Vittorio Corbo: Monetary policy in emerging countries – the view from Chile

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Emerging economies have recorded major progress in the conduct and results of monetary policy during the last two decades. This achievement is due to implementation of more robust and transparent monetary regimes, complemented by adoption of flexible exchange rates, sustainable fiscal policies, and stronger financial systems. Among emerging economies, Chile's experience is of particular interest. It shows that monetary stability can be attained as a result of coherent policies, overcoming decades of macroeconomic instability and weak credibility.

This presentation documents the improvement of monetary policy conduct and results in emerging economies in general and Chile in particular. Section 1 summarizes the overall trend and specific components of macroeconomic adjustment observed in emerging economies. Chile's transition toward its current monetary policy framework, based on full-fledged inflation targeting, is described next. Section 3 analyzes and documents the results of improved monetary policy in emerging economies and in Chile during the last two decades. Brief conclusions close the presentation.

1. Macroeconomic adjustment in emerging economies

Macroeconomic management in emerging markets has improved substantially in the last decade. In particular, the very favorable world economic conditions that have resulted in important terms of trade gains have been associated this time to fiscal prudence, complementing monetary and exchange-rate policies aimed at achieving and maintaining price stability.

Four areas of macroeconomic adjustment: Fiscal, monetary and exchange rate policies, and the financial system

The main changes that have taken place are in four key areas: (i) adoption of sustainable and responsible fiscal policies, reflected in declining fiscal deficits in most emerging economies (figure 1); (ii) adoption of floating regimes or hard pegs, moving away from intermediate exchange-rate (ER) regimes; (iii) shift of monetary policy (MP) anchors from ERs or monetary aggregates to an inflation-targeting (IT) anchor, particularly in Latin America; and (iv) these changes have been accompanied by the strengthening of regulation and supervision of financial systems, supporting strong financial development.

Shift toward more flexible ER regimes

The world shift toward more flexible ER regimes has been pronounced. The evidence shows a significant shift away from intermediate regimes. In 1990, nearly 70% of all countries were pursuing some variant of intermediate ER regimes, a share that dropped to 41% by the end of the 1990s, and further to 30% in 2004 (figure 2)[1].

Exits from intermediate regimes were more frequently towards floats rather than to hard pegs. The share of floaters increased from 15% in 1990 to 45% in 2004 while, on the other extreme, the share of hard pegs rose from 15% to 26% during the same time span. The latter increase in hard pegs reflects, to some extent, the establishment of the European Monetary Union in 1999. The share of countries with crawling pegs – a very popular regime among higher-inflation economies – dropped from 14% in

[1] A new IMF database of *de facto* ER regimes adopted by IMF member countries allows to classify countries into three broad ER regimes: hard pegs (formal dollarization, currency union, and currency boards), intermediate regimes (conventional fixed pegs, crawling pegs, crawling bands, and tightly managed floats), and floating ER regimes (managed float with no predetermined ER path and independently floating rates).

1990 to 6% in 2001. In contrast, countries with a crawling band or a tightly managed float rose from 10% at the beginning of the 1990s to 31% by the year 2001. Crawling bands offer – at least in the short-term – more flexibility in coping with volatile capital flows and avoiding extreme ER misalignments, than rigid ER regimes. Tightly managed floats, on the other hand, keep the anchoring role of the exchange rate without committing to any explicit target parity.

The transition of ER regimes has come with a shift of MP regimes based on an ER or monetary-growth anchor to an IT framework, particularly in emerging economies. The number of countries under IT rose from 8 in 1999 to 21 in 2004 (tables 1-2), and many more are considering to adopt IT in the near future. This transition in MP regime has been more pronounced in Latin America. While in 1994 twelve countries in the region had in place an ER anchor, and four others had a monetary growth anchor, by 2004 only three countries remained with an ER anchor. The transition of policy frameworks during 1994-2004 led to a significant rise in the number of Latin American countries with a floating regime (from three to twelve countries) and an inflation targeting framework (from one to five countries).

2. Chile's transition to its current monetary policy framework

The macroeconomic institutional and policy framework of Chile has been transformed radically in the last 25 years, from one that made stabilization an exceptional result to one that has facilitated achieving price stability.

Chile's current macroeconomic framework is based on four pillars: (i) an autonomous Central Bank with the explicit mandate of safeguarding stability of prices and payments; (ii) a low public-debt to GDP ratio and a fiscal policy rule anchored to a structural fiscal surplus; (iii) a robust financial system, with a dynamic, competitive, and well capitalized banking industry, appropriately regulated and supervised; and (iv) a full-fledged inflation targeting monetary framework, complemented by a floating ER regime.

Substantial progress was made in CBC autonomy since the 1980s, when autonomy was very weak, even at lower levels than in the average emerging economy. The granting of legal independence in 1989 through constitutional law, led to a much improved position in the international ranking of central bank autonomy. Particularly economic independence of central banks – the freedom of taking policy decisions independently of political interference – places Chile well above the average level of independence of both emerging and developed economies in 2003.

Chile has shown a responsible fiscal policy, which has contributed significantly to successful monetary policy. During the 1990s, the fiscal balance averaged a surplus of 1.5% of GDP. The above-mentioned structural fiscal surplus rule stabilizes government spending over time, by linking it explicitly to permanent government revenue. Therefore fiscal dominance of monetary policy is ruled out in Chile, as a result of central bank autonomy and Chile's sound fiscal policy.

