755
	1985-1989	**1990-1999**	**2000-2007**
Average inflation expectations (3)	20.0	13.4	3.1

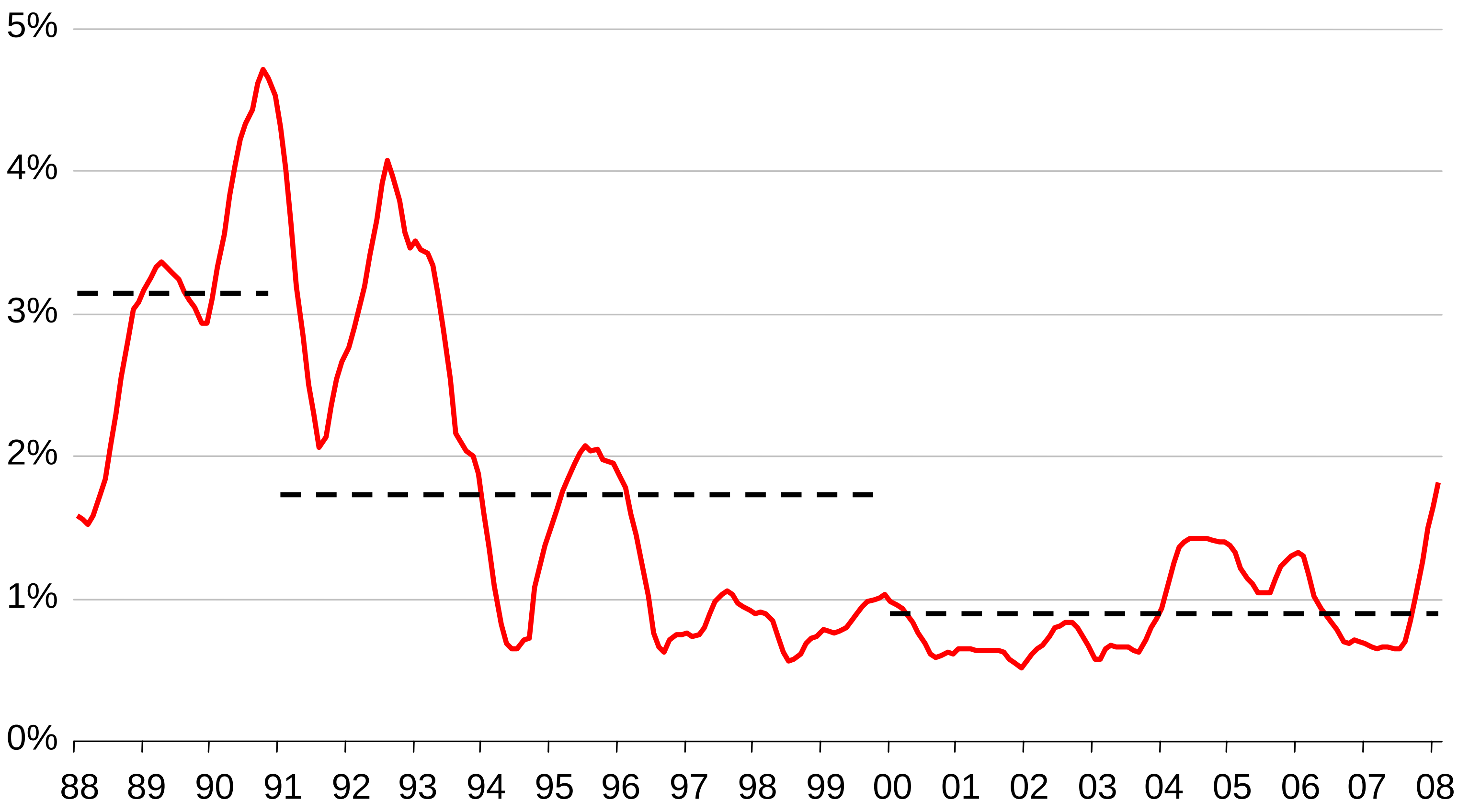
(1) Persistency I considers the coefficient of lagged inflation in the regression inflation = a + b inflation (-1).
(2) Persistency II considers the coefficient of lagged inflation in the regression inflation = a + b inflation (-1) + c output gap.
(3) The difference between the nominal deposit rate and the CPI indexed deposit rate for operations of one to three years.
Source: Central Bank of Chile.

