Exchange Rate and Fiscal Policies in developing countries: leaning against the wind?

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This presentation

1. The context: Concerns in LAC about recent REER appreciation

2. REER, Growth and Export Performance

3. Determinants of REER: the role of fiscal policy and FX Interventions

4. REER FX interventions, inflation, fear of floating and financial dollarization

5. Summary: overcoming the policy dilemmas

1. The Context:

- In recent years there has been a strong trend towards currency appreciation in most of LAC

- This trend has been driven by strong commodity prices and capital inflows, which are likely to last at least for some years

- There is an increasing concern that long term export and growth performance may suffer

- There is a wide debate about if and how to moderate currency appreciation trends
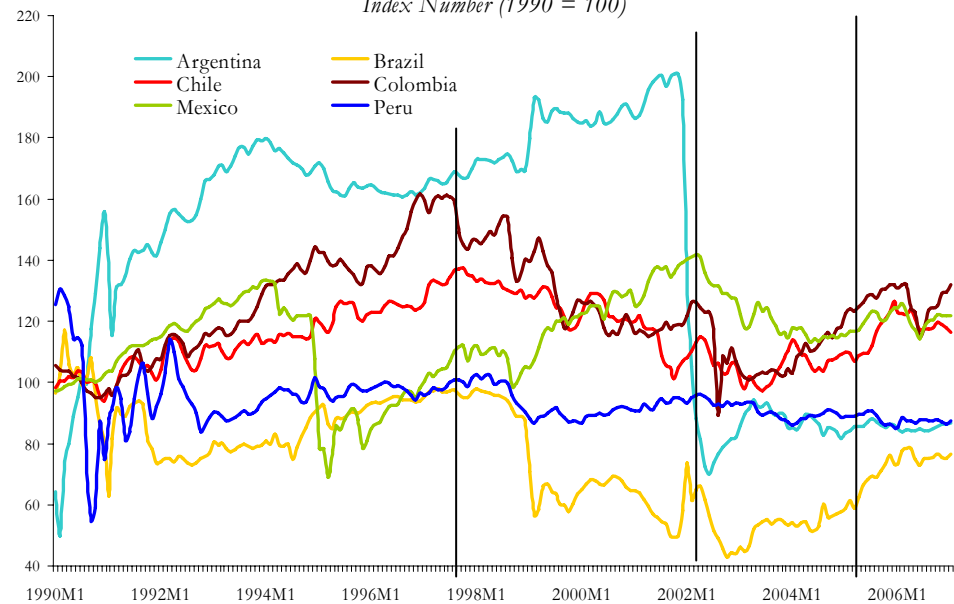
1. REER LAC and others 1990-2007

Real Effective Exchange Rate for LAC, EAP and ECA
Index Number (1990 = 100)

Legend: LAC, EA7, China, India, ECA
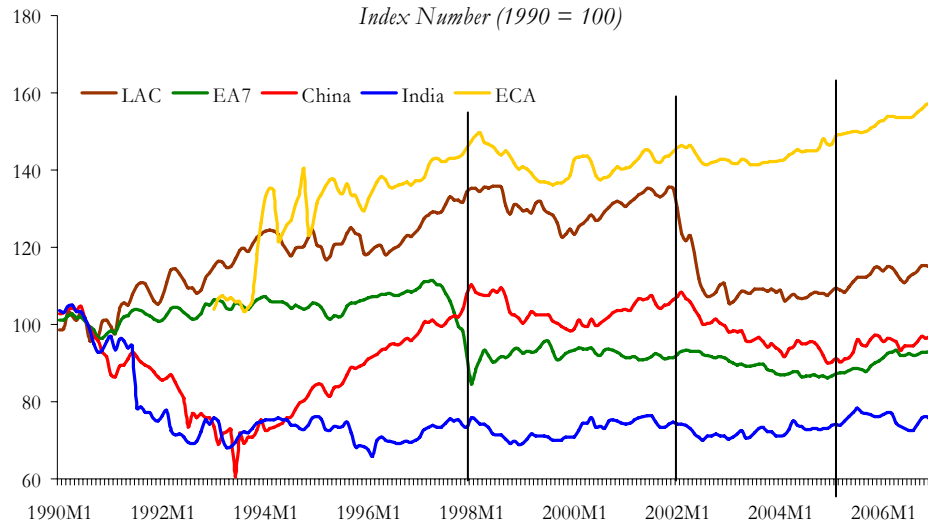
Real Effective Exchange Rate for Selected LAC Countries
Index Number (1990 = 100)

