



# Targeting Inflation in Dollarized Economies

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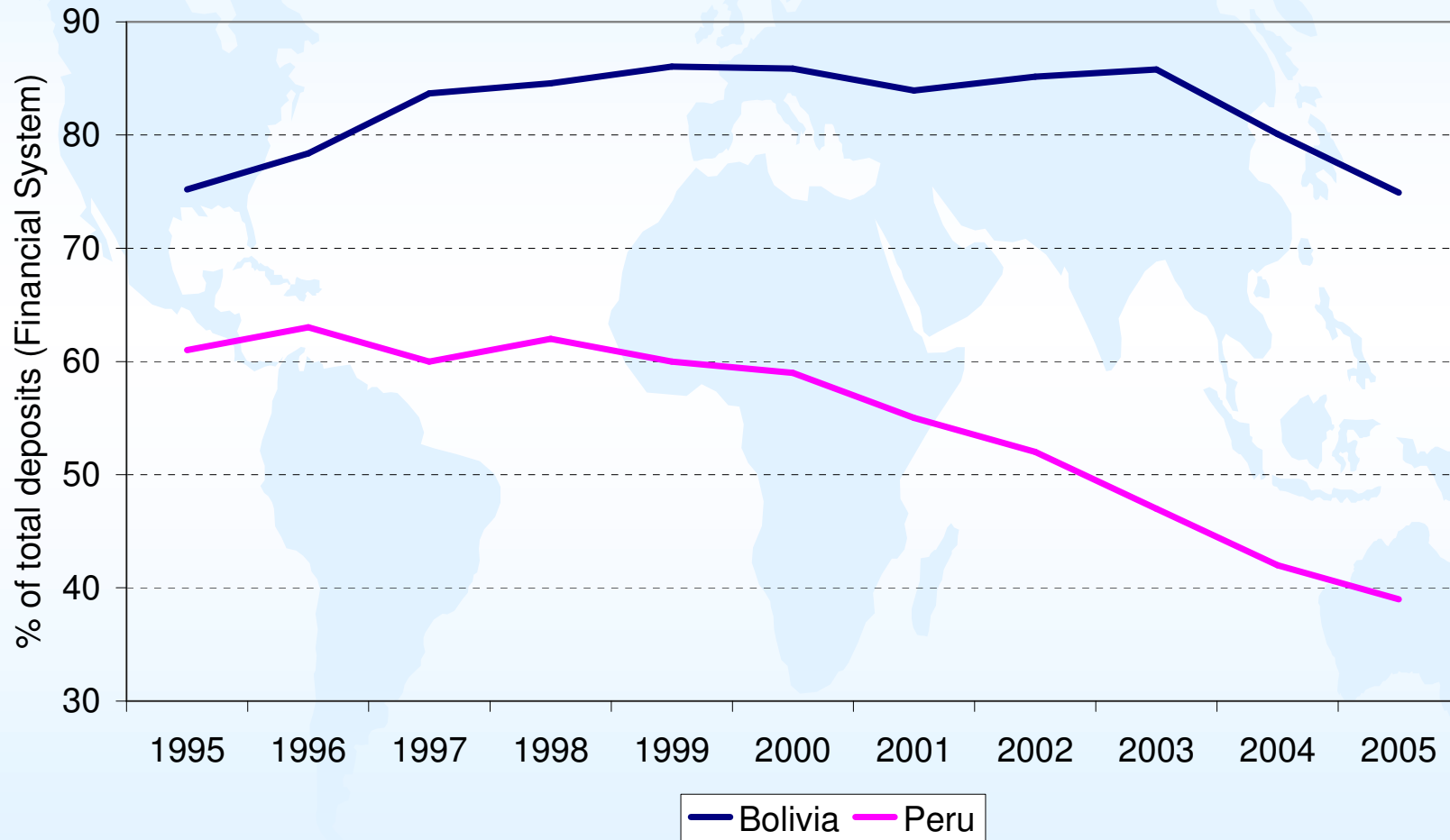
# Agenda: Monetary Policy Design and IT under Dollarization

- **IT in Dollarized Economies**
  - ◆ Ideal conditions for IT
  - ◆ Key implications of dollarization
- **Monetary Policy Transmission**
- **Taylor rules in dollarized economies**
- **Conclusions and policy implications**