Public debt has shown a substantial decline since the 1990s, as a result of prudent fiscal policy. The share of consolidated gross public debt has been reduced from 76% of GDP in 1990 to 20% of GDP in 2006, whereas the consolidated net public debt position turned from 34% of GDP in 1990 to -6% in 2006 (figure 3). The successful performance of the fiscal position has been enhanced by the fiscal balance rule applied since 2001 (figure 4).

Chile's good growth performance, complemented by a market-based incentive structure, appropriate regulation and sound supervision of the financial system, has resulted in a safe and sound financial system and deep capital markets.

As a result of the major banking crisis that came with the deep 1982-1983 recession, the 1986 Banking Law enhanced regulation and supervision of the financial system. Since then, the financial system has developed around a well-managed and capitalized banking sector that is both healthy and competitive. This feature also rules out financial dominance of monetary policy in Chile. The CBC shares normative attributions with a specialized public institution, focusing on the formulation of financial regulations applicable to monetary markets.

Chile's financial system strength has been acclaimed by international credit rating agencies. Moody's *Financial Strength Ranking* places Chile's financial strength close to the top of industrial countries (figure 5).

Monetary policy framework: Central Bank charter and its objectives

Although the road to CBC autonomy began in the mid-1970s, the 1989 Constitutional Law of the CBC specified the Bank's objectives and granted CBC the necessary instruments to comply with its legal mandate. Since 1989, the CBC is an autonomous, technical institution, governed by the Constitution, with full legal capacity, control of its equity, and of indefinite duration.

The constitutional law establishes two objectives for the CBC. The first objective is to preserve the stability of Chile's currency. This means avoiding loss of purchasing power due to inflation. The latter objective is achieved through ensuring that inflation remains low and stable. The second objective of the CBC is to ensure the normal functioning of domestic and external payments, by safeguarding the financial sector's primary functions of credit and savings intermediation, provision of payment services, and proper risk allocation by financial markets.

CBC's Constitutional Law prohibits CBC credit to the government. In order to contribute to policy coordination and information sharing, and minimizing potential conflict between fiscal and monetary authorities as a consequence of CBC autonomy, the Constitutional Law mandates participation of the Finance Minister at monetary policy meetings, without voting rights but with the temporary right of suspending a Board decision. Furthermore, the Law states that CBC policy decisions must take into account the government's general economic policy orientation.

Overview of the evolution of MP framework

The Chilean experience with IT can be split into two periods. The first one – from 1991 to 1999 – falls short in many aspects of a full-fledged inflation targeting framework. This first phase featured more than one anchor (an ER band, in addition to the inflation target) and low levels of MP transparency and communication. The second phase – from 2000 to the present – features a single inflation target and an active communication strategy for MP.

In the context of reporting the annual monetary program to the Congress, the CBC announcement of an annual inflation target arose as a natural response to the legal mandate for price-level stability. In 1991, the first official target – at a 15%-20% annual target range – was publicly announced in September 1990 for the Dec. 1990–Dec. 1991 rate of annual CPI inflation. From 1990 to 1996, targets were set annually as target ranges in September for the subsequent calendar year, and from 1997 to 1999 as target points (figure 6). Between 1991 and 2001, annual targets were lowered by 1.5 percentage points per year on average.

Inflation performance improved considerably during this period, achieving a reduction from 20%-30% annually to low single-digit rates. However, independence and effectiveness of the MP were hindered by conflicts between the exchange-rate-band, annual inflation targets, and capital controls.

Transition to a full-fledged IT framework was implemented when inflation was converging to 3%, monetary policy was strengthened by attainment of inflation targets, the ER band was replaced by a floating ER regime, and capital controls were fully abolished.

From 2000 to 2006, the target was defined for annual CPI inflation at a range of 2% to 4%, and the monetary policy horizon was defined as 12 to 24 months. Since 2007, the MP objective is to keep annual CPI inflation rate most of the time at around 3%, within a symmetric tolerance range of one percentage point, focused on a policy horizon of around two years. This target redefinition strengthens the 3% level as the nominal anchor of the economy, while recognizing that inflation can temporarily deviate from the 3+/-1% range to accommodate transitory shocks. In parallel, the horizon for monetary policy was extended to around two years. The latter changes were largely an explicit acknowledgment of how monetary policy had been conducted during preceding years.

Transparency and communication

In the last decade, central banks around the world have significantly improved their communication with the public and the markets. This provides institutional legitimacy and substantive accountability. More transparency and better communication also improve MP effectiveness, contributing to a better understanding of MP by the private sector. MP affects spending decisions, output, and prices more through its effects on market expectations on the future course of monetary policy, rather than through the direct effects of a change in the short-term MPR.

Since 2000 the CBC has made a large effort to deliver more and better information to the markets and to explain how its IT regime operates. A series of communication devices were developed, including disclosure of relevant data with a minimum time lag and making information available on the CBC website, a significant number of technical publications, including the *Monetary Policy Report* (with a four-monthly frequency, since May 2000); the *Financial Stability Report* (semi-annual, since 2004); the *Monetary Policy Framework* document (updated in January 2007, previous in May 2000), and Projection Models book (since 2003). The CBC publishes monthly MP meeting dates six months in advance (since 2000), the summary of MP minutes with the Board members' voting decisions (since 2000), and background information on MP minutes (since July 2005). The time lag for the release of the minutes was lowered first from 90 to 45 days, and then to five days before the next monthly MP meeting.