Legend: Argentina, Brazil, Chile, Colombia, Mexico, Peru
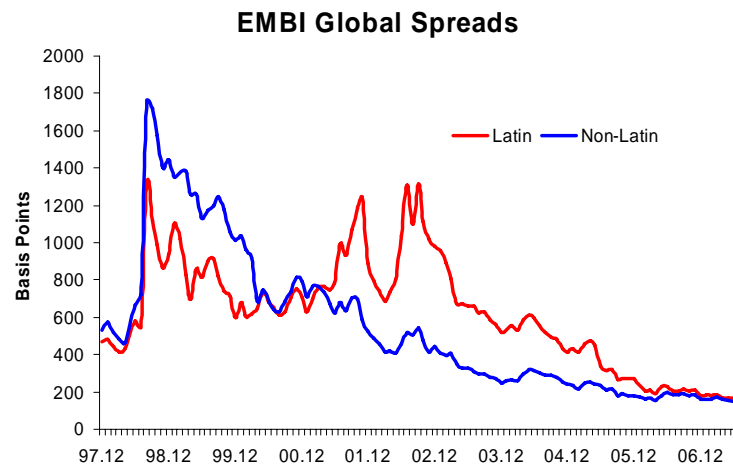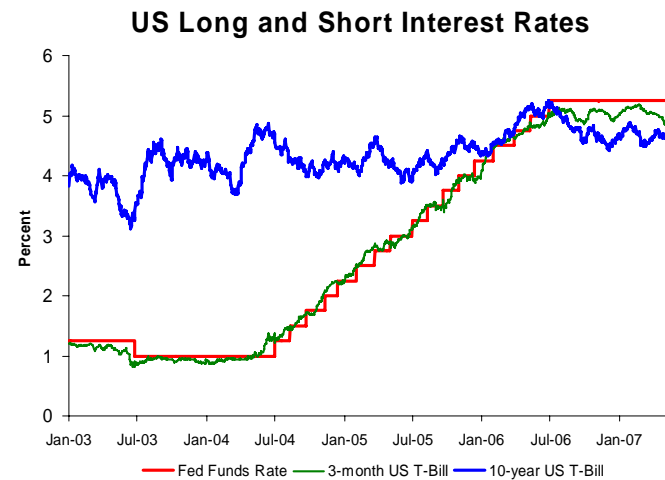
Note: An increase (decrease) in the real effective exchange rate implies a real appreciation (depreciation) of the domestic currency.
Source: IMF – International Financial Statistics.

1.   The Driver:
A Supportive External Environment

Weighted Index of Commodity Prices
(2000 = 100)