## **“Ideal” Conditions for FFIT (Fully Fledged Inflation Targeting)**

- **An independent and credible central bank whose primary objective is price stability.**
- **A freely floating exchange rate regime.**
- **Well developed market instruments to hedge FX risks.**
- **A broad base of domestic nominal assets.**
- **Low dollarization.**

# High Dollarization in Bolivia and Peru

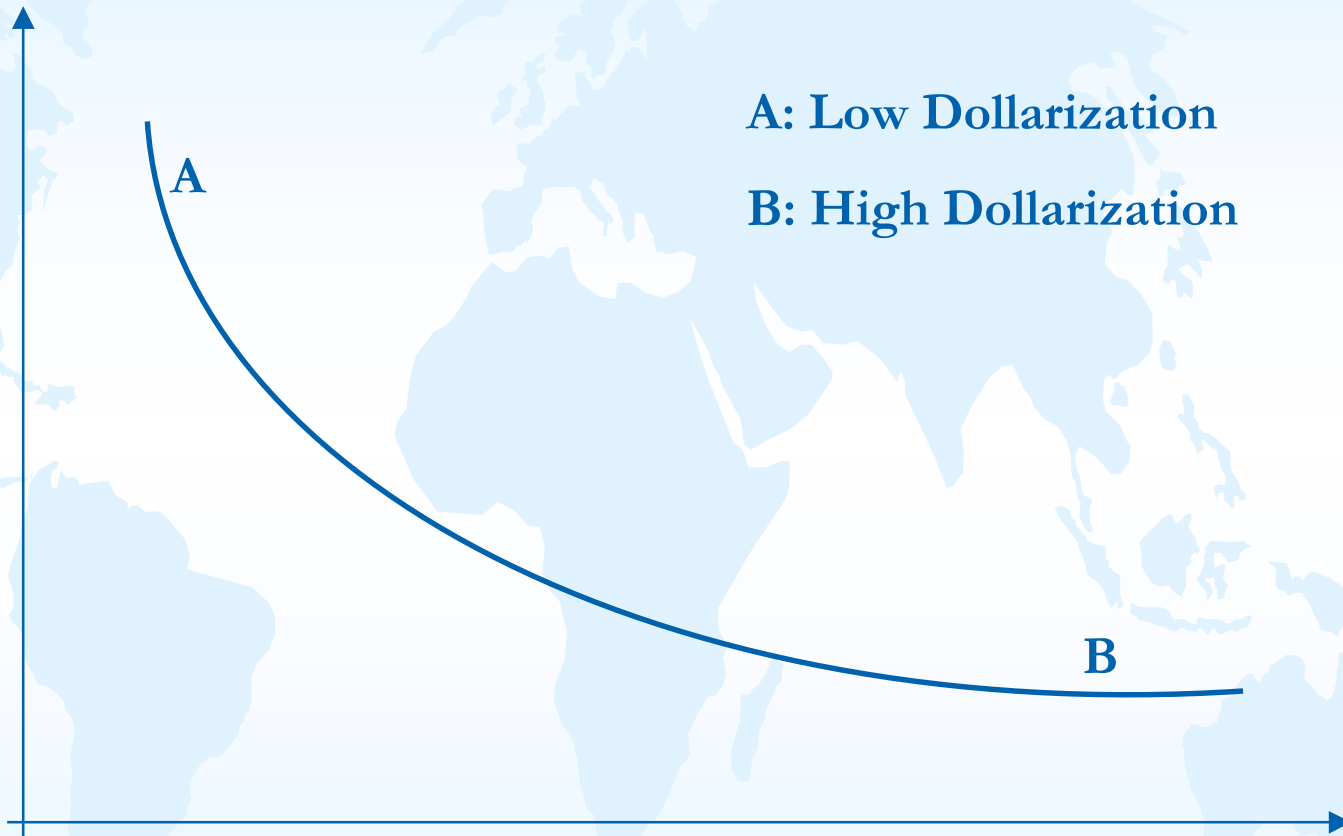


# Key Implications of Dollarization for IT

- Private sector and banks' balance sheets are vulnerable to large surprise exchange rate shifts.
- Thus monetary policy can not ignore even fully transitory exchange-rate shocks.
- This can lead to a “fear of floating”...
- ...and to FX market intervention.
- High ER pass-through can make policy more effective!