Growth Volatility



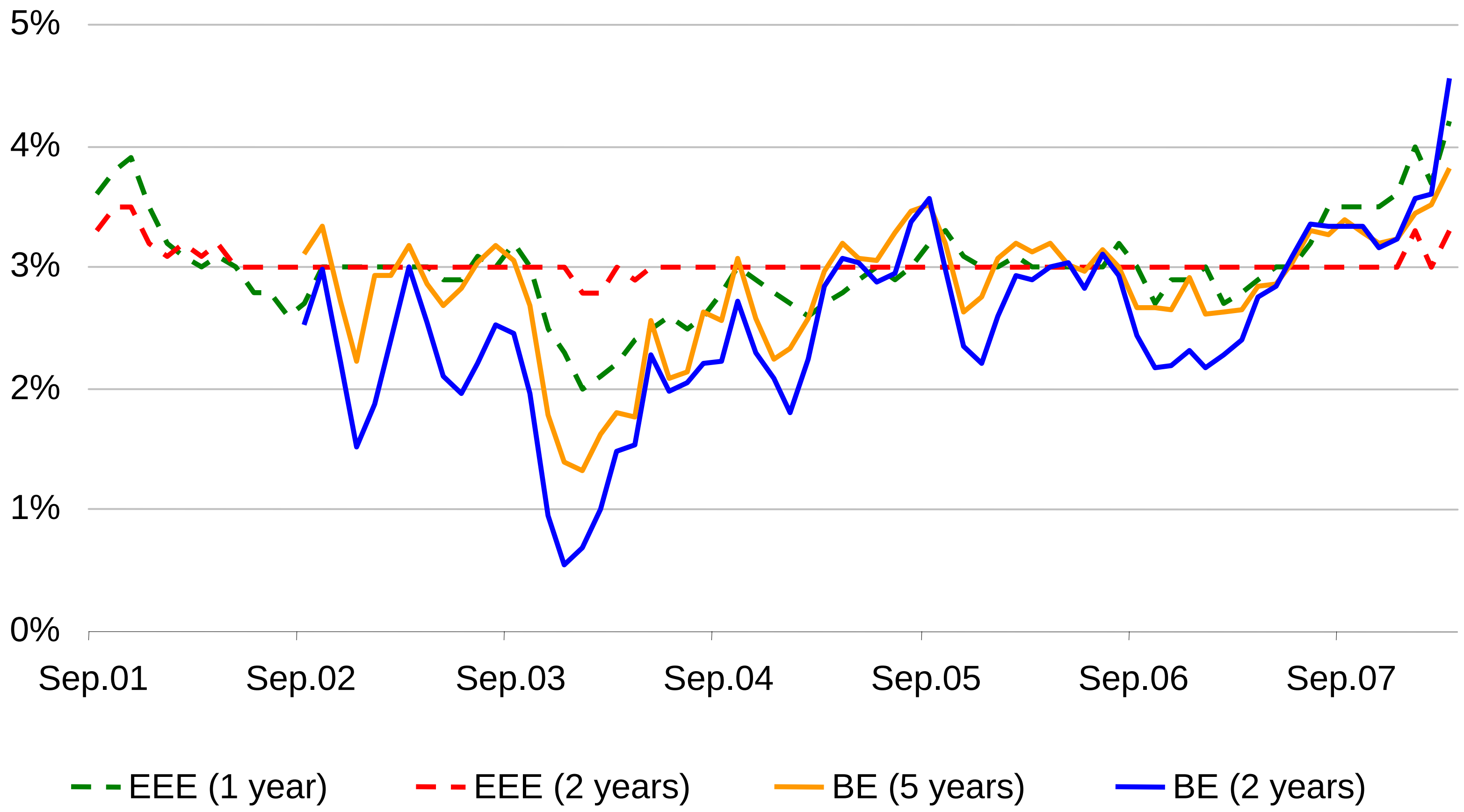
Note: Standard deviation of rolling – eight quarters window.

