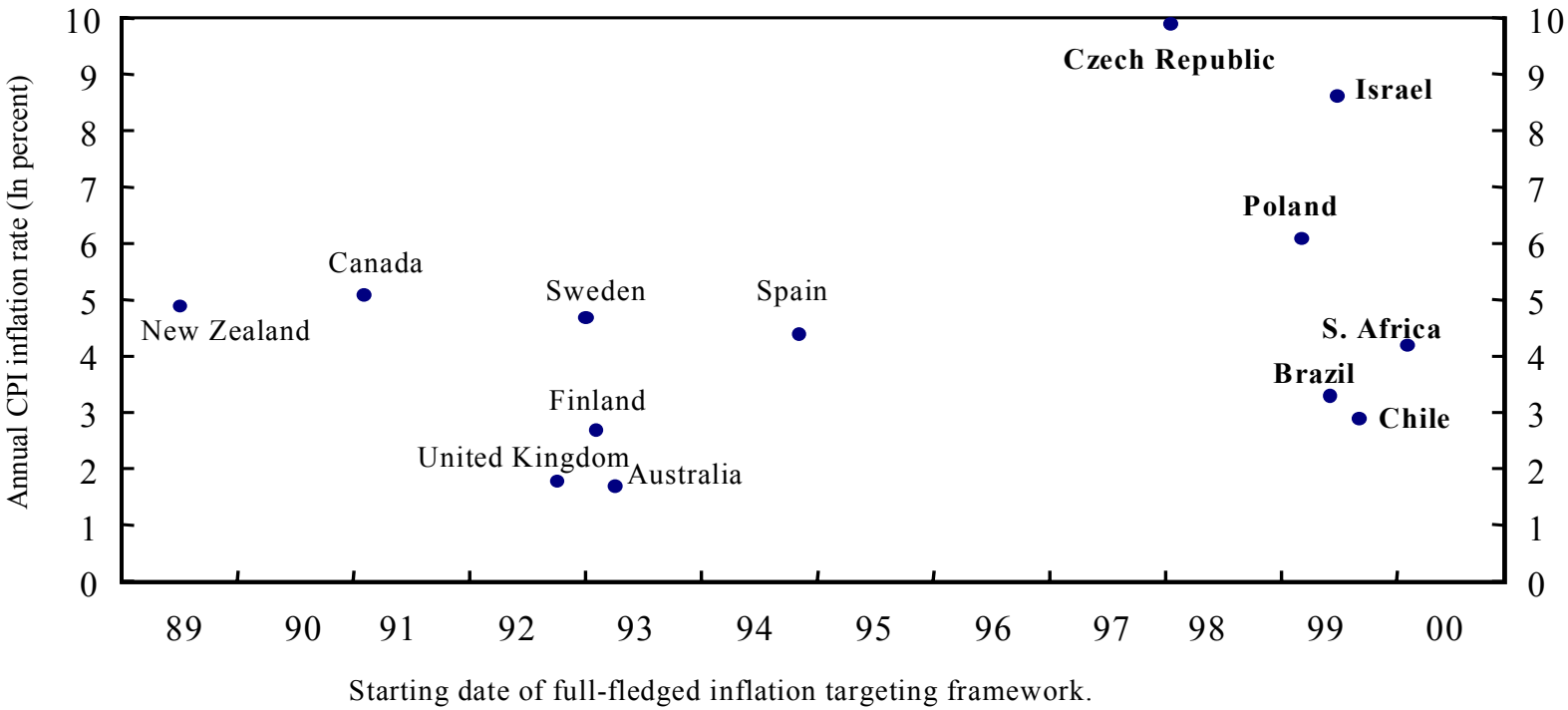
Issues in the Transition to Inflation Targeting

Alfredo M. Leone
International Monetary Fund
Washington, DC 20431
June 2002

Overview

- Inflation Targeters
- Prerequisites
- Trade-offs
- Decision Making
- Technical Issues
- Adapting IMF Conditionality

Inflation Targeters



Sources: Central Bank websites and reports; Bernanke et al. (1999); and IMF, *International Finance Statistics*; see Table 1 of text.

Note: Emerging market countries are in bold.