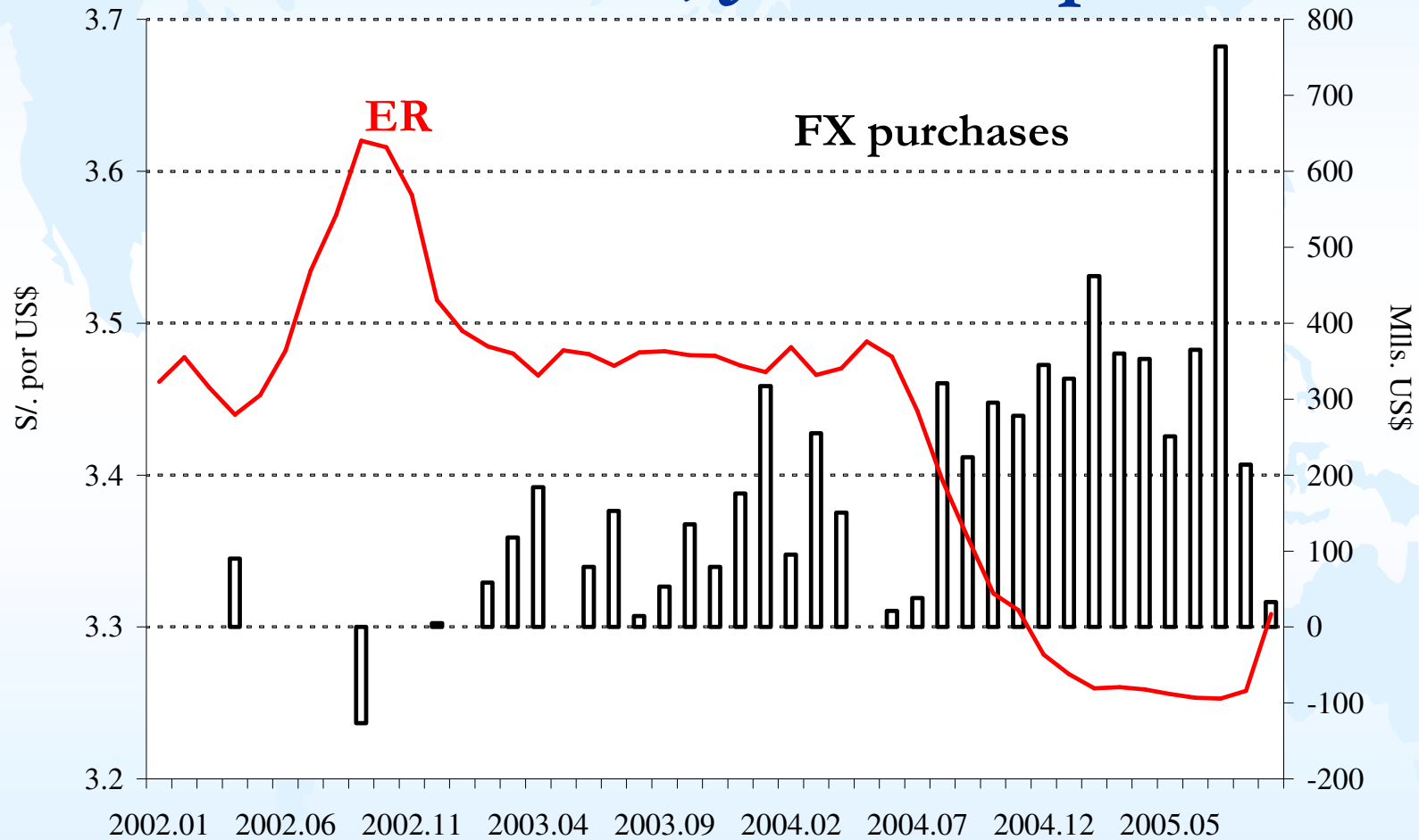
# A Monetary Policy Tradeoff

Interest  
rate  
volatility

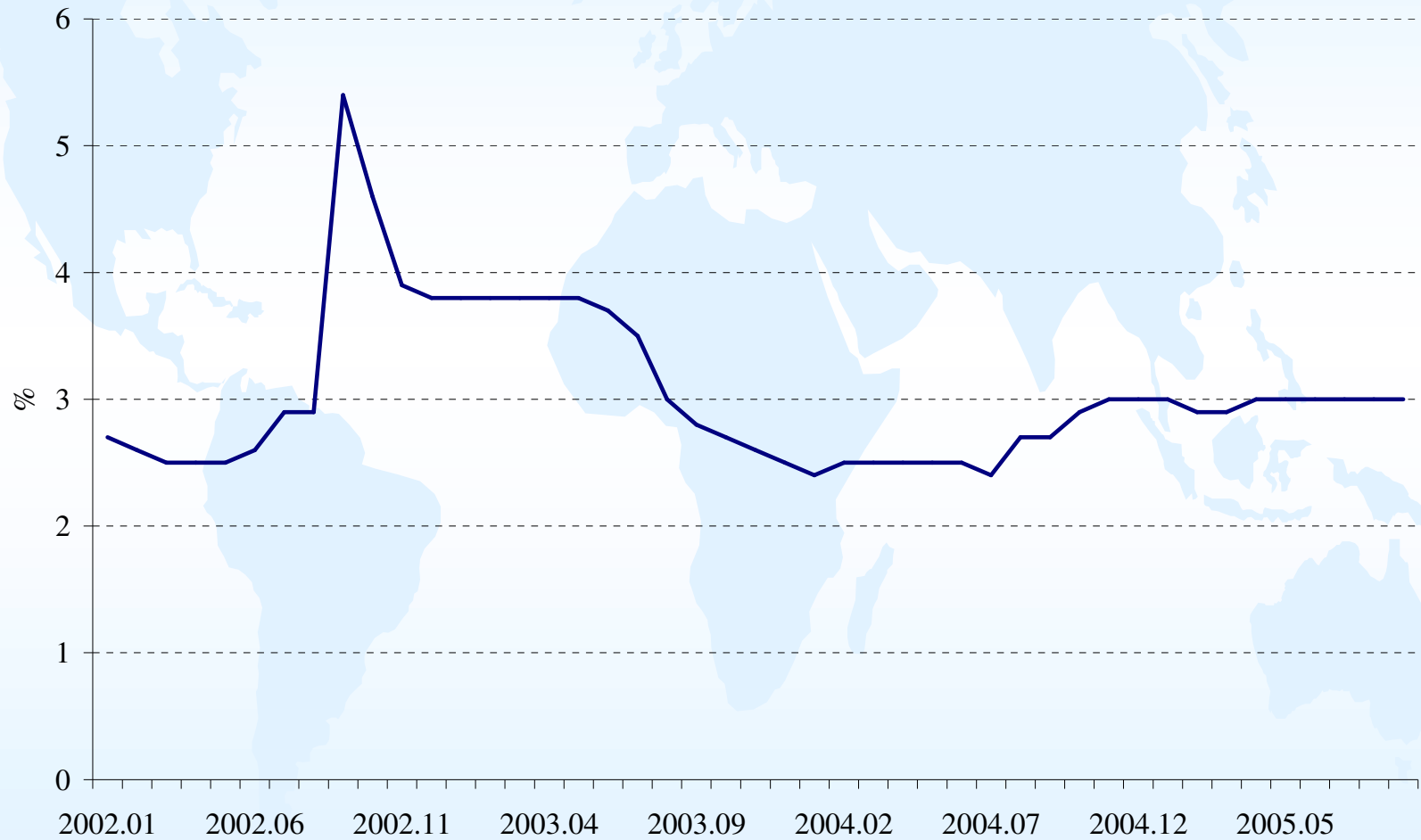


FX reserves volatility

# Peru: Nominal ER and FX Intervention, Jan 02-Sept 05



# Peru: Central Bank Rate





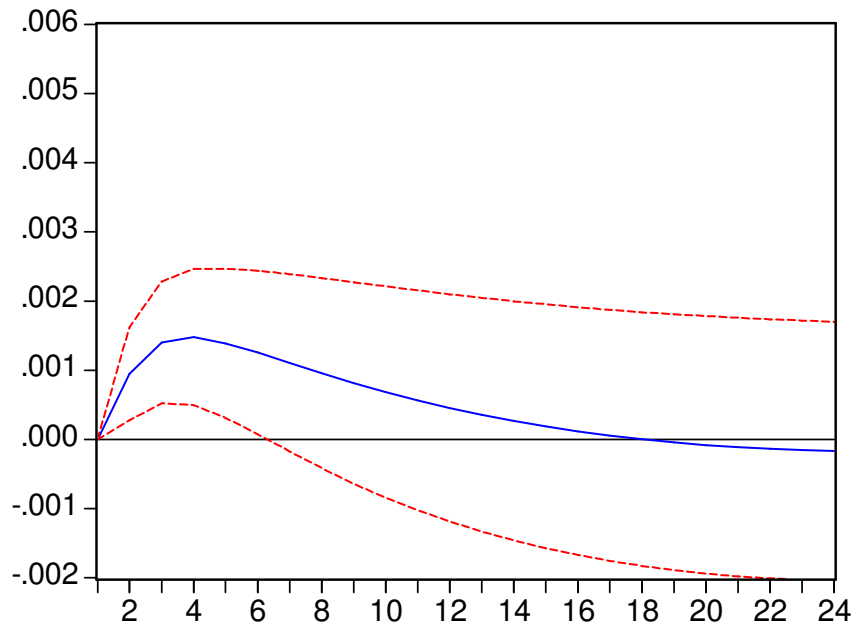