3. Monetary policy results in emerging economies and in Chile

Convergence of inflation to developed-country levels

There are several empirical studies exploring how emerging economies in general, and Chile in particular, have benefited from implementation of an IT regime. The evidence shows that IT has been very helpful in bringing inflation down to low single-digit levels in emerging economies. It has been shown that the adoption of IT has played a leading role in emerging economies' successful convergence to inflation levels observed in developed economies (Mishkin and Schmidt-Hebbel, 2007).

Small deviations of inflation from target in Chile

It has been shown also that IT countries are more successful in attaining their inflation targets than non-IT countries (Mishkin and Schmidt-Hebbel, 2007). The introduction of IT has also helped Chile to attain levels of inflation closer to target levels. Albagli and Schmidt-Hebbel (2004) provide an international comparison of inflation performance and deviations from targets for 21 IT countries. They consider the average relative deviation of inflation from targets since the beginning of IT in each country. The results show that Chile is the second most accurate IT country in hitting its inflation target (figure 7).

Since adoption of full-fledged IT by Chile in 2000, average annual inflation has been 2.9%, remaining around 75% of the time within the target range. Only 10% of the time did inflation rate rise above the upper target bound, and 15% of the time inflation fell below the lower bound (figure 8).

Inflation targeting and credibility

Adoption of IT has also contributed to the buildup of credibility of monetary policy in IT countries. Several authors show that the IT regime has helped in anchoring inflation expectations at levels close to inflation targets and inflation expectations are more stable than in the U.S. (Ramos et al., 2007; Gürkaynak et al., 2007).

In Chile, the distance of inflation expectations from inflation targets was closed as targets converged toward the stationary 3% level and the Central Bank showed strong commitment to attaining targets (Céspedes and Soto, 2005). During the past five years, inflation expectations have remained close to the mid-point of the inflation target range, reflecting high credibility of the IT regime (figure 9).

Inflation targets and stability

Emerging economies have experienced reductions in the volatility of both inflation and output (figure 10). However, volatility reductions have been more pronounced in IT countries than in non-IT countries. Volatilities of growth and inflation have fallen very significantly in Chile, even in comparison to other IT countries.

Two factors explain most of the volatility reduction in IT countries: smaller shocks hitting the economy and improvements in monetary policy efficiency (Mishkin and Schmidt-Hebbel, 2007).

Figure 11 depicts the estimated average efficiency frontier of MP for emerging economies before their adoption of IT (orange schedule) and the observed pair of output and inflation volatilities (red point).

The figure also depicts the estimated average efficiency frontier of MP for emerging economies after IT adoption, for the period of stationary inflation targets (blue line) and the observed pair of output and inflation volatilities (green dot). On one hand, the shift of the efficiency frontier toward the origin reflects the smaller shocks faced by emerging economies since they have had stationary IT in place. On the other hand, the observed combination of output and inflation volatilities has moved closer to the efficiency frontier, revealing the corresponding improvement in monetary policy efficiency. In this case, the smaller shocks explain 58% of the current performance, while the improvements in monetary policy explain 42% of the decline in volatilities.

Chile also records massive improvements in monetary policy management. Not only does Chile face smaller shocks, as reflected by the inward shift of the MP efficiency frontier, but also MP efficiency has improved significantly, as reflected by the closer position of observed volatilities to the efficiency frontier (see figure 12).

Contribution of central bank policy to macroeconomic stability

Emerging economies have improved MP practices. However, the contribution of monetary policy to macroeconomic performance still is low. The annual Report on Competitiveness prepared by the Institute for Management Development (IMD) shows that the positions of emerging economies in the country ranking of the contribution of central bank policy to development has not changed significantly since 1998.

However, Chile has recorded major improvements during the past decade. In 1998, the CBC was ranked 25 among 60 countries, while reaching the first place in the world ranking in 2004, holding this place in the subsequent years (figures 13-14).

4. Conclusions

Macroeconomic conditions have improved significantly in emerging economies since the early 1990s. Emerging economies show major progress in fiscal responsibility and sustainability; adoption of a framework of central bank autonomy, monetary regimes based on IT, and larger exchange-rate flexibility; and achievement of financial system strength.

Adoption of more flexible exchange rates and an IT regime has contributed to lower output and inflation volatility, and stronger credibility of central bank policies.

Macroeconomic stability is often accomplished gradually. 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. This was supported by a solvent, responsible, and predictable fiscal policy and a solid and well-regulated financial system.

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. Low inflation and a credible monetary policy represent an essential macroeconomic achievement.

By improving its policy framework, supported by strong transparency, accountability, and communication, the CBC has laid a major foundation to Chile's macroeconomic stability.

Yet the conquest and predictability of inflation are not guaranteed. The CBC will remain vigilant, improving its policy framework as needed to continue delivering high levels of macroeconomic stability.