Inflation volatility



Note: Standard deviation of rolling (annual variation) – 24 months window.

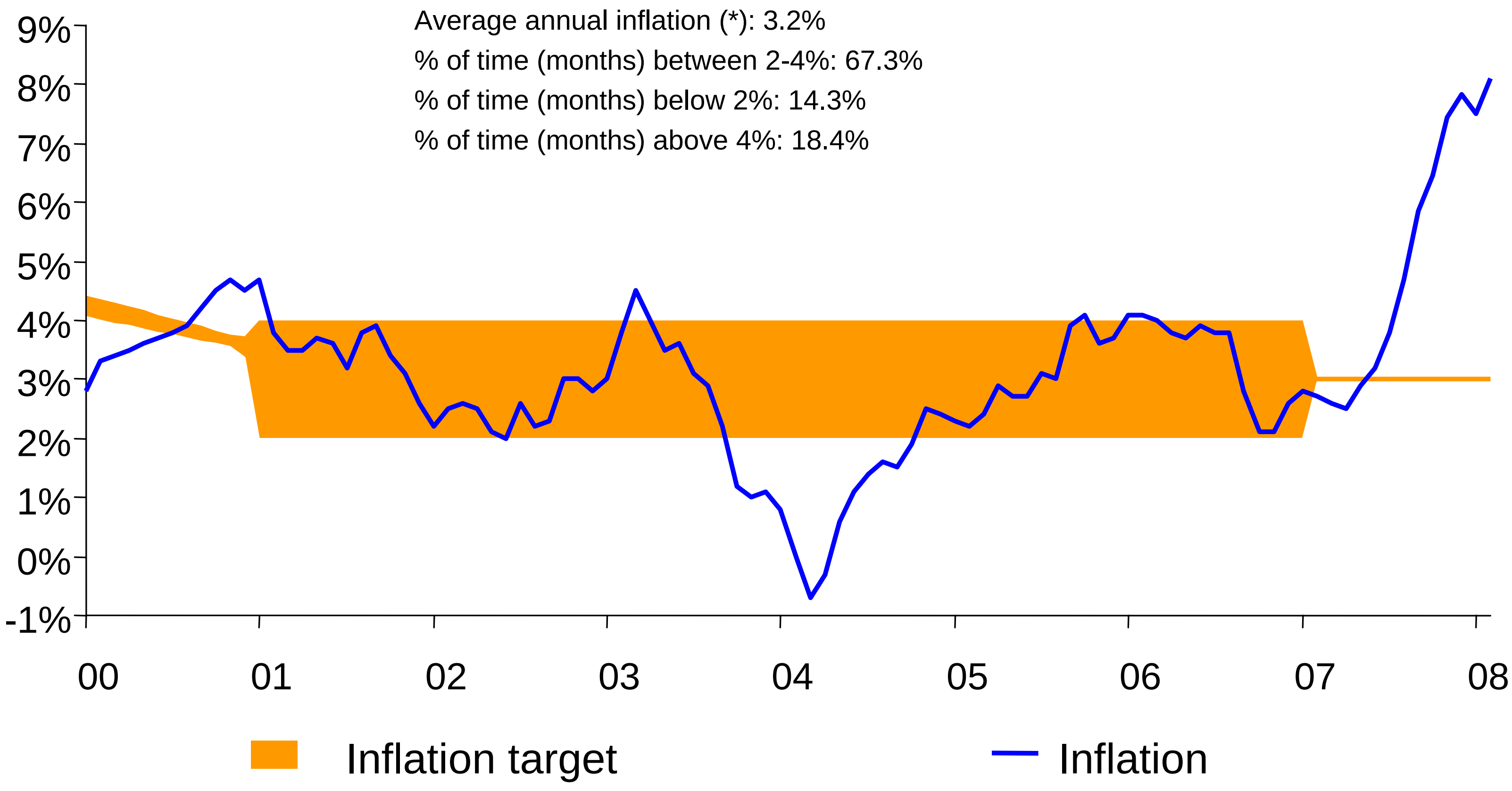
Inflation expectations



EEE= Central Bank monthly survey, BE= Inflation compensation implicit in 2 and 5 years bonds.