Legend: Petroleum — Food — Beverages — Agric Raw Materials — Metals and Minerals

US Long and Short Interest Rates

Legend: Fed Funds Rate — 3-month US T-Bill — 10-year US T-Bill

EMBI Global Spreads

Legend: Latin — Non-Latin

EMBI Global Spreads: LAC Countries

Legend: Argentina — Brazil — Chile — Colombia — Mexico
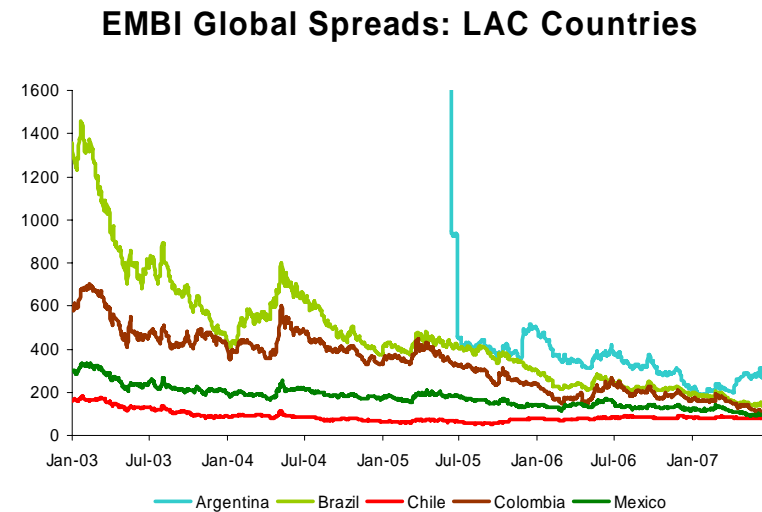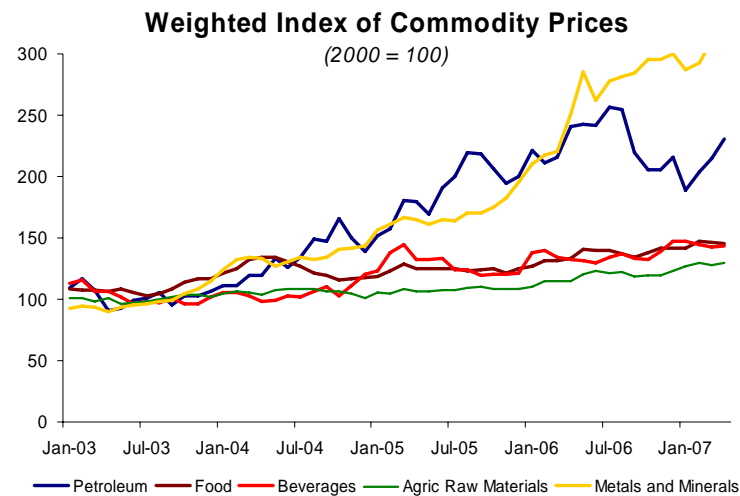
1. …likely to last for a while, though with some downwards risks

Industrial production in China vs. World commodity prices indices

Legend: Agricultural Raw Materials, Beverages, Food, Metals and Minerals, Crude Petroleum
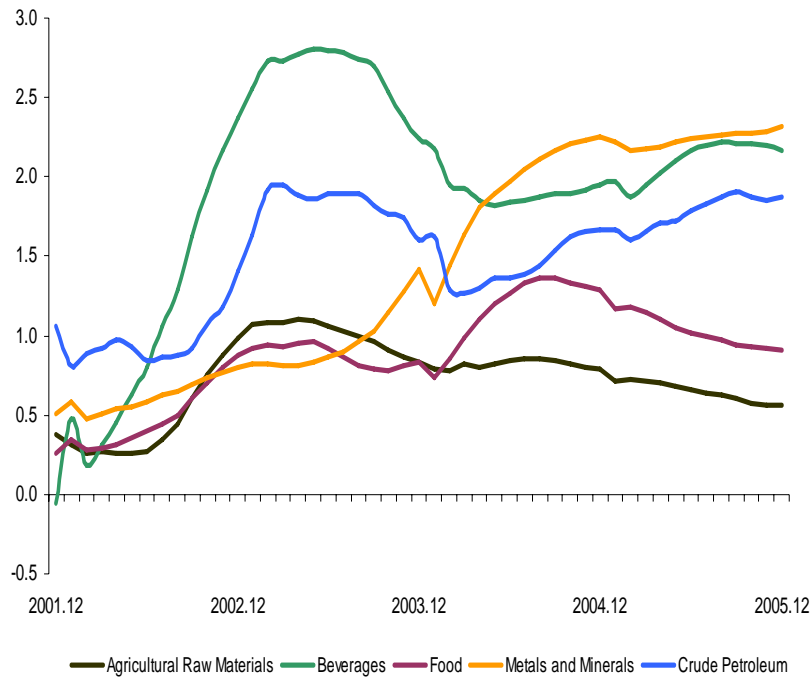
Source: Perry, Lederman and Olarreaga (2006)