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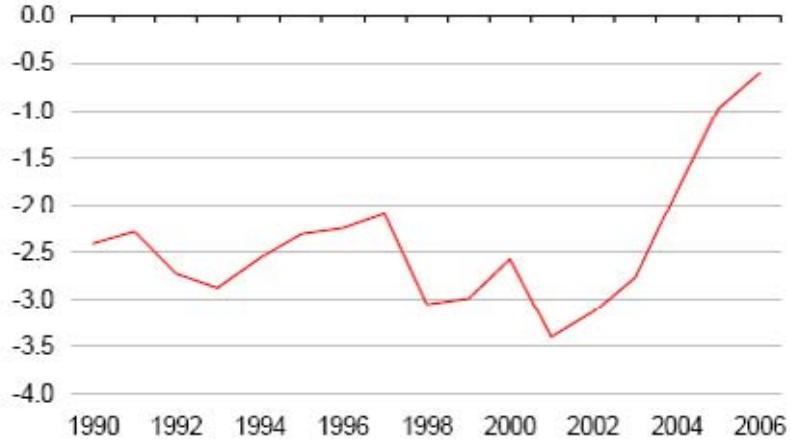
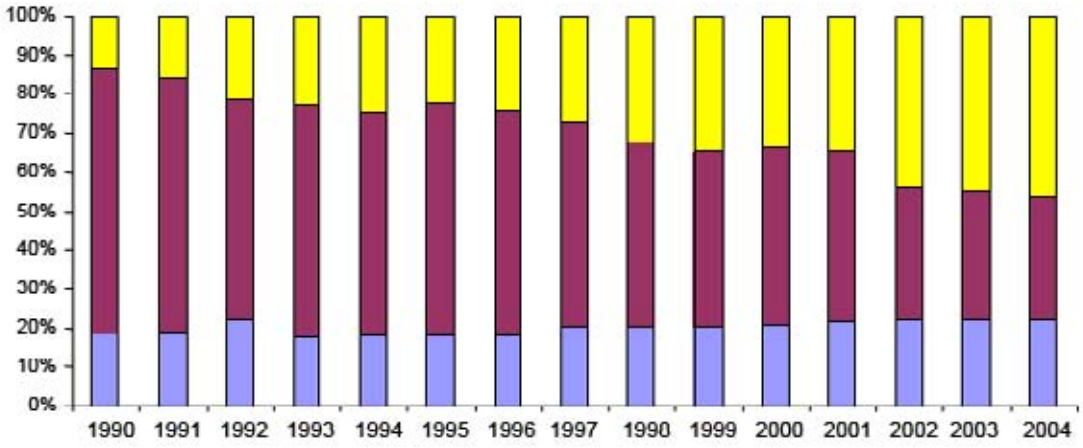
Figures

Figure 1: Declining fiscal deficits in emerging economies
Central government balance as percent of GDP



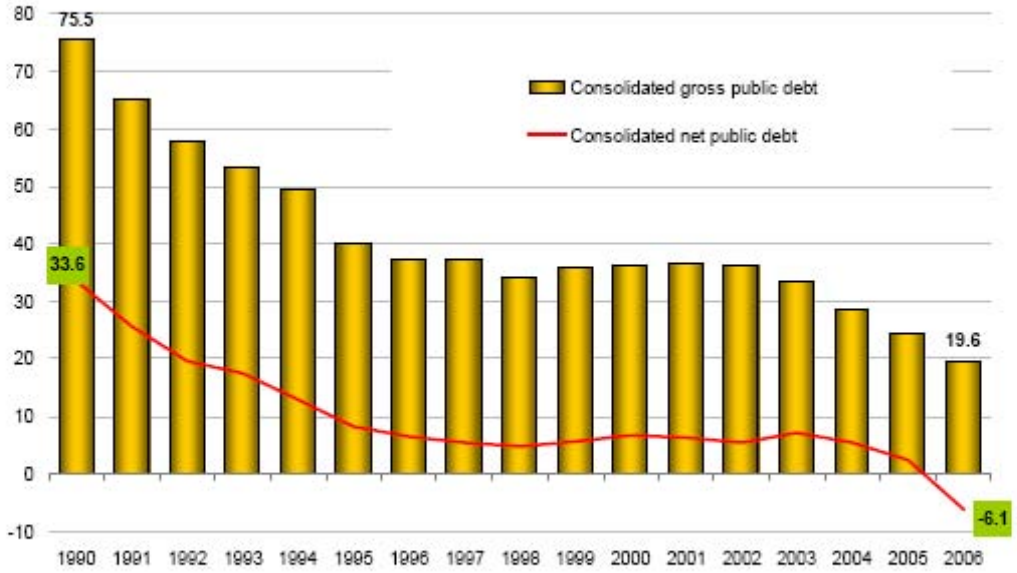
Note: sample average for 32 emerging economies.
Sources: Institute of International Finance (IIF), Deutsche Bank, and Central Bank of Chile.

Figure 2: Toward more flexible exchange-rate regimes in developing countries
(*de facto*, 1990-2004)