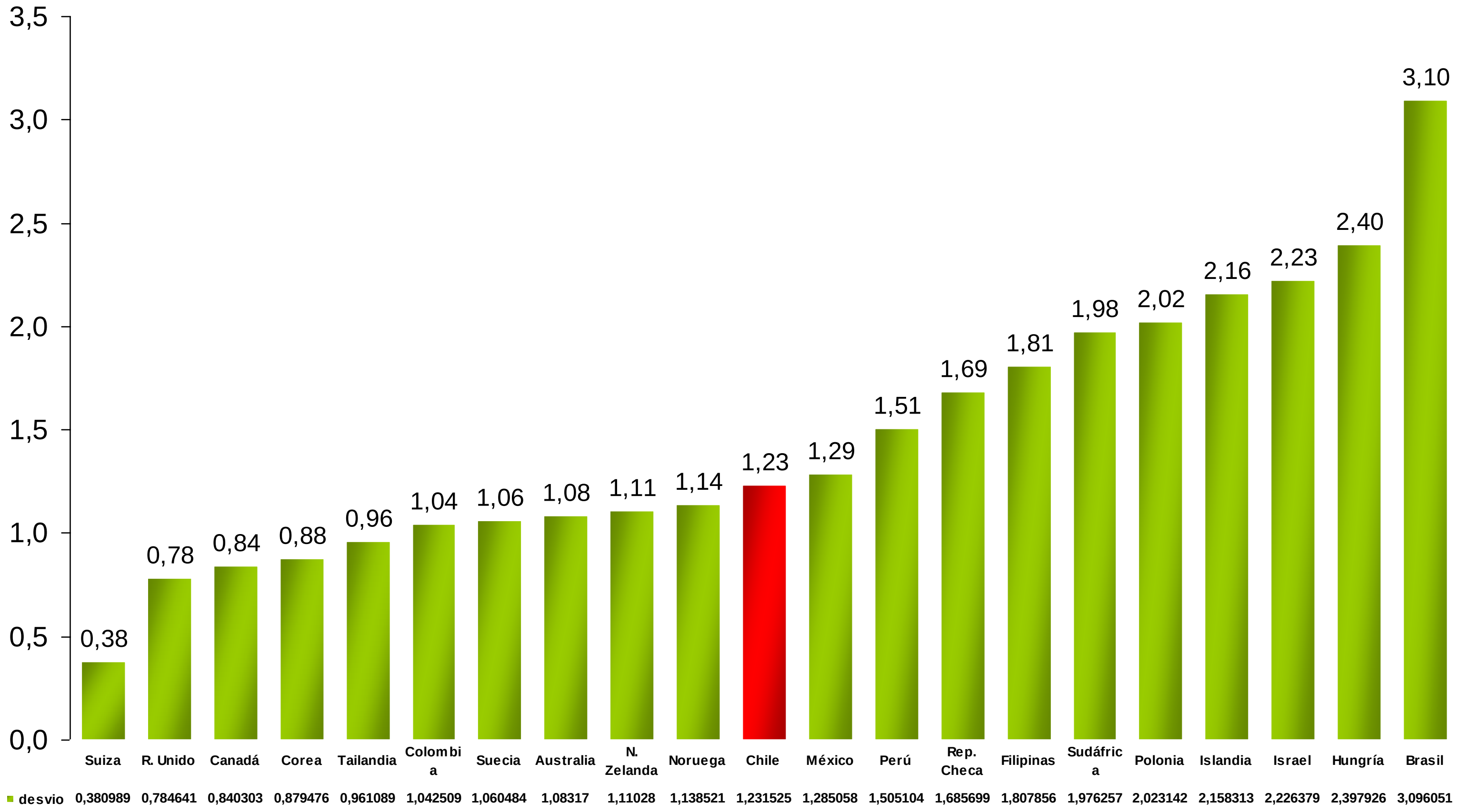
Source: Central Bank of Chile.