Inflation Targeters

Context when adopting inflation targeting

- Move from a fixed (or predetermined) toward a more flexible exchange rate regime
- Concern on inflation expectations
- Need to anchoring expectations and guiding monetary policy decisions

Inflation Targeters

- **Perceived drawbacks of alternative monetary policy regimes**
  - Targeting monetary aggregates
    - Requires high and predictable correlation between the chosen aggregate and nominal income
    - Demand for money has displayed strong fluctuations and frequent structural changes over time
    - Highly unstable relationship between money supply and the policy objective (level of inflation)

Inflation Targeters

- **Perceived drawbacks of alternative monetary policy regimes**
  - Adoption of a preannounced or predetermined path for the exchange rate:
    - Central Bank gives up control of monetary policy
    - Reduced capability to respond to domestic and external shocks
    - Create incentives to "dollarization" of liabilities
    - Risk of discrete breakdowns potentially resulting in systemic banking and financial crises with adverse effects on output

Inflation Targeters

- **Perceived advantages of inflation targeting**
  - A flexible system that looks forward
  - Involves judgment
  - Brings transparency
  - Requires accountability

Prerequisites

- **Central Bank Independence**
  - De facto or de jure?
  - Objectives or instruments?
  - Recent world trends (independence and objectives)
- **Absence of Fiscal Dominance**
  - Central Bank not constrained by the need to finance the government budget
  - Debt and risks of future policy discontinuity: Would the central bank hesitate to tighten monetary policy for fiscal reasons although it would need to do so for containing inflation?
- **Implications of financial sector conditions**

Prerequisites

- **Effective monetary policy instrument**
  - Relatively stable relationship with inflation
  - Use of indirect instruments of monetary control
  - Normally, a short-term interest rate

Prerequisites

- **Transparency and Accountability**
  - Need to ensure public's understanding of inflation target
  - Publication of Inflation Report
  - Open letter when targets are breached
  - Publication of minutes of Monetary Policy Committee
  - Appearance of members of Central Bank's governing body before parliamentary committees

Trade-offs

- **Flexibility vs. credibility**
  - The more flexible the framework, the less credible
  - Too much rigidity may result in unnecessarily large variability of output
  - Coexistence of multiple anchors likely to become a source of policy conflict which damages credibility
  - Gain credibility first to enhance chances of having more flexibility later

Decision Making

- Inflation targeting involves judgment
- Economic models can just be one input to decision making, particularly in emerging or developing economies
- Monitor data relevant to form a judgment on the path of inflation

Technical Issues

- **Establishing a credible inflation target**
  - Relevant price index as a measure of inflation to target
  - Focus for policy purposes (core index versus readily available index)
  - Inflation target: point, band, or medium-term average?
  - Time horizon to meet the target

Technical Issues

- **Understanding the transmission mechanism of monetary policy**
  - Role of short-term (overnight) interest rate in the interbank market--a policy instrument
  - Role of asset prices, expectations, credit or monetary aggregates, wages, and wealth
  - Ascertaining major shocks that have typically affected aggregate demand and inflation

Technical Issues

- **Understanding the transmission mechanism of monetary policy**
  - The role of the exchange rate; concerns with the passthrough
  - Factors contributing to a low passthrough:
    - Policies: tough fiscal and monetary policy stance
    - Business cycle: compression of profit margins along the supply chain, due to weak domestic demand

Technical Issues

- **Reliable forecasts of inflation**
  - A key element because inflation targeting framework is forward-looking given the lagged effects of monetary policy actions
- **Supporting Models**
  - Simulate transmission mechanism
  - Produce inflation forecasts
  - Keep small and simple, initially
  - Research on small to medium-size models
  - Impose theoretical restrictions when appropriate derived from smaller models and VAR models

Technical Issues

- Simple structural models of the transmission mechanism that include an aggregate demand equation, a Phillips curve, an uncovered interest parity condition, and an interest rate rule.
- Short-term inflation forecasting models (using VAR and ARMA specifications).
- Leading indicator models (using filter techniques and probabilistic methods, e.g., Markov switching models).
- Regular market surveys.