# Comparing Volatilities Under High vs. Low Dollarization (2000-2005)

- REER volatility is lower for Bolivia and Peru, as expected.
- FX reserves volatility is higher for Bolivia and Peru.
- No major differences regarding GDP volatility.

	REER	GDP	FX Reserves
Peru	3.12	1.26	11.36
Bolivia	4.92	2.30	23.94
Chile	7.47	1.66	4.67
Colombia	11.18	1.38	7.71

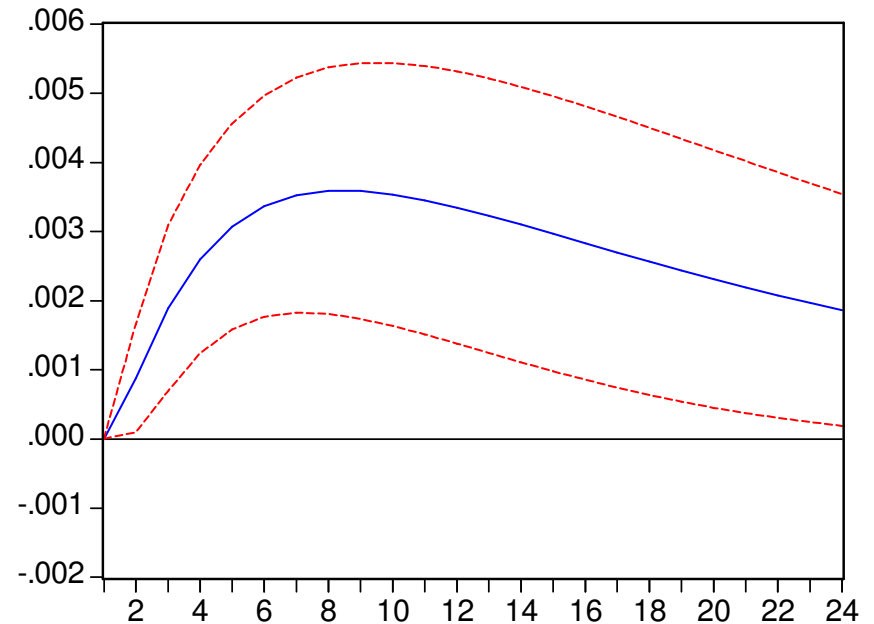
# Inflation Responses to ER Innovations is Stronger in Peru than in Chile

Figure 3a. CHILE: Response of Inflation to  
One S.D. Nominal Exchange Rate Innovation  
1993:01-2005:07