Deviation of inflation from target



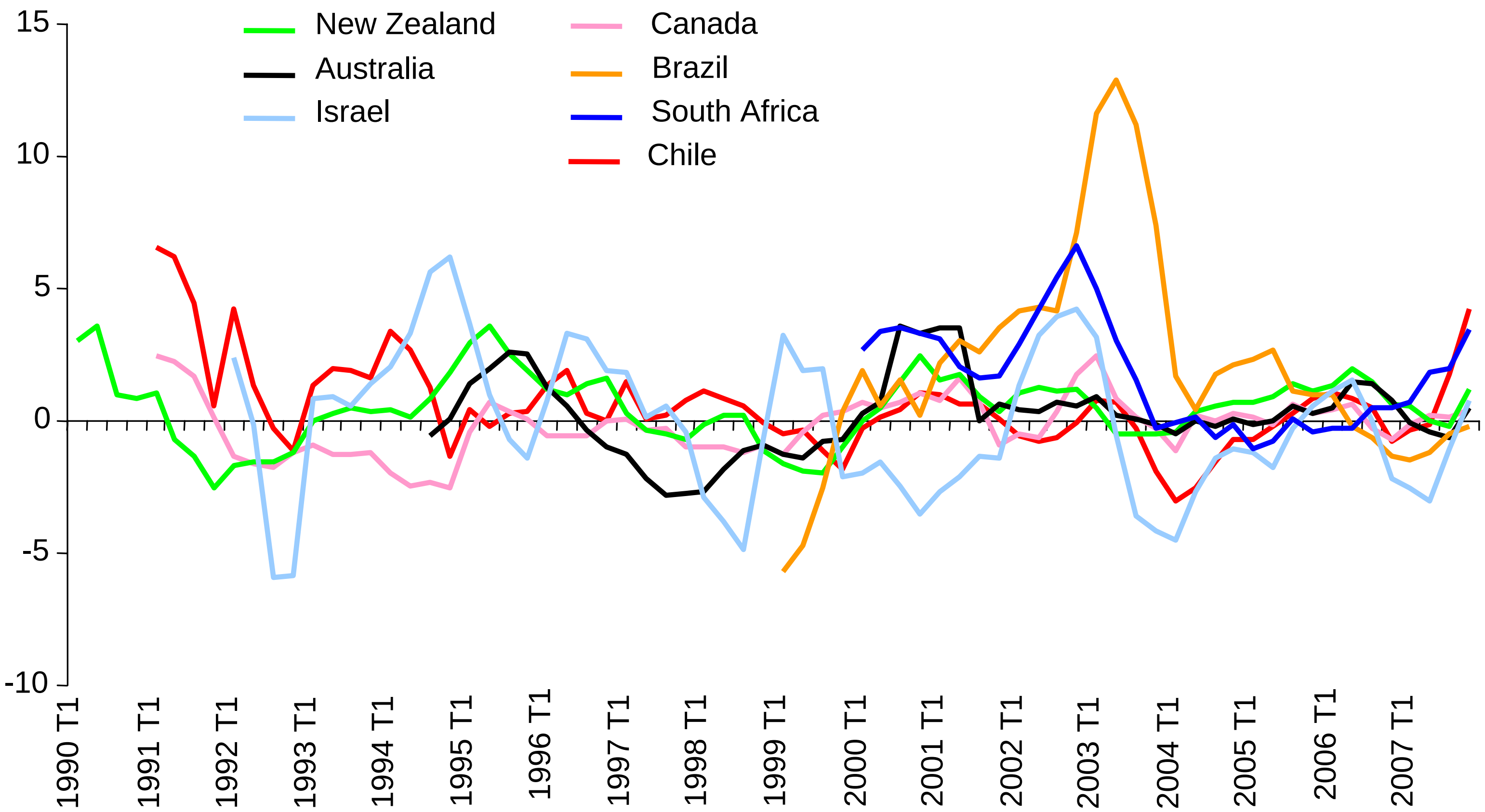
(*) January 2000- February 2008.
Souce: National Statistical Institute and Central Bank of Chile.