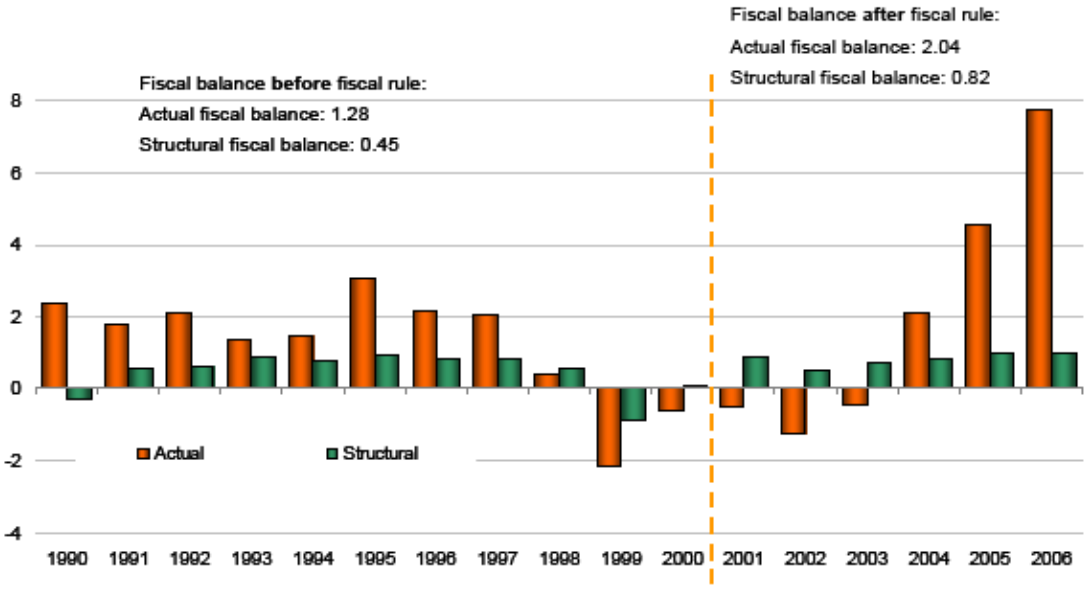
Note: the sample comprises 32 emerging economies. By 1990, nearly 70% of countries had in place an intermediate regime (IR), whereas by the end of the 1990s nearly 41% had an IR and, as of 2004, only 30% had an IR in place.
Source: IMF.

Figure 3: Government debt in Chile
(% GDP, 1990-2006)



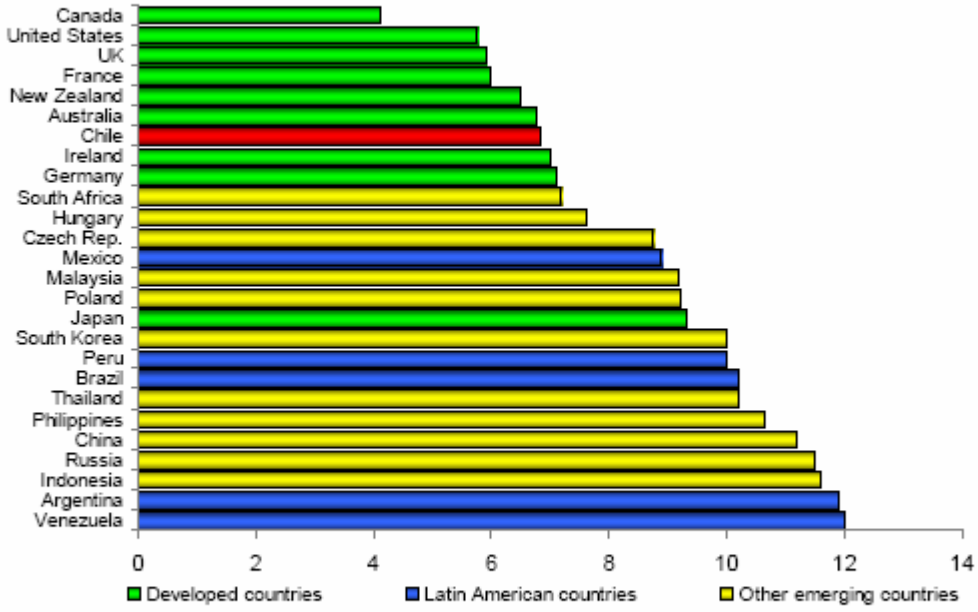
Sources: Ministry of Finance and Central Bank of Chile.

Figure 4: Central government balance in Chile
(% GDP, 1990-2006)



Sources: Ministry of Finance and Central Bank of Chile.

Figure 5: Strength of financial systems in the world and in Chile
(2006)

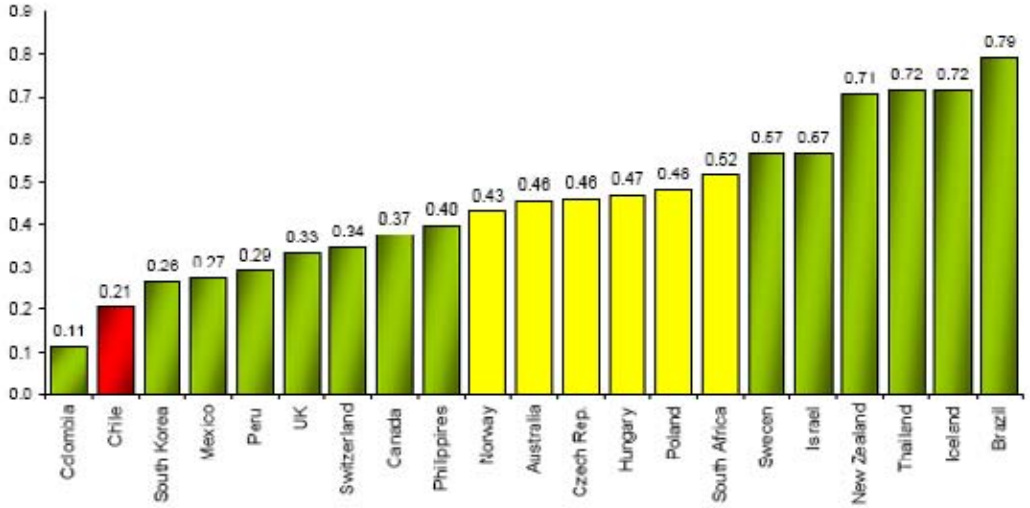


Note: It is quantified on a scale from 1 to 13.
Source: Central Bank of Chile, based on *Moody's Financial Strength Ranking* (December 2006).