Global growth

Source: Consensus Forecast, May 2007

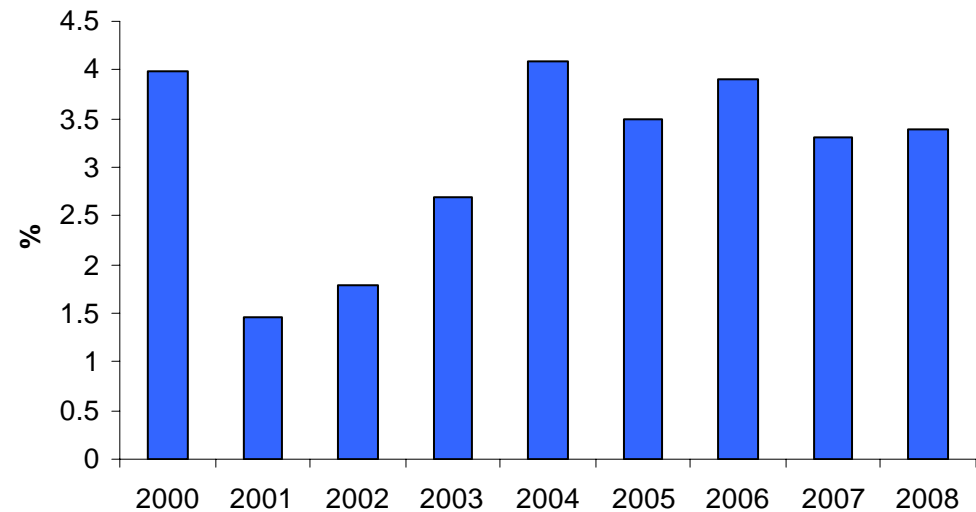# 2. REER depreciations boost export volumes

Table 1

Real Exchange Rate and Export Performance

Dependent Variable: Growth in Real Exports, d ln(RX)

Sample of 51 developing countries, 1975-2005 (annual data)

	[1]	[2]	[3]	[4]
d ln(REER) (t-1)	-0.0272 **	-0.0194 *	..	..
(positive values imply real appreciation)	(0.012)	(0.012)		
d ln(REER) (t-1, t-2)	..	..	-0.0435 **	-0.0318 *
(average depreciation in t-1 and t-2)			(0.018)	(0.017)
Control Variables				
d ln(TOT) (t)	0.3900 **	0.3550 **	0.4002 **	0.3656 **
	(0.037)	(0.035)	(0.037)	(0.036)
d ln(GDP *) (t)	3.3228 **	1.6661 **	2.9462 **	1.4418 **
	(0.402)	(0.556)	(0.442)	(0.584)
d ln (RX) (t-1)	0.0674 **	-0.0084	0.0573 **	-0.0098
	(0.029)	(0.030)	(0.029)	(0.030)
Country / Observations	51 / 1043	51 / 1043	51 / 1008	51 / 1008
Country Effects	Yes	Yes	Yes	Yes
Time Effects	No	Yes	No	Yes
R Squared	0.177	0.351	0.158	0.334

2. REER depreciations reduce export concentration

Table 2

Real Exchange Rate and Export Concentration

Dependent Variable: Export Concentration, RXH

Sample of 41 developing countries, 1975-2005 (annual data)

	[1]	[2]	[3]	[4]
REER (t-1)	0.0849 **	0.0863 **	..	..
(positive values imply real appreciation)	(0.024)	(0.025)		
REER (t-1, t-2)	..	..	0.0970 **	0.0947 **
(average REER in t-1 and t-2)			(0.026)	(0.027)
Control Variables				
Terms of Trade	0.1066 **	0.1065 **	0.1063 **	0.1063 **
(in logs)	(0.026)	(0.027)	(0.026)	(0.027)
External Demand	-0.0488 *	0.0857	-0.0536 *	0.0866
(in logs)	(0.030)	(0.199)	(0.030)	(0.199)
Lagged export concentration	0.396 **	0.393 **	0.3909 **	0.3905 **
	(0.043)	(0.044)	(0.043)	(0.044)
Country / Observations	41 / 421	41 / 421	41 / 421	41 / 421
Country Effects	Yes	Yes	Yes	Yes
Time Effects	No	Yes	No	Yes
R Squared	0.842	0.938	0.837	0.938