Absolute deviation of inflation from target
(from the starting month of IT up to December 2007)



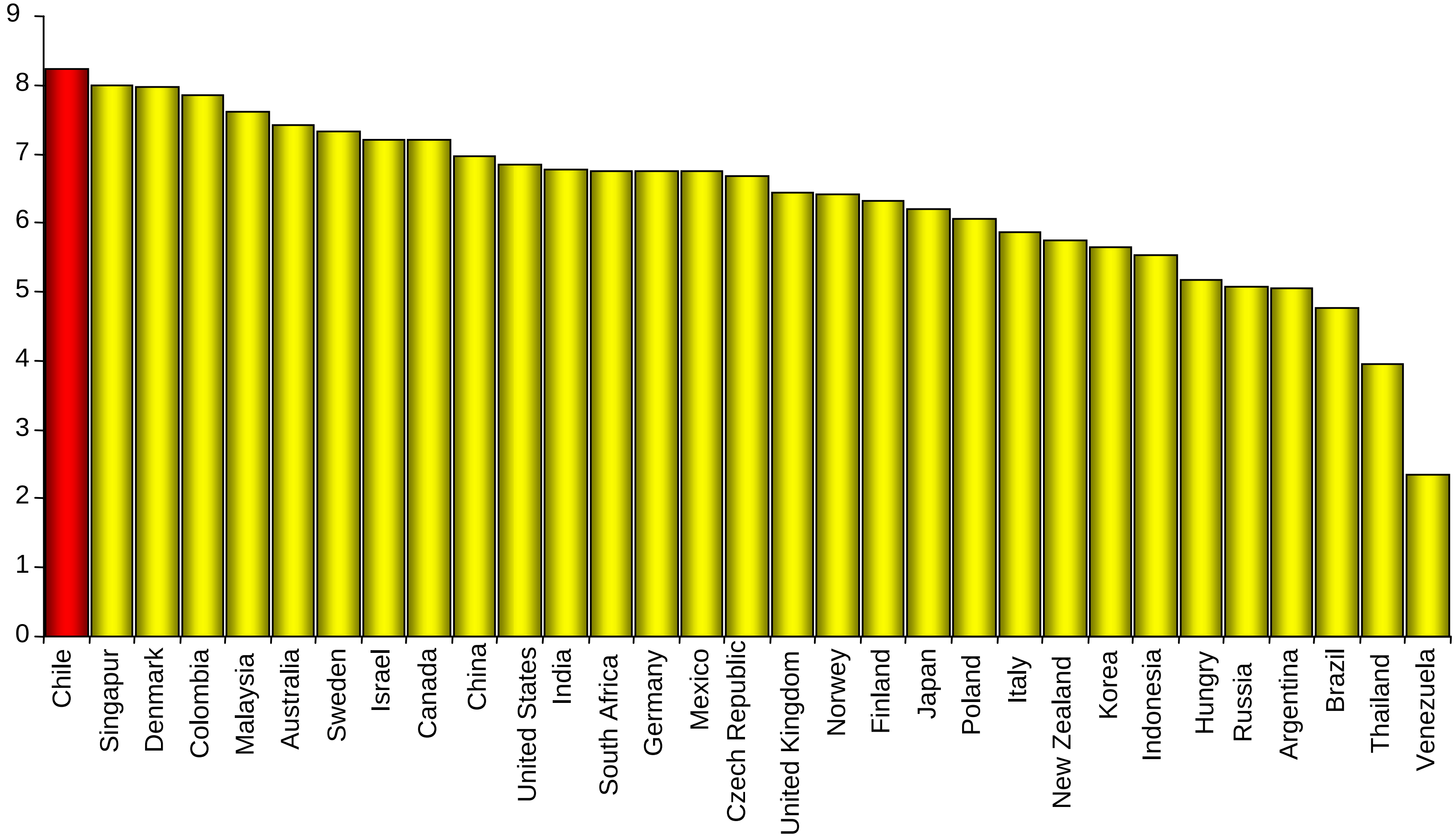
Note: Time starting point of the inflation targeting regime varies across countries.
Source: Bloomberg and Central Banks.