Technical Issues

- **Structural Models:** Aim at capturing the various channels of the transmission mechanism of monetary policy.
- Advantage: Explicit parametric link between policy tools and inflation, using economic theory
- Disadvantage: Somewhat rigid framework that may disregard other elements that shape inflation and inflationary expectations

Technical Issues

- **Short-term Forecasting Tools & Leading Indicator Models:** Aim at gauging latent inflationary pressures that are not picked up by the structural models
- Advantages: Flexible, capture a broad set of elements that may affect inflation
- Disadvantages: Often do not rely on economy theory; usually do not provide a policy reaction function

Adapting IMF Conditionality

- **Conditionality**
  - Links achievement of a set of policy objectives to continued access to Fund resources
  - Provides a yardstick for evaluating adequacy of policies toward achieving stated policy objectives, in particular a sustainable external balance
  - Safeguards the temporary use of IMF's resources

Adapting IMF Conditionality

Performance Criteria

- Traditionally, program conditionality in the monetary area has relied on two performance criteria:
  - A ceiling on the central bank's NDA
  - A floor on its NIR

- The conventional PCs emphasize achievement of the external objective but do not safeguard the inflation objective

Adapting IMF Conditionality

Monetary Conditionality with NDA and Inflation Targets

		Inflation Target (IT)	
		Threatened	**Not Threatened**
Actual NDA Relative to Program Assumption	**Higher than programmed**	**NDA and IT give the same signal: tighten monetary policy.**	**NDA and IT give a different signal: NDA suggests tightening; IT suggests no tightening is needed.**
	Lower than programmed	**NDA and IT give a different signal: IT suggests tightening; NDA suggests no tightening is needed.**	**NDA and IT give the same signal: no tightening of monetary policy is needed.**

Adapting IMF Conditionality

A transition approach

- Retains NIR floor as a PC (to safeguard IMF resources and the external program objectives)
- Retains NDA ceiling as an indicative target
- Introduces indicators-consultation approach on inflation

Adapting IMF Conditionality

Consultation Bands for Inflation: An Example

Consultation bands for the 12-month rate of change of the price index (in percent)

	December 1999	March 2000	June 2000	September 2000	December 2000
Outer band (upper limit)	10.0	9.5	9.0	8.5	8.0
Inner band (upper limit)	9.0	8.5	8.0	7.5	7.0
Inflation target	***8.0***	***7.5***	***7.0***	***6.5***	***6.0***
Inner band (lower limit)	7.0	6.5	6.0	5.5	5.0
Outer band (lower limit)	6.0	5.5	5.0	4.5	4.0

Adapting IMF Conditionality

Consultation Bands for Inflation

- The consultation band on inflation has 2 tiers
- Inner band: The Central Bank will discuss with the Fund staff about appropriate policy responses should the 12-month rate of inflation exceed the upper limit of the inner band (+1 percentage point above target)
- Outer band: Should the 12-month rate of inflation exceed the upper limit of the outer band (+2 percentage points above target), there will be a consultation with the IMF Board on the proposed policy response before further purchases will be requested under the program

Adapting IMF Conditionality

- **Potential drawbacks**
  - Monitoring a program on the basis of inflation outcomes is backward looking
  - Inflation outcome itself offers no guidance as to the appropriateness of the stance of monetary policy
- Need for additional options for strengthening monetary conditionality under inflation targeting in the context of IMF Programs

Adapting IMF Conditionality

Options

- Regular frequent consultations
- A forward-looking trigger mechanism for consultations between the country authorities and the Fund

Adapting IMF Conditionality

Monetary Policy Rules

- Simple monetary policy rules help provide a rough first evaluation of a policy stance
- Taylor rules, in particular, are one way of characterizing how central banks adjust short-term interest rates in response to deviations of inflation from target

Adapting IMF Conditionality

- **A simple Taylor rule**

$$r = r^* + \alpha(Y-Y^*) + \beta(\pi-\pi^*)$$

with: r being the nominal interest rate, r^* an estimated nominal equilibrium interest rate consistent with target inflation; Y being output; Y^* capacity output; π inflation (actual or projected); π^* the inflation target; and α and β being coefficients, with $\alpha \geq 0$ (with its magnitude depending on the degree to which the output gap figures in the central bank policies) and $\beta > 0$ (with the magnitude depending on the degree to which the central bank moves interest rates in response to deviations of actual inflation from target inflation).

