Inflation Targeting in Chile: Experience and Issues

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Monetary Policy in Emerging Markets organized by the
Economics Department/OECD and CCBS/Bank of England

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Agenda

- **1. Inflation targeting in Chile**
  - Inflation history
  - Institutional framework
  - IT Phases
  - Results
- **2. Recent monetary policy issues**
  - Objective and target definition
  - Future interest-rate path
  - Role of market expectations
- **3. Concluding remarks**

Inflation targeting in Chile

Inflation History

December–December inflation			
Period	Mean	Standard Deviation	Coefficient of variation
1925-2006	39.2%	89.7%	2.3
1925-1989	47.5%	99.1%	2.1
1925-1989*	24.8%	29.3%	1.2
1990-2006	7.5%	6.9%	0.9
1990-1999	10.8%	7.5%	0.7
2000-2006	2.8%	1.1%	0.4

* Excluding 1972–75 period.

Sources: Díaz et al. (2003); National Statistics Bureau.

Institutional Framework

Central Bank Independence

Indicator	1980			1990		
	Chile	All (72)	Ranking (percentile)	Chile	All (37)	Ranking (percentile)
CB Governor	0.46	0.47	46	0.71	0.57	82
CB's primary obj.	0.80	0.38	94	0.60	0.50	61
Policy formulation	0.27	0.21	72	0.75	0.53	78
CB lending	0.50	0.33	88	1.00	0.60	96
Cukierman index	0.51	0.34	92	0.88	0.58	97

Sources: Céspedes and Valdés (2006), based on Cukierman (1992); Cukierman and Lippi (1999), and Jácome and Vázquez (2005).
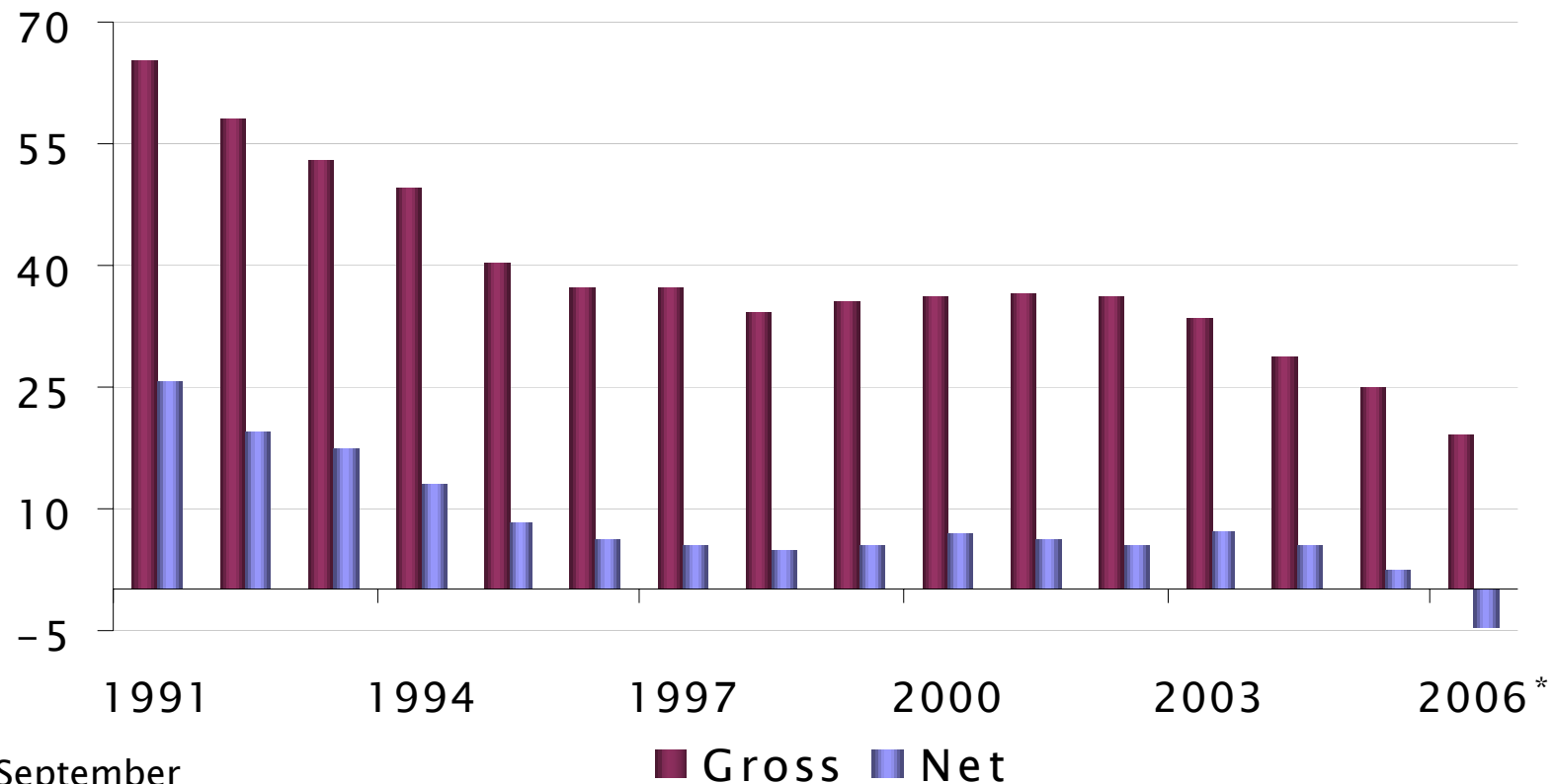
	Chile	All (93)	Ranking (percentile)
Fry et al. index (1998)	0.93	0.74	93