Figure 6: Inflation and inflation target in Chile
(1990-2007, annual percent change)

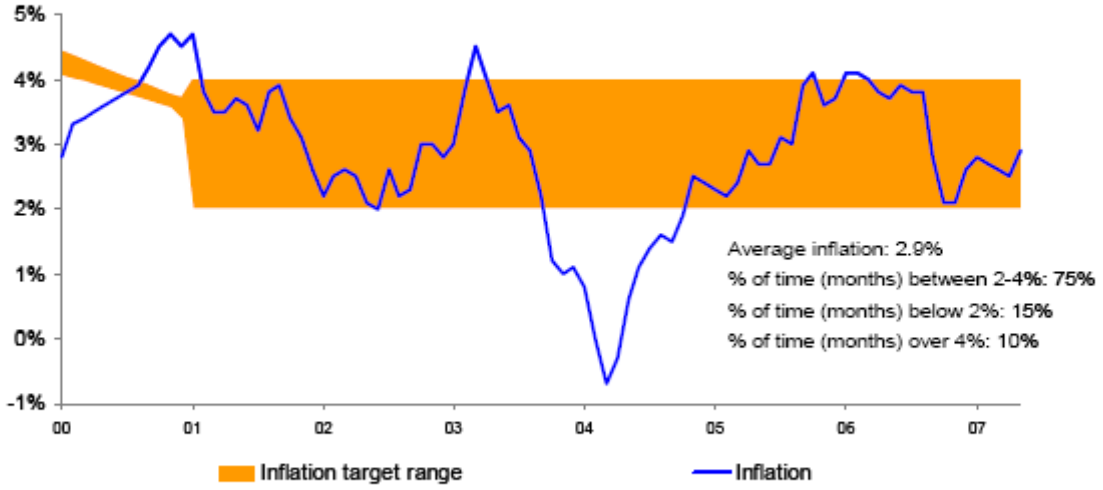
Sources: National Statistics Bureau and Central Bank of Chile.

Figure 7: Relative deviations of inflation rates from targets in 21 targeting countries
(since start of inflation targeting and through 2006)



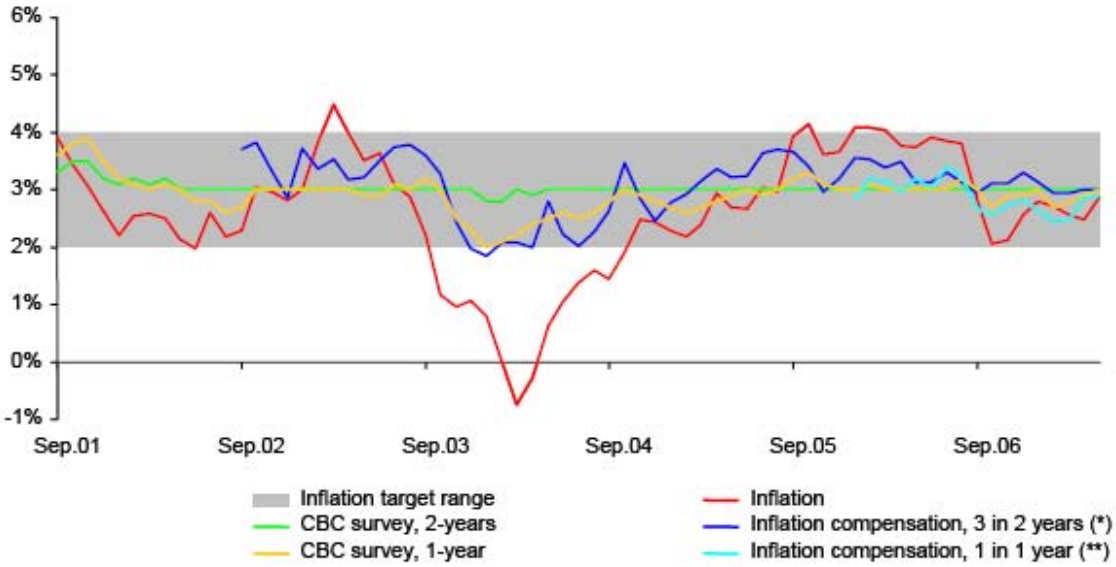
Note: The initial period of an inflation-targeting scheme varies across countries.
Source: Based on Albagli and Schmidt-Hebbel (2004).

Figure 8: Inflation target and rate in Chile
(January 2000 - May 2007, annual percent change)