Adapting IMF Conditionality

Taylor rules

- Potential advantages
  - Taylor Rules are flexible enough to encompass a number of different variables and country-specific considerations
  - By providing a parametric reaction to deviations between actual/projected inflation and the inflation target they provide a rough check on the monetary policy stance

- Potential disadvantages
  - Like any mechanical rule, a Taylor rule can not provide a complete summary of a central bank's policy reaction function

Adapting IMF Conditionality

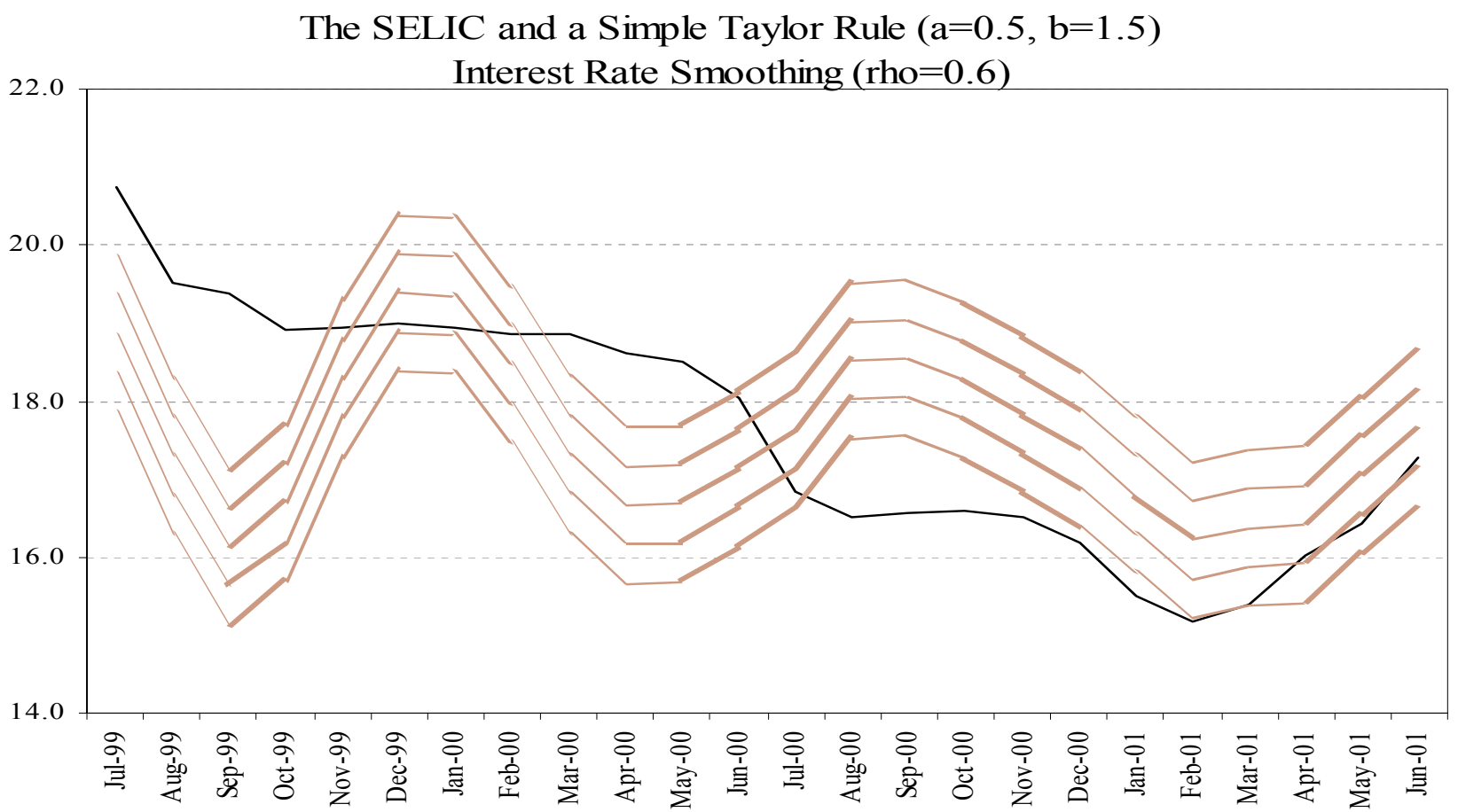
- **A Modified Taylor Rule: Simulations for Brazil**