Source: Fry et al. (2000)

Institutional Framework

Fiscal Strength
Central Government Debt (% of GDP)

* September
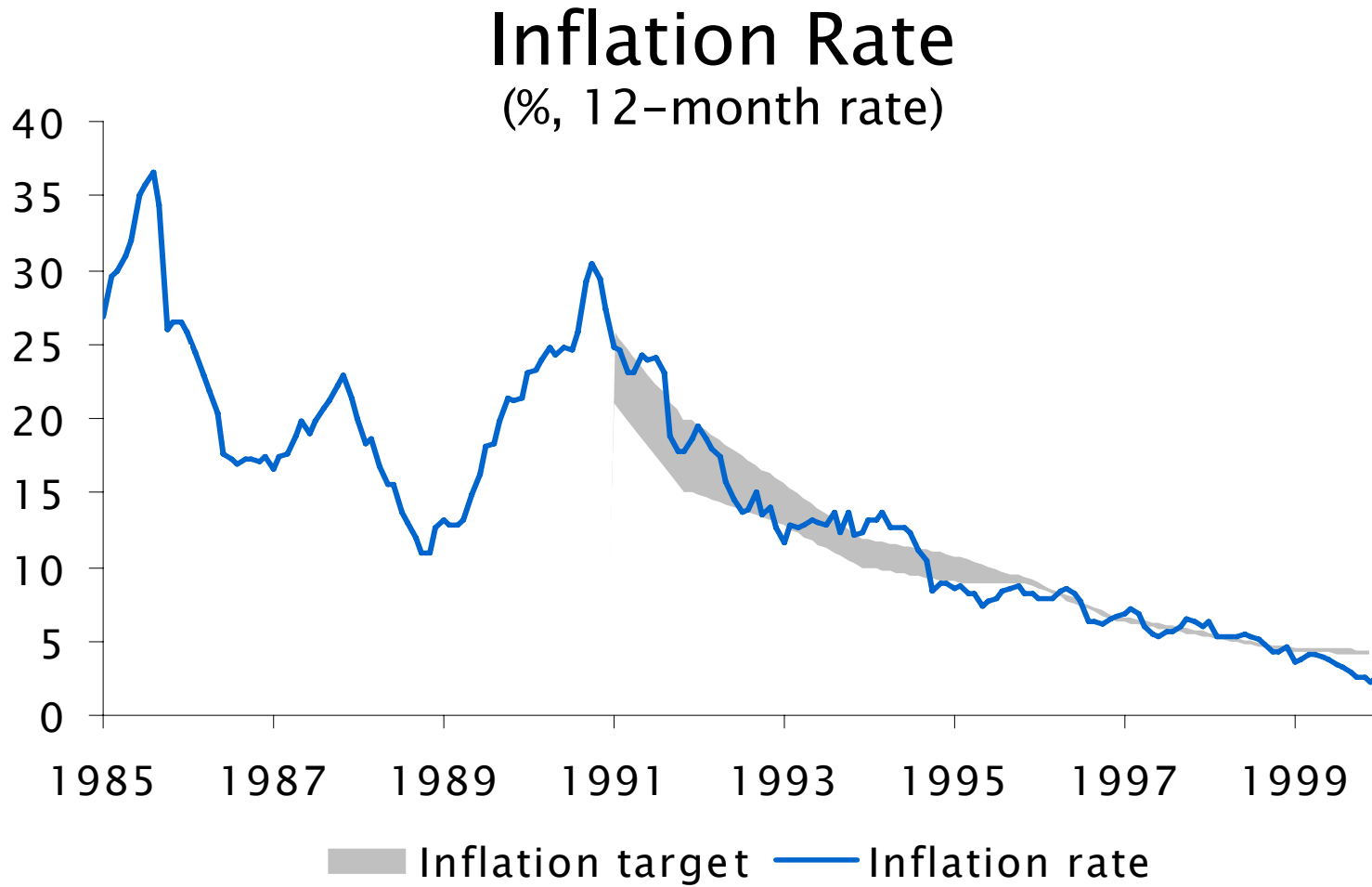
Source: Ministry of Finance.

IT: Convergence phase (1990–99)

- **Main Characteristics:**
  - Since 1989 autonomous CB with clear mandate
  - Annual targets
    - Announced every September for next year's December/December inflation.
    - Actual average horizon: 7.5 months.
    - Range target between 1991 and 1996, point target thereafter.
  - Blurred final target, but firm commitment to gradually achieve first single-digit inflation and then developed countries' inflation rates.
  - Exchange-rate target band system (current account target).
  - Selective capital controls to support an independent MP with an exchange rate target.