3. Real Exchange Determinants: Role of fiscal balances and FX interventions

Table 3

Fiscal Adjustment, Intervention and Real Exchange Rate

Dependent Variable: Changes in the Real Effective Exchange Rate, d ln (REER)

Sample of 23 countries, 1975-2005 (annual data)

	[1]	[2]	[3]	[4]
Lagged General Govt Primary Balance	-1.7191 **	-1.4800 **	-1.3276 **	-1.1548 **
(as a share of GDP)	(0.688)	(0.622)	(0.612)	(0.554)
Forex Intervention (t-1)	-0.2115 **	-0.2086 **	..	..
	(0.061)	(0.060)		
Reserves/M2 ratio (t-1)	..	..	-0.0045	-0.0020
			(0.031)	(0.033)
Country / Observations	23 / 380	23 / 380	26 / 365	26 / 365
Country Effects	Yes	Yes	Yes	Yes
Time Effects	No	Yes	No	Yes
R-Squared	0.077	0.226	0.050	0.194

Our regression includes terms of trade shocks, growth in external demand and the lagged dependent variable. They are not reported but are available upon request.

- Stronger primary balances and intervention in foreign exchange markets tend to be associated with a real exchange rate depreciation.

- A one percent increase in GG primary balance would lead to a real depreciation of 1.7%

- A one percent increase in intervention (buying foreign currency) is associated with a 0.2% real depreciation.

3. Structural primary balances in LAC: improving, but strong enough?

General Government Structural Primary Balance
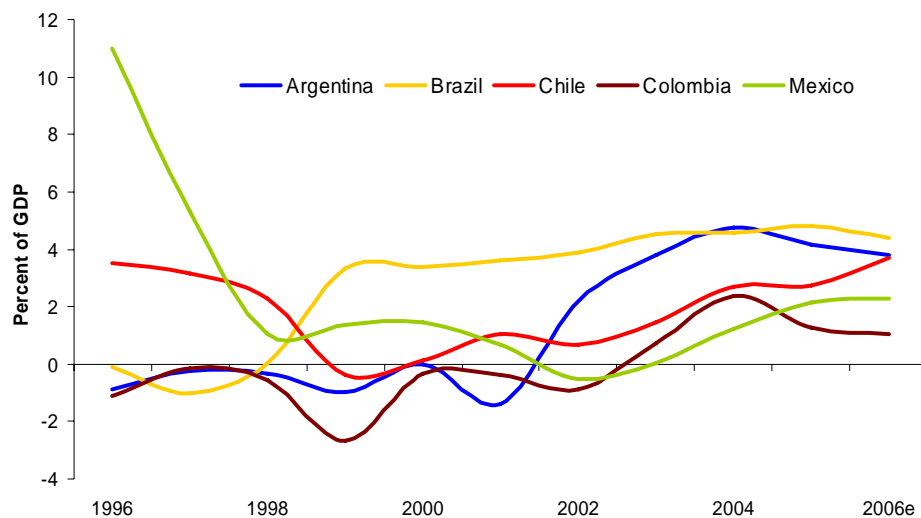
General Government Structural Overall Balance
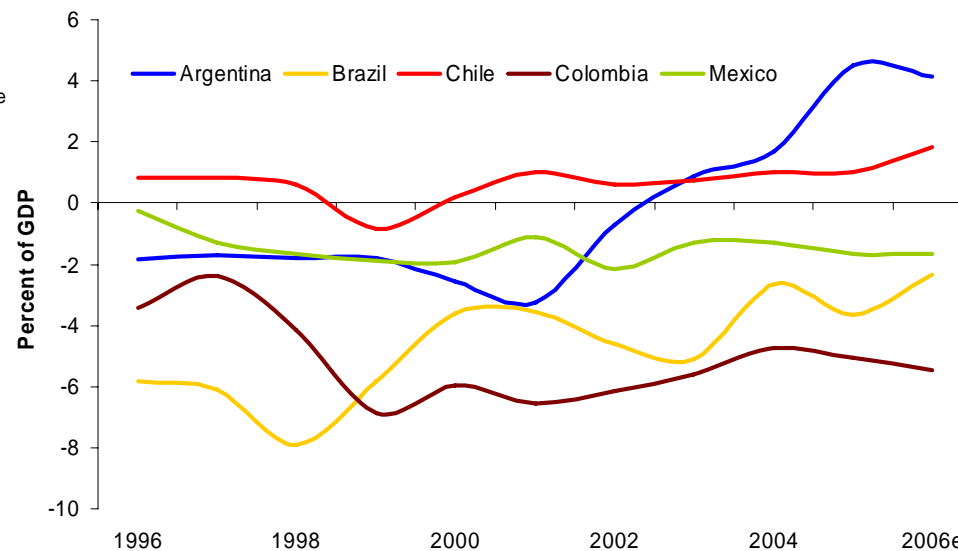
Source: WEO, Staff calculations.