Deviations of inflation from target
(Percentage points)



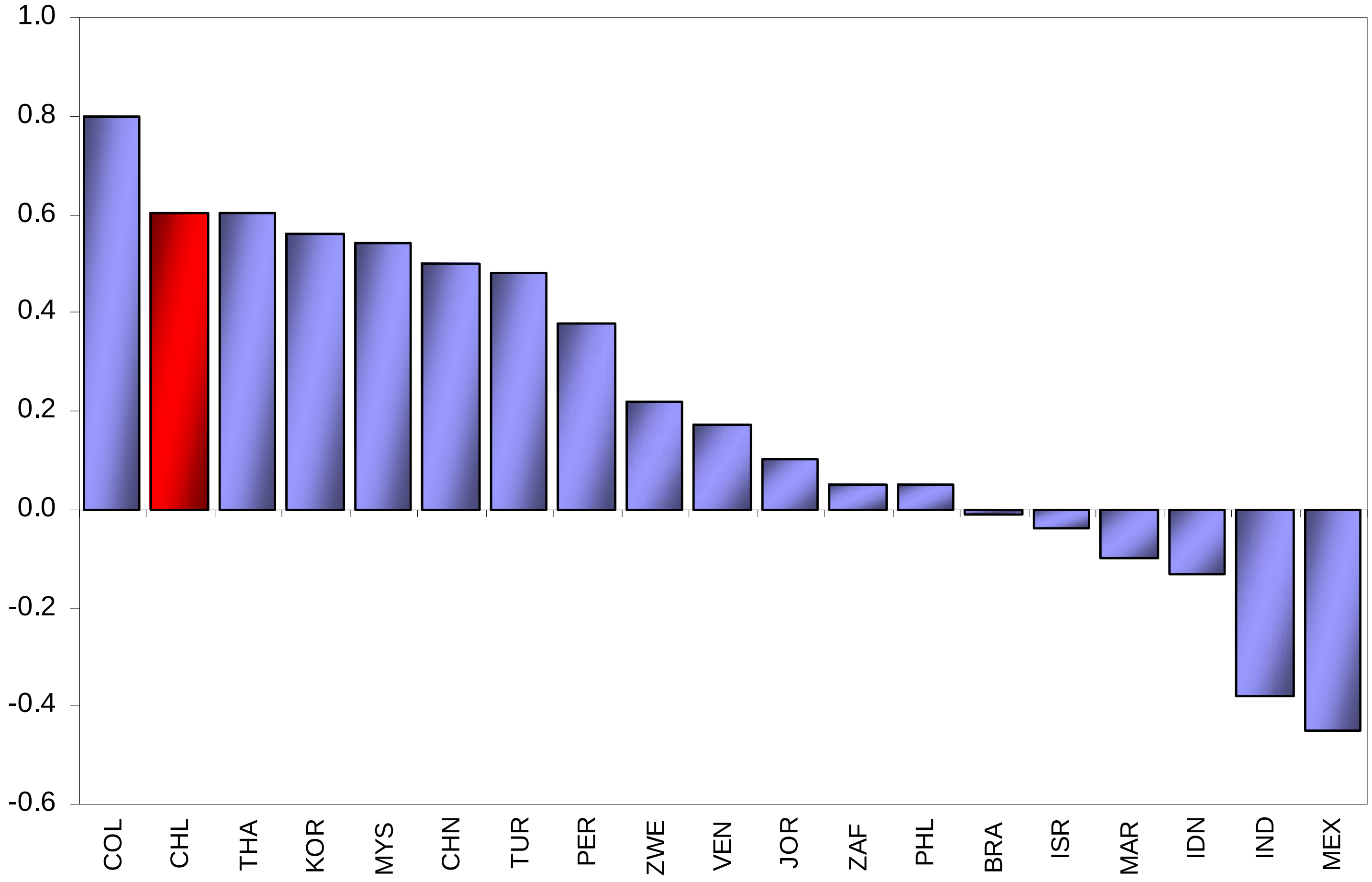
Source: Bloomberg and Central Banks.

Contribution of monetary policy to macroeconomic performance (ranking 2007)



Note: The classification scale goes from 1 to 9. The number on each bar represents the place on the ranking.
Source: *World Competitiveness Yearbook*, Institute for Management Development (2007).

Monetary policy and the economic cycle



Note: Correlation between the monetary rate and the output gap: 1990-2003.
Source: Calderón, Duncan & Schmidt-Hebbel (2003).