Inflation Rate
(%, 12–month rate)

Legend: Inflation target — Inflation rate

Sources: National Statistics Bureau and Central Bank of Chile

IT: Steady state (since Sep. 99)

- **Main Characteristics:**
  - Floating exchange rate regime
  - Permanent inflation target
    - 2%–4% in 2000–2006
    - Most of the time 3% +/– 1% since 2007
  - MP horizon over the medium term
    - 12–24 months in 2000–2006
    - Around 2 years since 2007
  - A number of the standard bells & whistles
    - Inflation reports every 4 months
    - Detailed minutes of MP meetings after 3 weeks
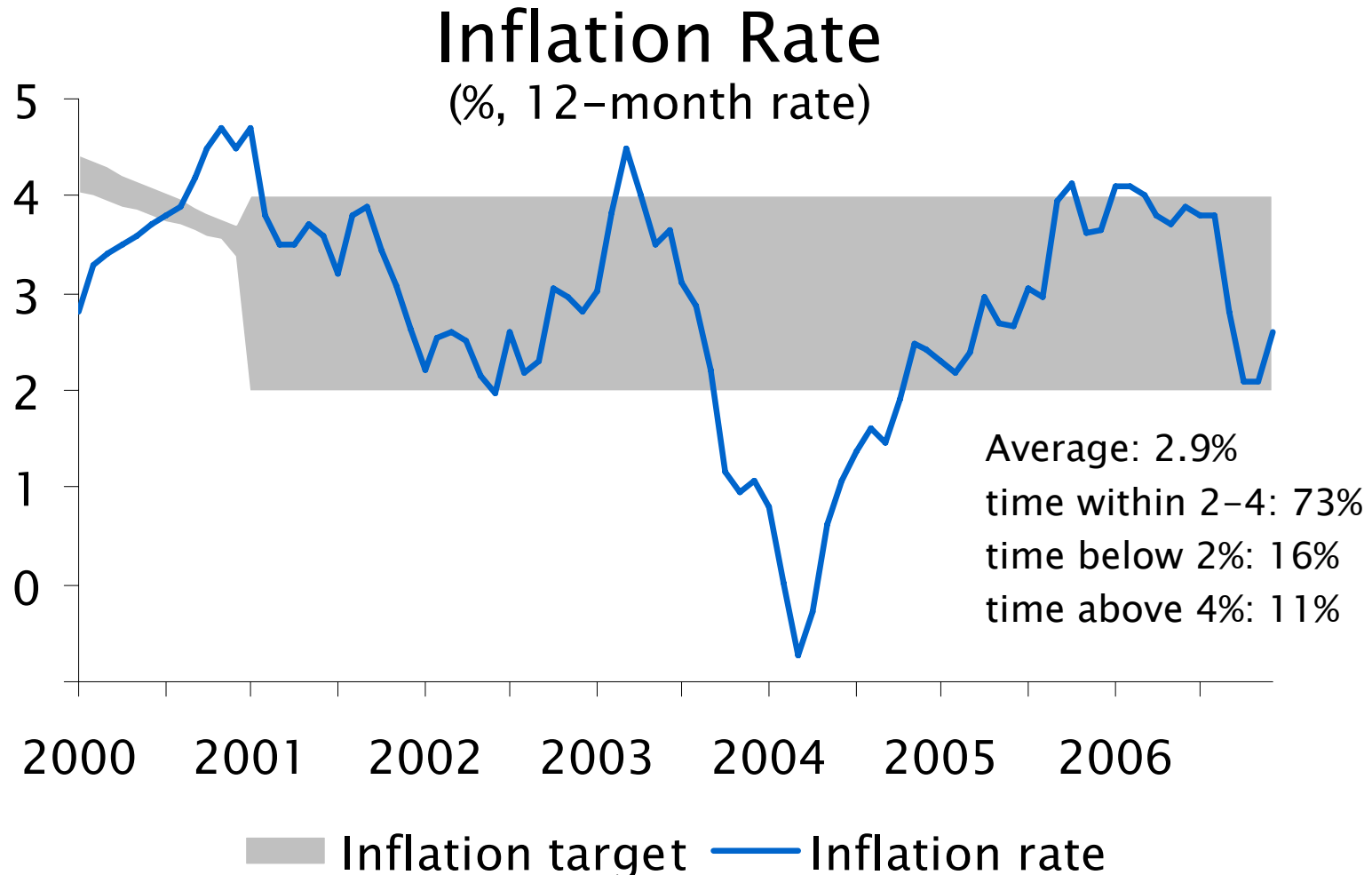   - Pre-announced MP meetings

IT: Steady state (since Sep. 99)

- Key companions:
  - Fiscal rule since 2000.
    - Budget such that Central Government structural surplus = 1% of GDP.
    - Cyclical adjustment for tax and copper revenues.
    - Avoids sudden changes in fiscal expenditures and procyclicality.