4. And FX Interventions are not without costs

- Inflationary pressures: witness Argentina, Venezuela

- Pegging exchange rates led in the past to currency crises (overvaluation) and financial dollarization

4. Dollarized economies exhibit more "fear of floating"

Table 4

Dollarization and Fear of Floating

Dependent Variable: Ratio of Nominal Exchange Rate Volatility to Interest Rate Volatility

Sample of 77 developing countries, 1975-2005 (annual data)

	Volatility Ratio (2-year window)		Volatility Ratio (3-year window)	
	[1]	[2]	[4]	[6]
Dollarization (lagged)	-8.0493 **	-10.4096 **	-8.5330 **	-10.8400 **
(percentage of dollartized deposits in total deposits)	(1.698)	(1.863)	(1.663)	(1.816)
Lagged volatility ratio	0.0462 **	0.0454 **	0.0741 **	0.0733 **
	(0.002)	(0.002)	(0.002)	(0.002)
Country / Observations	77 / 870	77 / 870	77 / 870	77 / 870
Country Effects	Yes	Yes	Yes	Yes
Time Effects	No	Yes	No	Yes
R-Squared	0.670	0.682	0.773	0.781

4. But "Fear of floating" leads to increasing degrees of dollarization

Table 5

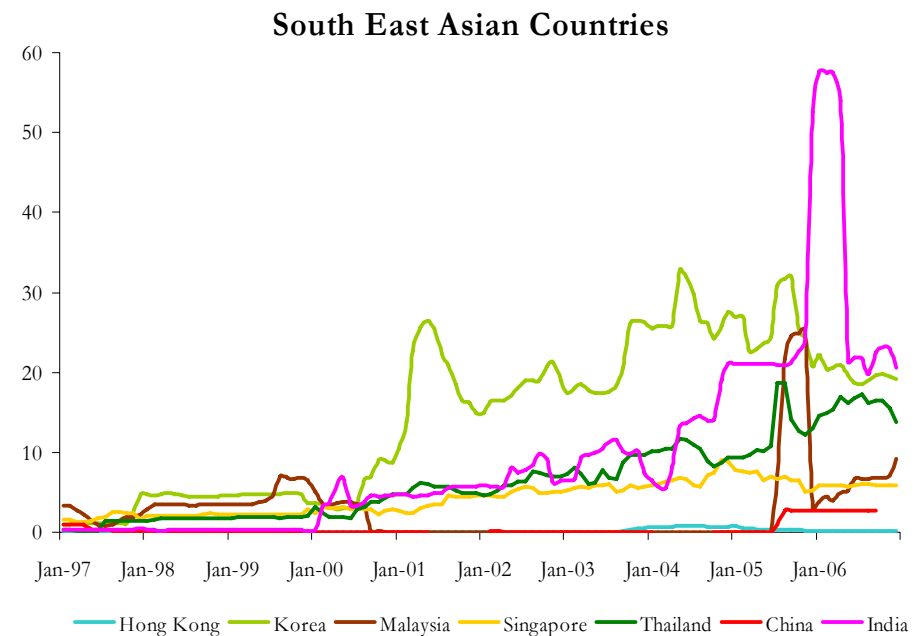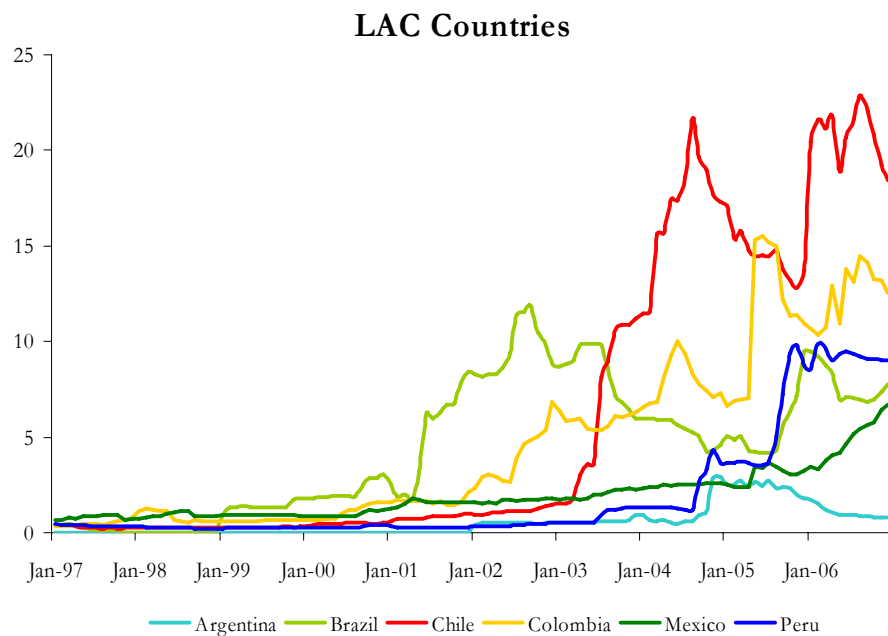**Fear of Floating and Changes in the Extent of Dollarization**

Dependent Variable: Changes in the Percentage of Dollarized Deposits in Total Deposits

Sample of 41 developing countries, 1975-2005 (annual data)

	Volatility Ratio (2-year window)		***	Volatility Ratio (3-year window)	