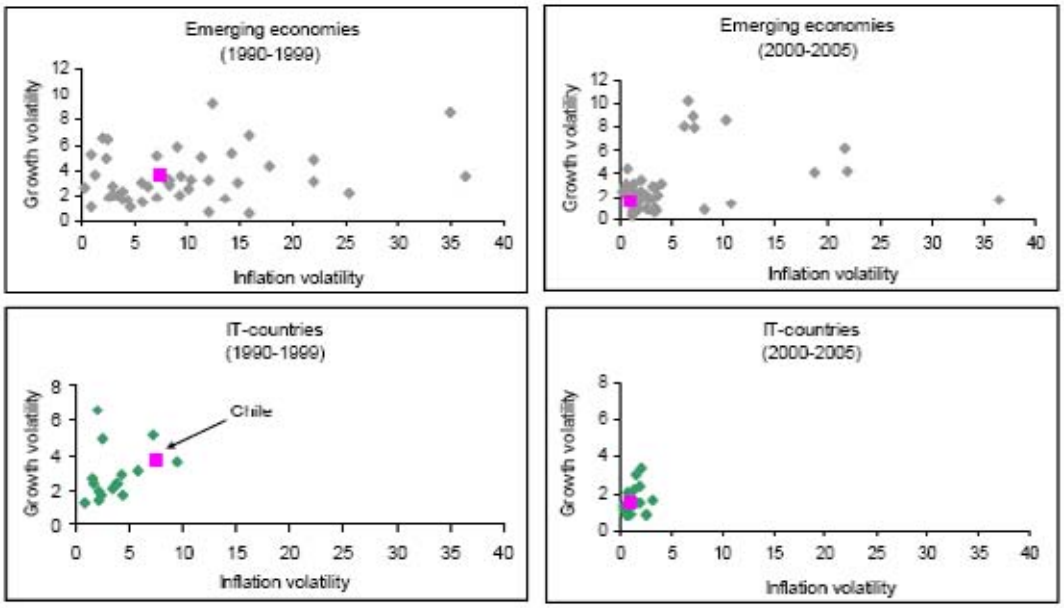
Sources: National Statistics Bureau and Central Bank of Chile.

Figure 9: Inflation and inflation expectations in Chile
(Sept. 2001 – May 2007, annual percent change)



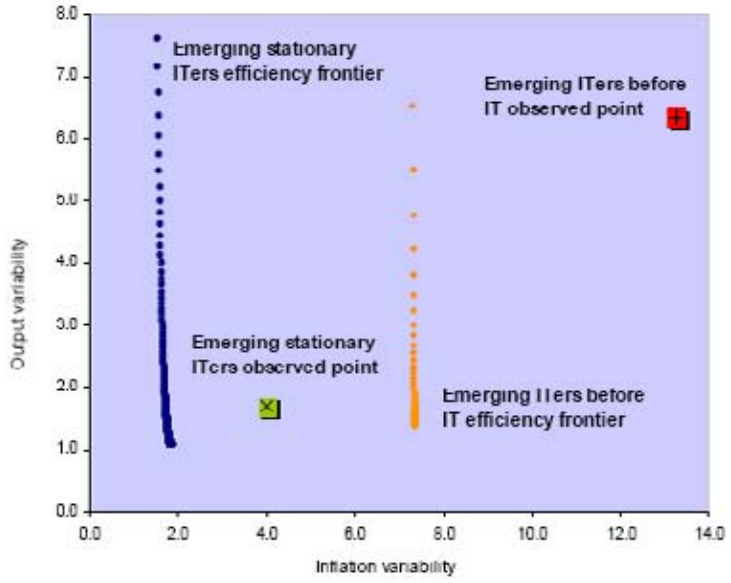
(*) Average forward rate of inflation compensation from 2 to 5 years ahead.
(**) Average forward rate of inflation compensation from 1 to 2 years ahead.
Source: Central Bank of Chile.

Figure 10: World volatility of growth and inflation



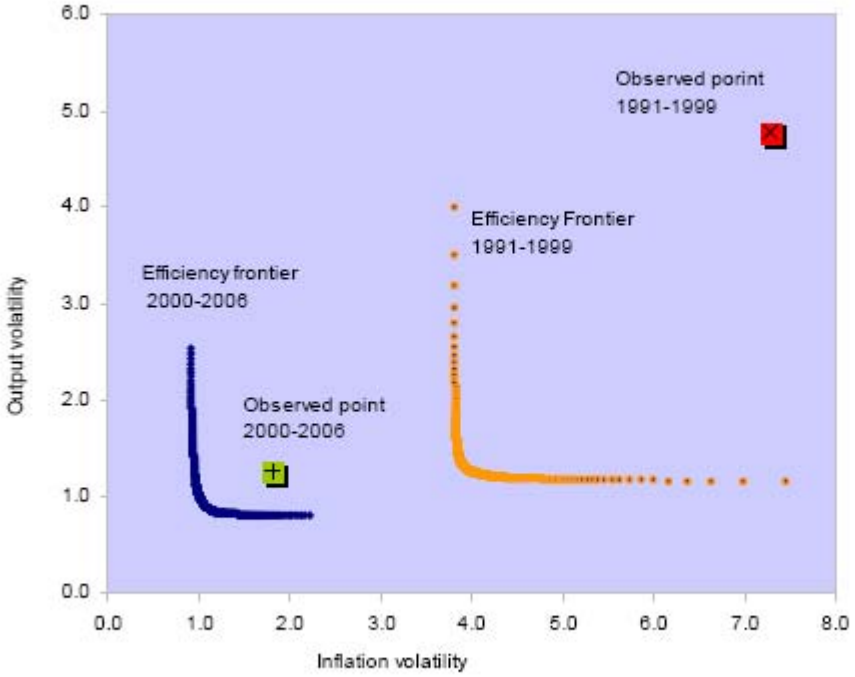
Note: Measured as the standard deviation on indicated period.
Source: *World Development Indicators 2007,* World Bank.