  - Healthy financial system supported by strong institutions (prudential supervision and effective regulation).
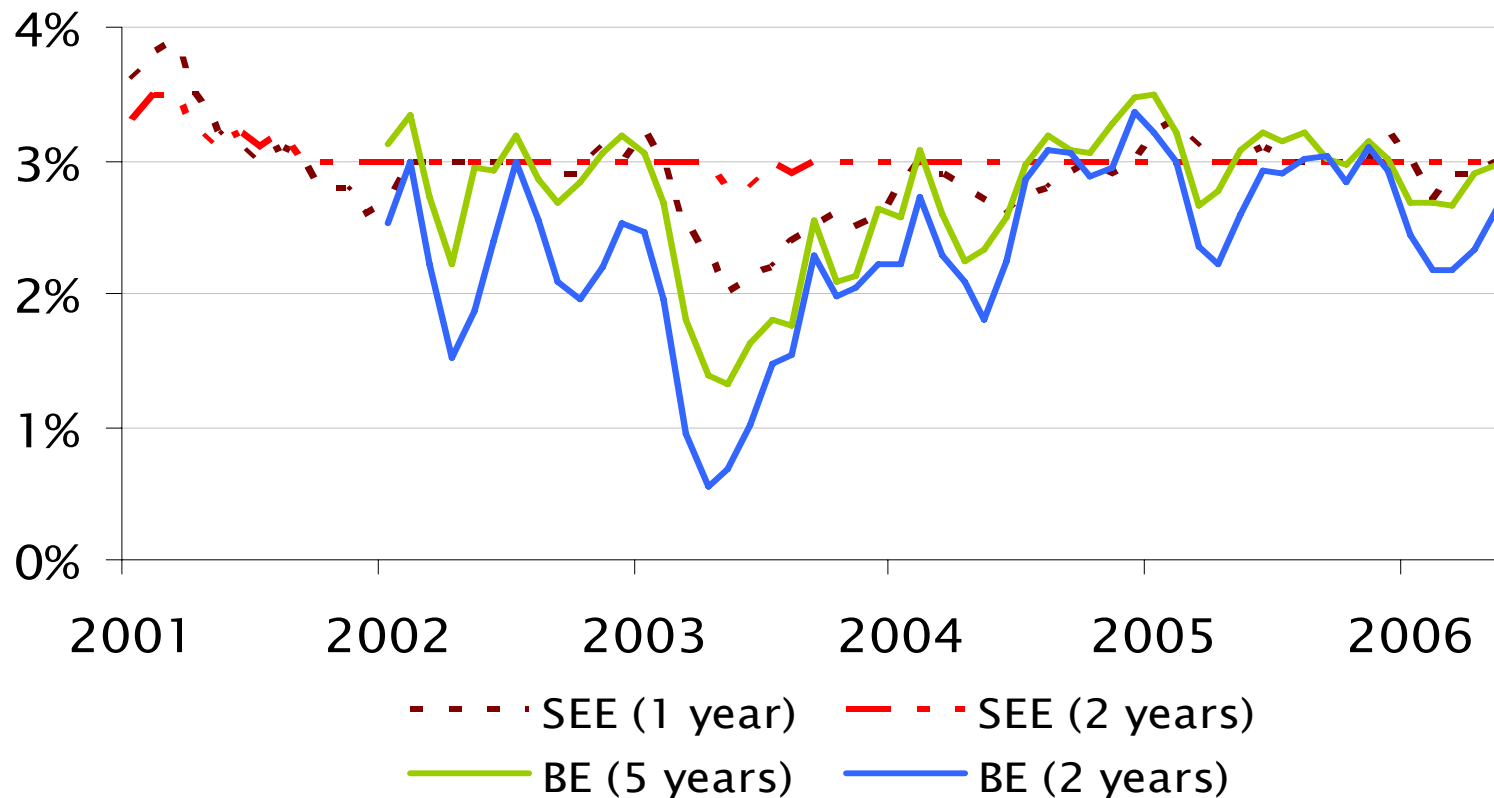
Inflation Rate
(%, 12–month rate)

Average: 2.9%
time within 2–4: 73%
time below 2%: 16%
time above 4%: 11%

Inflation target   Inflation rate

Sources: National Statistics Bureau and Central Bank of Chile.