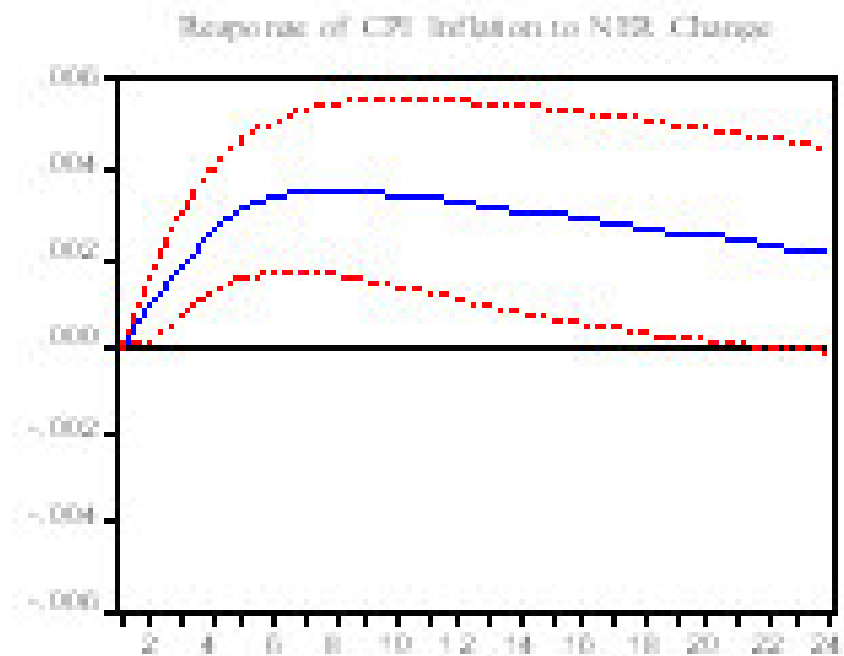
Chile

Figure 3b. PERU: Response of Inflation to  
One S.D. Nominal Exchange Rate Innovation  
1993:01-2005:07