$$r_t = \rho r_{t-1} + (1-\rho)\cdot[r^* + \alpha y_t + \beta(\pi_t - \pi_t^*)]$$

$$r^* = \bar{r} + \pi_t^*$$

Adapting IMF Conditionality

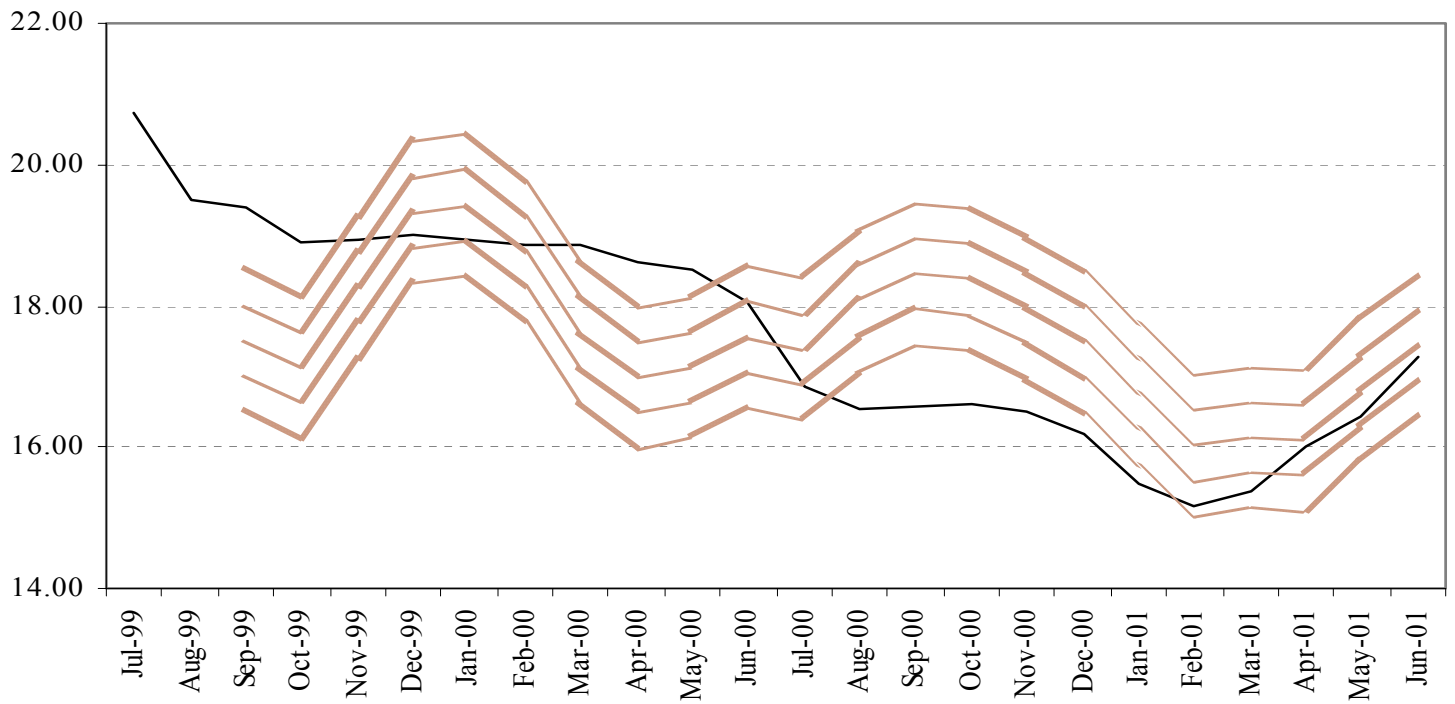
Brazil: Taylor Rules with Current Inflation



Adapting IMF Conditionality

Brazil: Taylor Rules with Market Expectations of Inflation

The SELIC and a Simple Taylor Rule (a=0.5, b=1.5)
Interest Rate Smoothing (rho=0.6)



Adapting IMF Conditionality

- **Conclusions**
  - Simple mechanical rules may indeed provide a rough initial yardstick on the appropriate level of interest rates
  - This is so particularly in stable macroeconomic environments where relatively low inflation has already been achieved
  - Keep rules simple and forward looking (include inflation expectations)
  - Taylor and other rules, an area that could usefully be explored further