Inflation Expectations Anchoring
Survey and Break-Even Inflation

Legend:
- SEE (1 year)
- SEE (2 years)
- BE (5 years)
- BE (2 years)
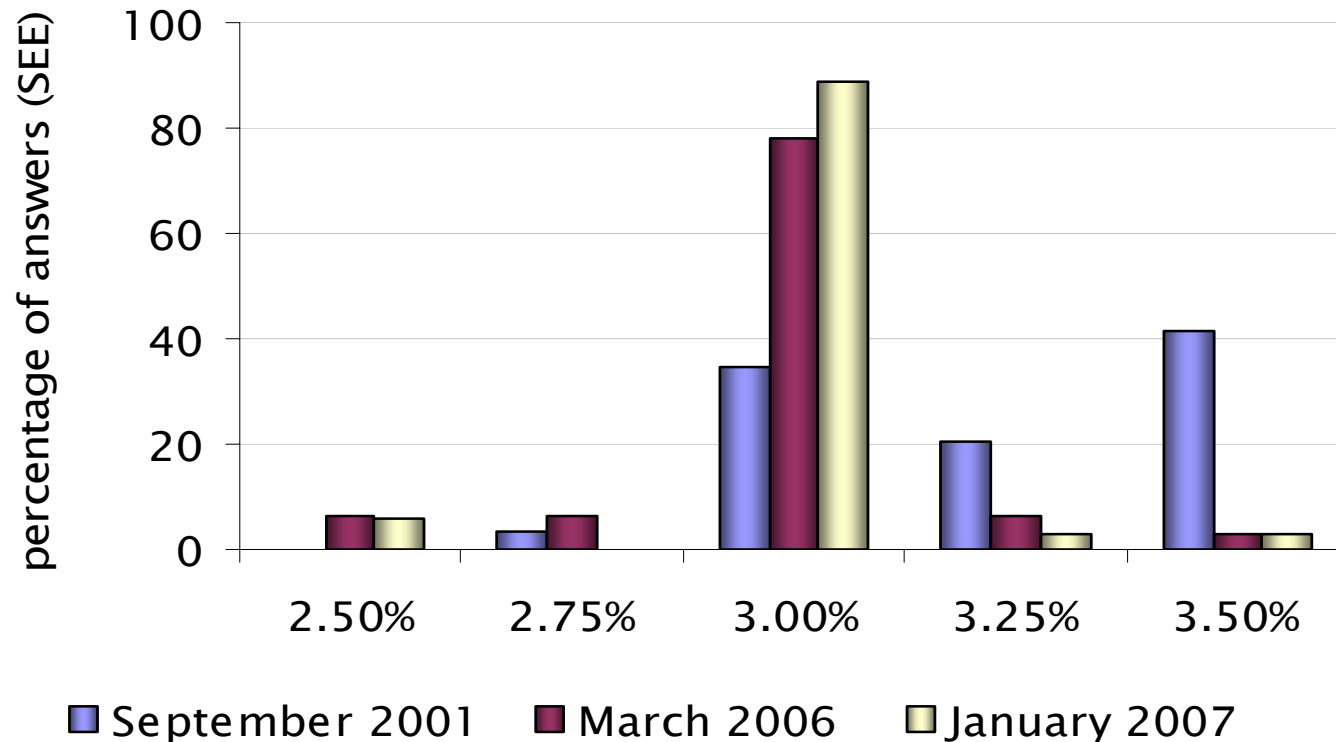
Source: Central Bank of Chile.

Inflation Expectations Anchoring
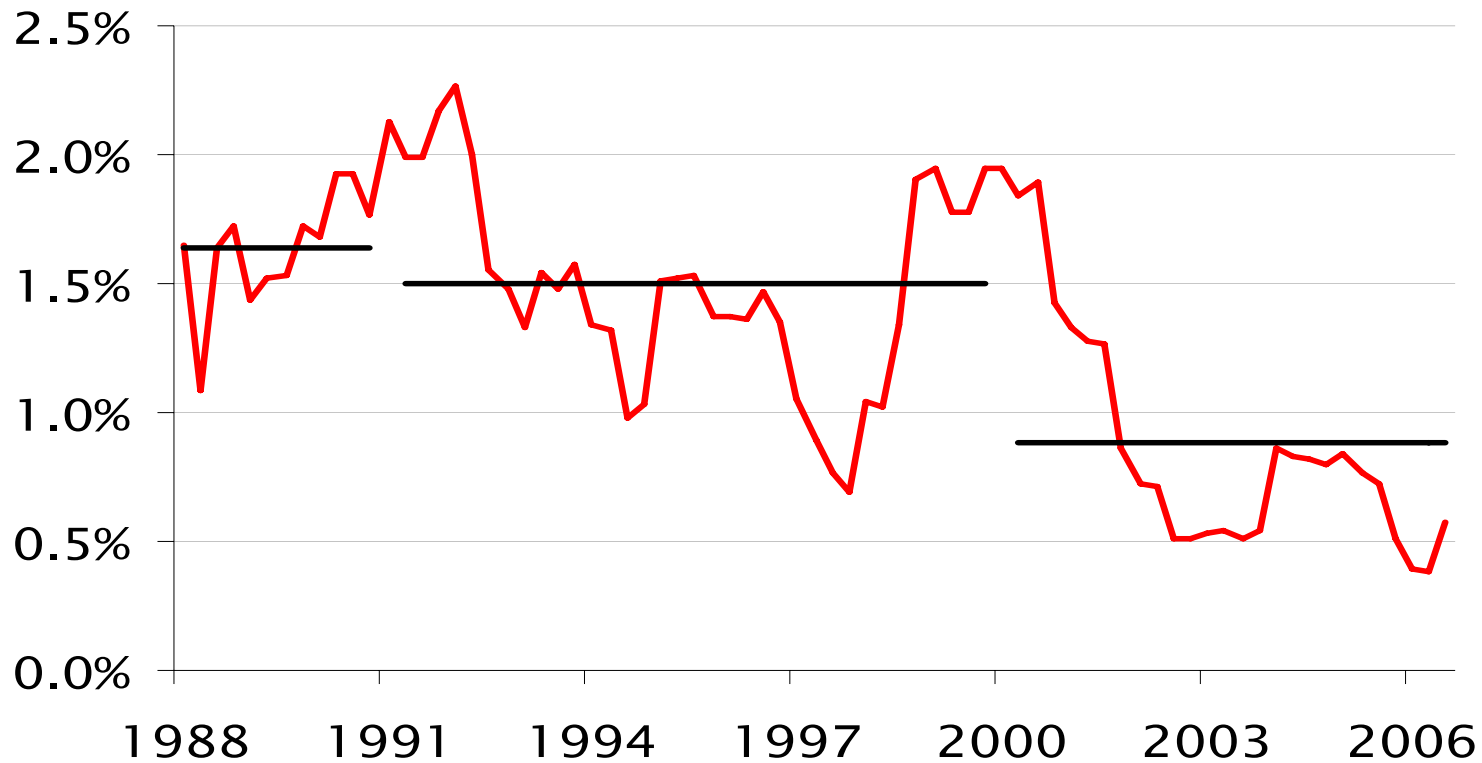### Two-year Expected Inflation Distribution (Survey)