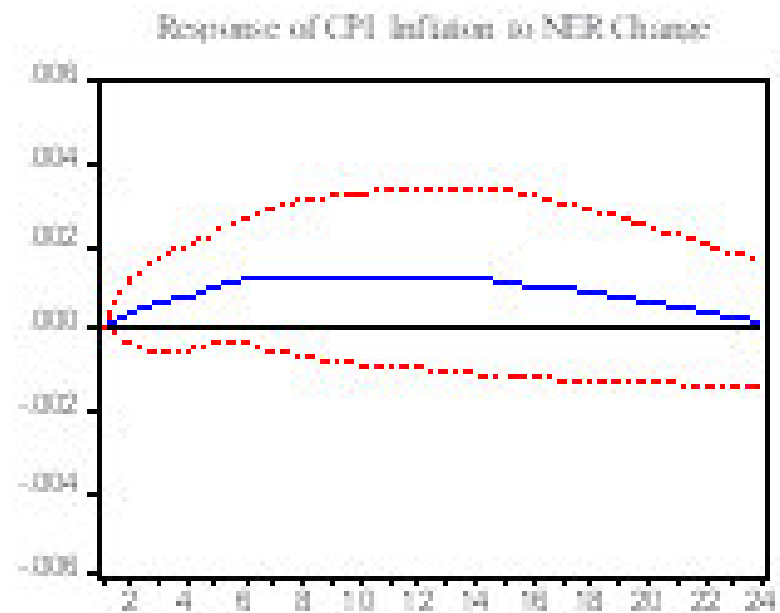


Peru

# Peru: A Smaller ER Passthrough After IT



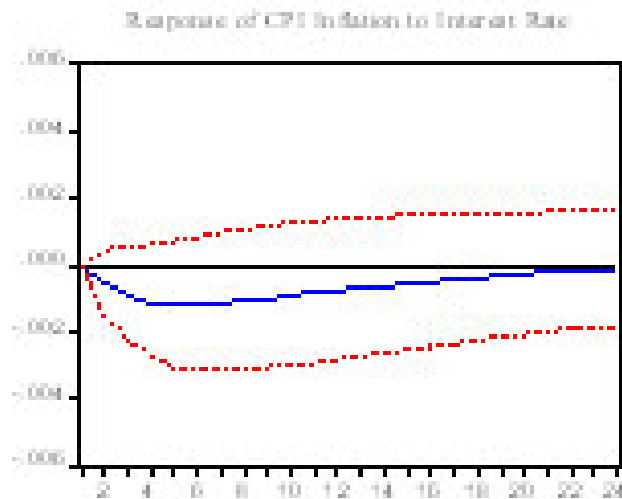
Before IT



After IT

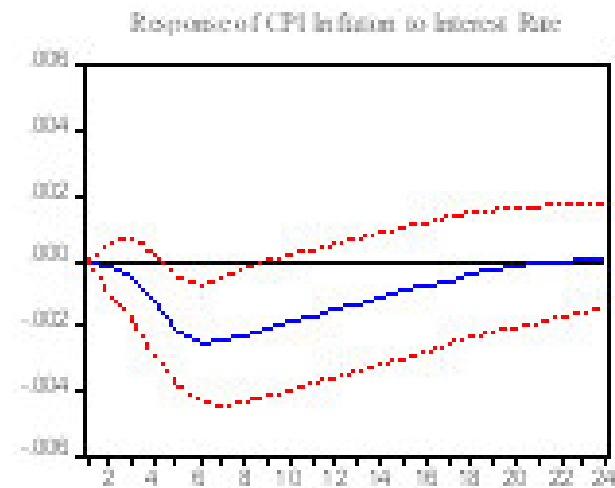
# Peru: A Stronger Impact of Interest Rate Shocks After IT

Figure 6a. PERU: 1993:01 - 1998:12  
Response to One S.D. Innovations  $\pm 2$  S.E.



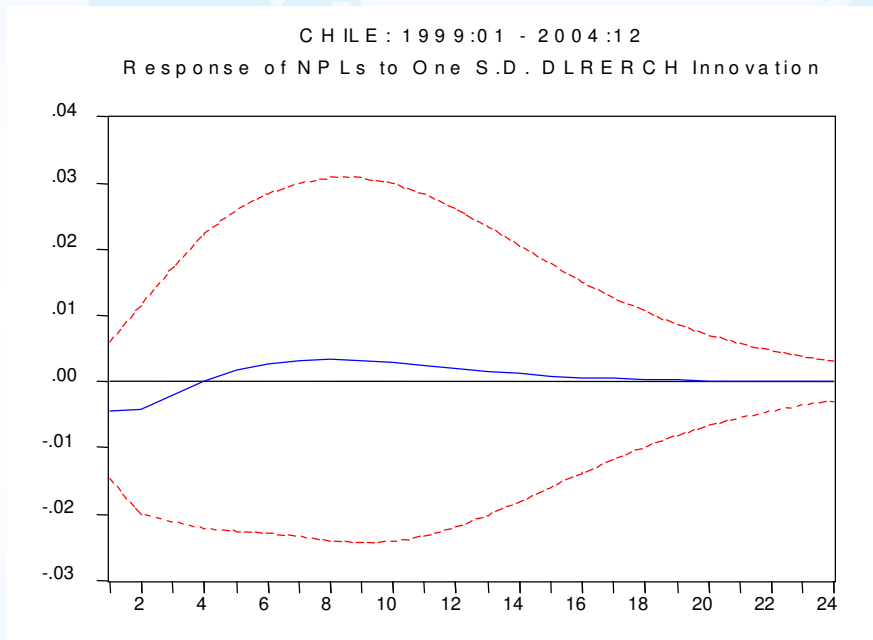
Before IT

Figure 6b. PERU: 1999:01 - 2005:07  
Response to One S.D. Innovations  $\pm 2$  S.E.