Figure 11: Inflation and output volatility and MP efficiency in emerging IT economies



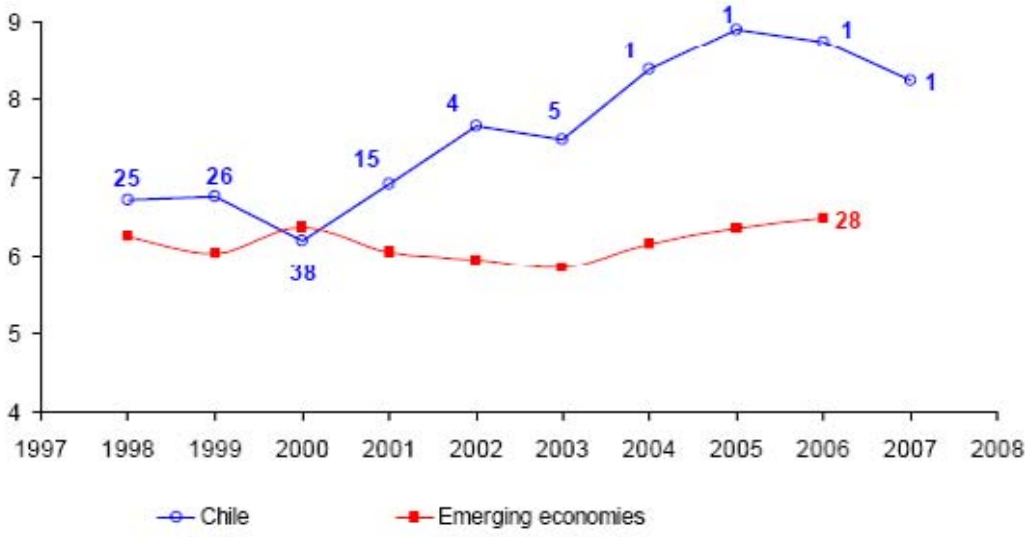
Source. Mishkin and Schmidt-Hebbel (2007).

Figure 12: Inflation and output volatility and MP efficiency in Chile



Source: Based on Mishkin and Schmidt-Hebbel (2007).

Figure 13: Contribution of central bank policy to economic development (Chile's ranking, 1998-2007)



Note: The number over each circle denotes the place in the ranking.

Source: Institute for Management Development.

Table 1: *De jure* Exchange-Rate and Monetary Regimes in the World in 1999
(number of countries)

	Monetary Policy Framework					
Exchange Rate Regime	Exchange rate anchor	Monetary aggregate target	Inflation targeting framework	IMF-supported program	Other	TOTAL
Exchange arrangements with no separate legal tender	26				11	37
Currency board arrangements	8					8
Other conventional fixed peg arrangements	45					45
Pegged exchange rates within horizontal bands	6					6
Crawling pegs	5					5
Exchange rates within crawling bands	7					7
Managed float		4	1	9	13	27
Independent float		13	7	16	14	50
TOTAL	97	17	8	25	38	185

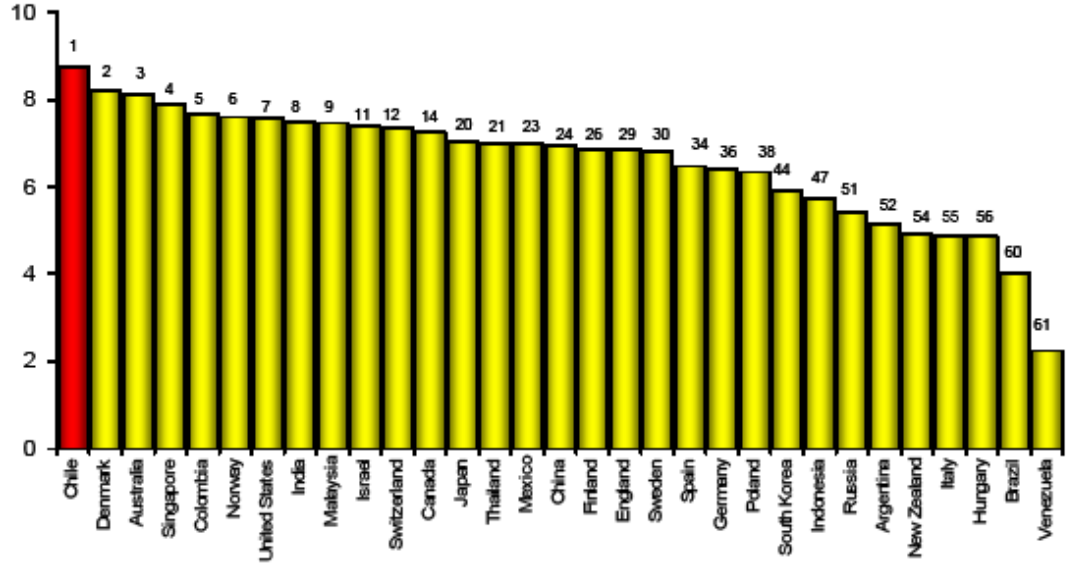
Source: IMF (2004).

Table 2: *De jure* Exchange-Rate and Monetary Regimes in the World in 2004
(number of countries)

	Monetary Policy Framework					
Exchange Rate Regime	Exchange rate anchor	Monetary aggregate target	Inflation targeting framework	IMF-supported program	Other	TOTAL
Exchange arrangements with no separate legal tender	29				12	41
Currency board arrangements	7					7
Other conventional fixed peg arrangements	41					41
Pegged exchange rates within horizontal bands	5					5
Crawling pegs	6					6
Exchange rates within crawling bands	1					1
Managed float		13	4	15	19	51
Independent float		5	17	6	7	35
TOTAL	89	18	21	21	38	187

Source: IMF (2004).

Figure 14: Contribution of central bank policy to economic development (Cross-country ranking, 2006)



Note: It is quantified in a scale from 1 to 9. The number over each bar denotes the place in the ranking.
Source: *World Competitiveness Yearbook 2006,* Institute for Management Development.