Source: Central Bank of Chile.
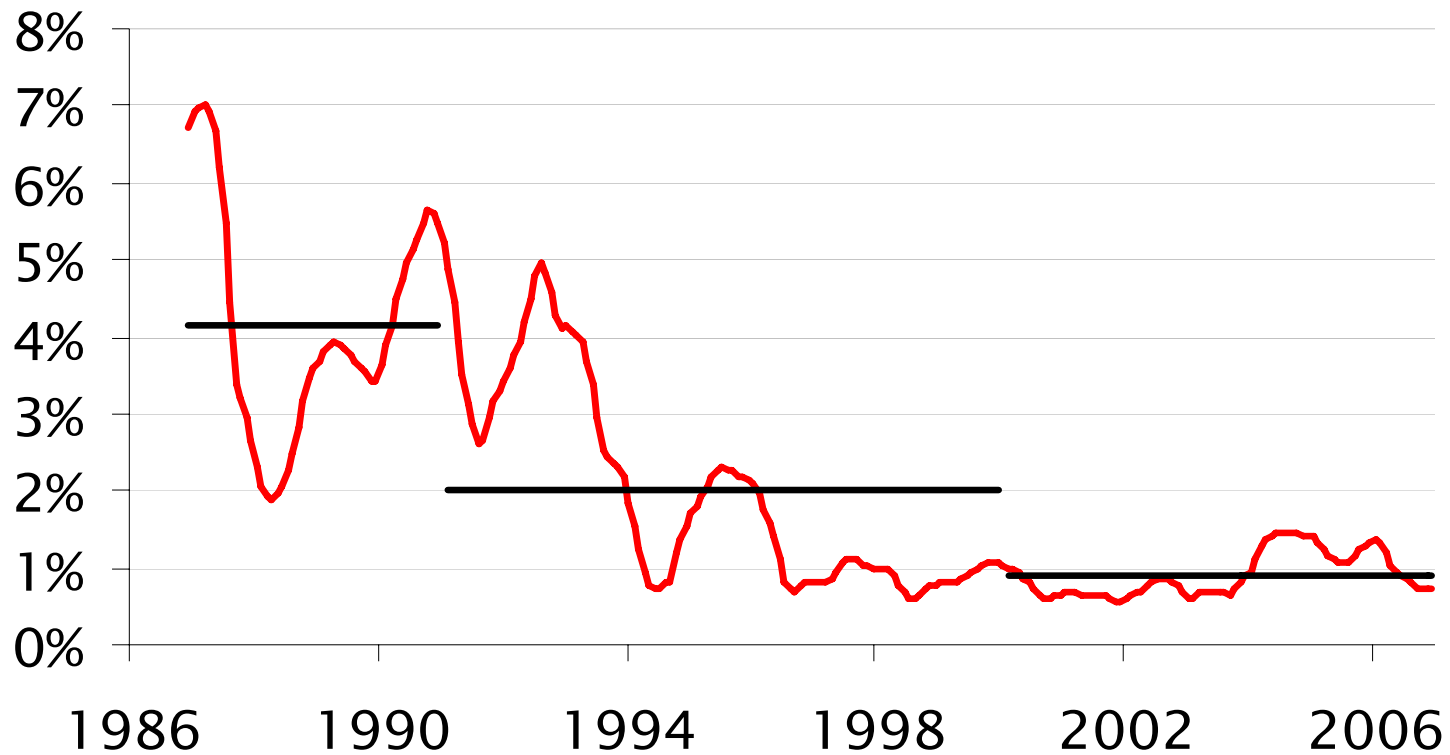
Results

GDP–Growth Volatility (%)

Two–year moving sample standard deviation of quarterly growth.