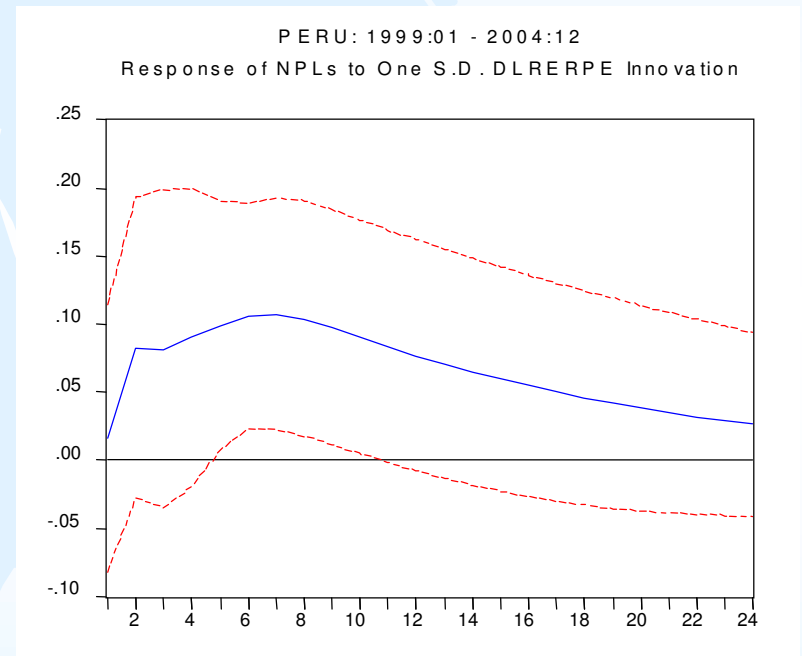


After IT

# Stronger Impact of ER Shocks on Nonperforming Loans in Peru than in Chile



Chile



Peru

# Taylor Rules in Dollarized Economies: Some Evidence

- We expand the standard specification by including changes in the real effective exchange rate ( $\Delta REER$ ), in net international reserves ( $\Delta NIR$ ), and the federal funds rate ( $FF$ ).

$$i_t = \alpha + \beta\pi_t + \delta y_t + \phi\Delta REER_t + \eta\Delta NIR_t + kFF_t + \gamma i_{t-1}$$

## Estimated Taylor Rules, GMM (1993 Q2-2005 Q2)

Country	$\alpha$	$\pi_t$	$y_t$	$\Delta REER_t$	$\Delta NIR_t$	$FF_t$	$i_{t-1}$	$R^2$	J Statistic
Chile	0.52 (0.67)	0.75 (2.10)	0.00 (0.09)	0.00 (1.87)	0.04 (0.90)	0.08 (2.17)	0.46 (2.02)	0.78	0.30
Colombia	-0.96 (-0.91)	0.82 (3.23)	0.01 (1.67)	-0.31 (-3.24)	0.62 (1.54)	0.01 (1.88)	0.51 (1.04)	0.88	0.05
Peru	-0.88 (-0.05)	0.53 (3.08)	-0.38 (-1.55)	-0.00 (-1.17)	-0.32 (1.96)	-0.09 (-0.99)	0.77 (4.06)	0.97	0.20
Country using the rate of crawl as operational instrument									
Country	$\alpha$	$\pi_t$	$y_t$	$\Delta REER_t$	$\Delta NIR_t$	$FF_t$	$Crawl_{t-1}$	$R^2$	J Statistic
Bolivia	0.03 (1.87)	-0.51 (-5.90)	-0.41 (-4.00)	-0.20 (-1.99)	-0.27 (-1.74)	-0.02 (-1.70)	0.72 (5.04)	0.83	0.01

# Taylor Rules in Dollarized Economies

## Key Results

- Central banks in Peru and Bolivia react to changes in their foreign-exchange reserves.
- All central banks attempt to offset shifts in inflation.
- The output gap has a significant coefficient only in Bolivia.
- REER movements have a significant impact in Bolivia and Colombia.
- Evidence of interest-rate smoothing.



## Improving the Efficacy of Monetary Policy Along the Transition to FFIT

- Help develop markets with domestic-currency assets and longer maturities than before. Leading examples are Chile and Israel.
- Help develop derivative market instruments to deal with exchange-rate risks.
- Define the IT as a medium-term average rather than as a hard-edged target to be held at all times. This is Australia's approach to IT.

# Some Issues for Inflation Reports

- **Explicitly discuss financial and banking vulnerabilities under exchange rate shocks.**
- **Provide evidence on fx market intervention.**
- **Attempt to assess temporary vs. permanent exchange rate shocks.**
- **Discuss the role of asset price fluctuations for the inflation process.**
- **Impact of ER fluctuations on fiscal solvency.**

# Main Conclusions

- We find that high dollarization alters inflation dynamics (as e.g. the ER passthrough coefficient).
- However, high dollarization does not preclude the use of IT as an effective monetary policy regime; see e.g. the successful IT experience of Peru.
- Due to financial vulnerabilities, high dollarization can lead to fear of floating. Thus, monetary policy in Latin America can not ignore large exchange-rate shocks even under fully fledged IT.
- Among the policy measures that can help provide a smoother transition to an IT regime are: defining the IT as a medium-term average, developing markets in domestic-currency assets and in derivatives that can help deal with exchange-rate risks.