	[1]	[2]		[4]	[6]
Volatility Ratio (t-1)	-5.43E-05 **	-4.64E-05 *		-5.92E-05 **	-5.11E-05 **
(nominal exchange rate to interest rate volatility)	(0.000)	(0.000)		(0.000)	(0.000)
Deposit Dollarization (t-1)	-0.2648 **	-0.2689 **		-0.2582 **	-0.2599 **
	(0.021)	(0.023)		(0.021)	(0.023)
Country / Observations	77 / 870	77 / 870		77 / 870	77 / 870
Country Effects	Yes	Yes		Yes	Yes
Time Effects	No	Yes		No	Yes
R-Squared	0.233	0.286		0.216	0.265

4. Increasing trend towards floating?
Ratio of Exchange rate to Interest Rate Volatility (2-Year)

LAC Countries

Argentina — Brazil — Chile — Colombia — Mexico — Peru

South East Asian Countries

Hong Kong — Korea — Malaysia — Singapore — Thailand — China — India

Note: We compute the ratio of the nominal exchange rate volatility to the nominal interest rate volatility.
Source: IMF – International Financial Statistics.

5. Summary

1. Leaning against the wind in booms would appear to help export volumes and diversification, which is good for growth. It may also help investment in credit constrained economies (ELY).

2. But, counter cyclical fiscal policies seem to be somewhat more potent than Central Bank FX interventions.

3. And, excessive Central Bank FX interventions may lead to inflationary pressures and reinforce financial dollarization (and hence weaken domestic capital markets development and leave economies more vulnerable to Sudden Stops).

The End