CENTRAL BANK OF CHILE

FEBRUARY 2007

Inflation Volatility (%)
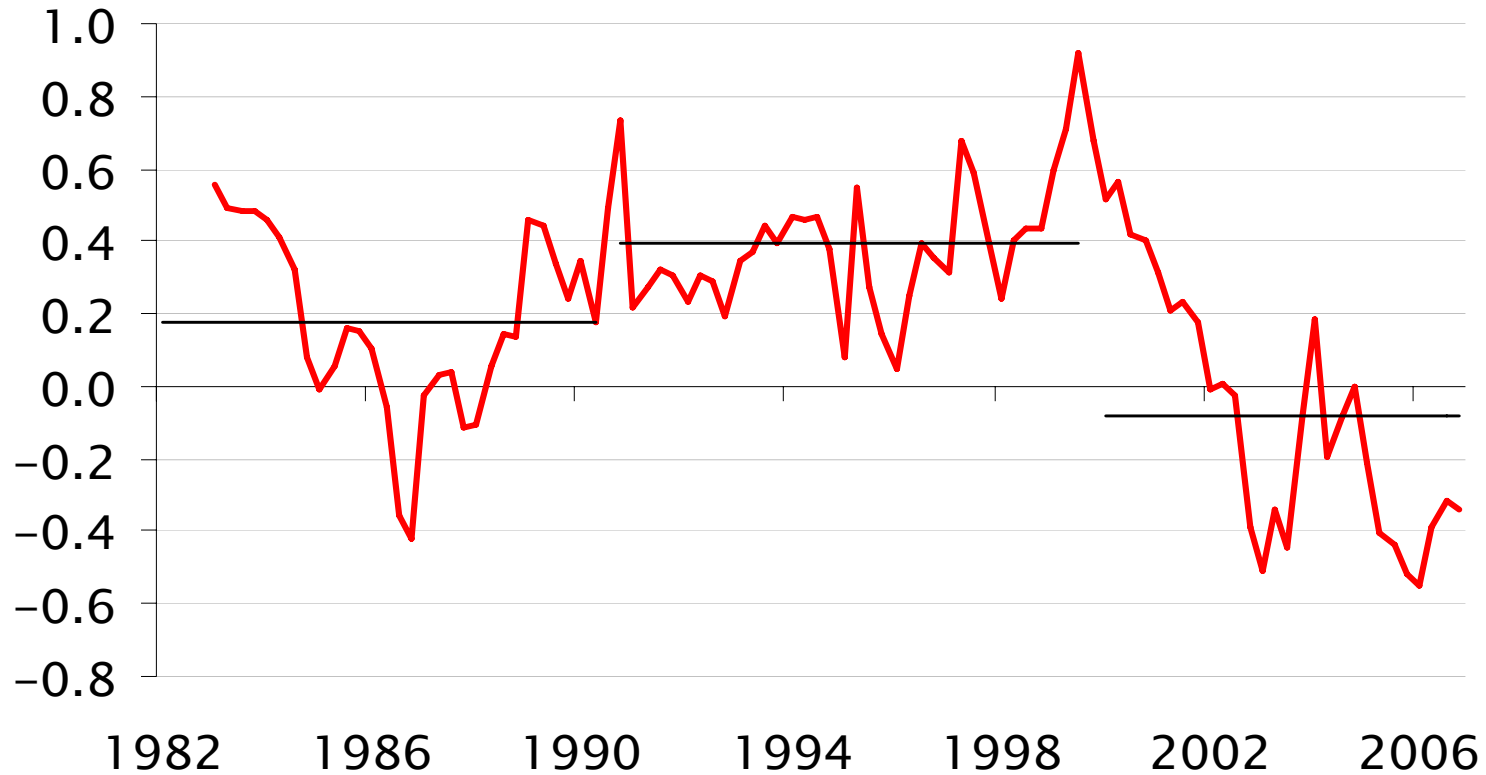

Two-year moving sample standard deviation of the inflation rate.

Inflation Persistence

Sum of autoregressive coefficients in a linear model for quarterly inflation (rolling estimations)

Results

Monetary Policy*

$$r_t - \bar{r} = \beta_r(r_{t-1} - \bar{r}) + (1 - \beta_r)[\beta_\pi(\pi_t - \bar{\pi}) +$$

$$\beta_x(y_t - \bar{y}) + \beta_{rer}(rer_t - re\bar{r})] + \varepsilon_t$$

	Fixed coefficients
β_r	0.8 (0.04)
β_π	1.37 (0.12)
β_x	0.27 (0.06)
	Varying coefficient
β_{rer} (1991-1999)	0.12 (0.03)
β_{rer} (2000-2005)	0.06 (0.03)

* Bayesian estimates for a small open economy DSGE model using Chilean data (sample: 1991:Q1–2005:Q4)
Source: Caputo et al. (2006). Standard errors in parentheses.

Monetary policy issues

Objective and target definition

- ## 1991–1999 targets: Dec./Dec. inflation.

  - Gradual reduction of targets given inflation inertia.

  - Poor past experience with sustainability of previous stabilization attempts (1962 and 1982).

- ## 2000–2006 target: Maintain inflation in a 2–4% range, centered in 3%.

  - Stable and permanent inflation target.

  - Consistent with MP transmission and lags.

Objective and target definition

- **Since 2007 (special document):**

  - Objective: To keep annual CPI inflation most of the time around 3%, within a +/- 1 pp tolerance range.

    - Aimed at strengthening 3% as the nominal anchor of the economy.
    - Recognize it can be transitorily out of 3+/-1.

  - Operational target: Inflation forecast = 3% in a policy horizon of around 2 years.

    - In line with actual MP implementation in practice.
    - Current trend in CBs – lengthening horizons.

Future monetary policy rate path

- As other CBs, the CBC initially included an explicit "fixed MPR" during the policy horizon in its forecast.

- In 2002 moved to a "non credible fixed MPR".
  - A fixed rate implied:
    - Large jumps after the policy horizon
    - Overly restricted activism – time to undo changes?
  - Forecast included a shadow MPR (rule-based) for determining the exchange rate and long-term interest rate.

Future monetary policy rate path

- **In Sept. 2004 we moved to a rule-based assumption.**
  - Partial solution implied implausible MP shock responses.
  - Rule was not published.
  - Internal discussion separated more clearly the MP strategy from implementation (timing) issues.
    - Model usefulness is limited for the latter.
  - External communication gives broad contours of the assumption.
    - Some comparison with market expectation implied in financial markets
    - Risk of excessive precision when CB communicates a long pause.

Role of market expectations

- Broad question: How much weight should be given to market expectations?
  - Expected inflation:
    - Not 100%, because of "mirror game" danger.
    - Not 0%, because they check anchor credibility.
    - More complex issue: discrepancy between CBC and market – January 2007 MP meeting
  - Interest rates:
    - CB strategy needs to be understood – broad trajectory in financial prices.
    - But, should MP changes be anticipated? Interest rate cuts have generally not been anticipated.

Concluding Remarks

- ## IT has served Chile well.

  - ### Macroeconomic pillars plus IT have allowed the Chilean economy to have sustainable low inflation.
  - ### Today 3% acts as a true inflation anchor.
  - ### "Great moderation" observed elsewhere appears clearly in Chilean data.

- ## IT raises the possibility of improvement and learning; it is a far from a rigid system.

  - ### Only three particular aspects have been discussed, but there are many others.

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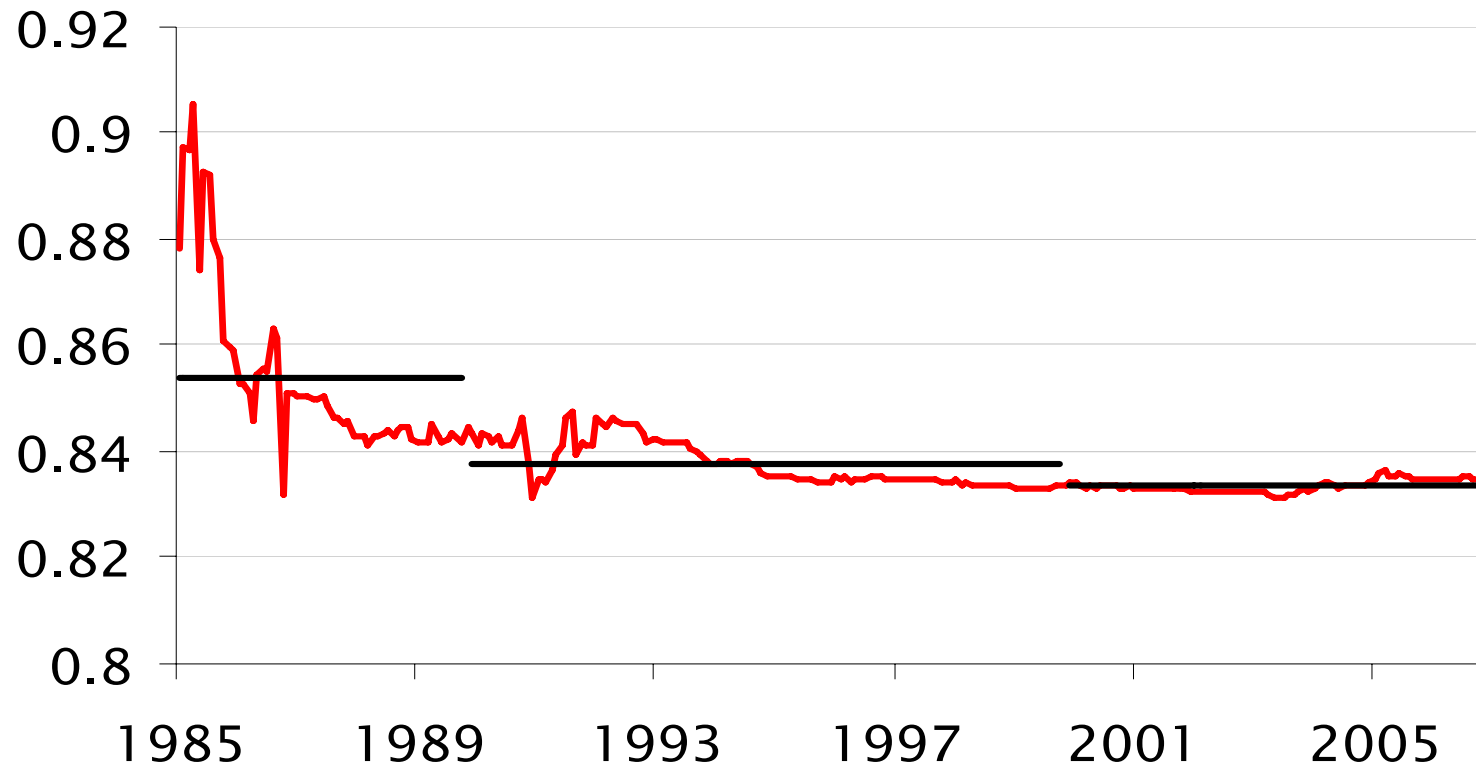
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Inflation Persistence (II)*

* Sum of autoregressive coefficients in a linear model for inflation deviations (HP cyclical component before IT adoption)