
Latin America's New Immune System: Coping with the Changing External Environment

IMF-World Bank Spring Meetings

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Chief Economist Office
Latin America and the Caribbean
World Bank

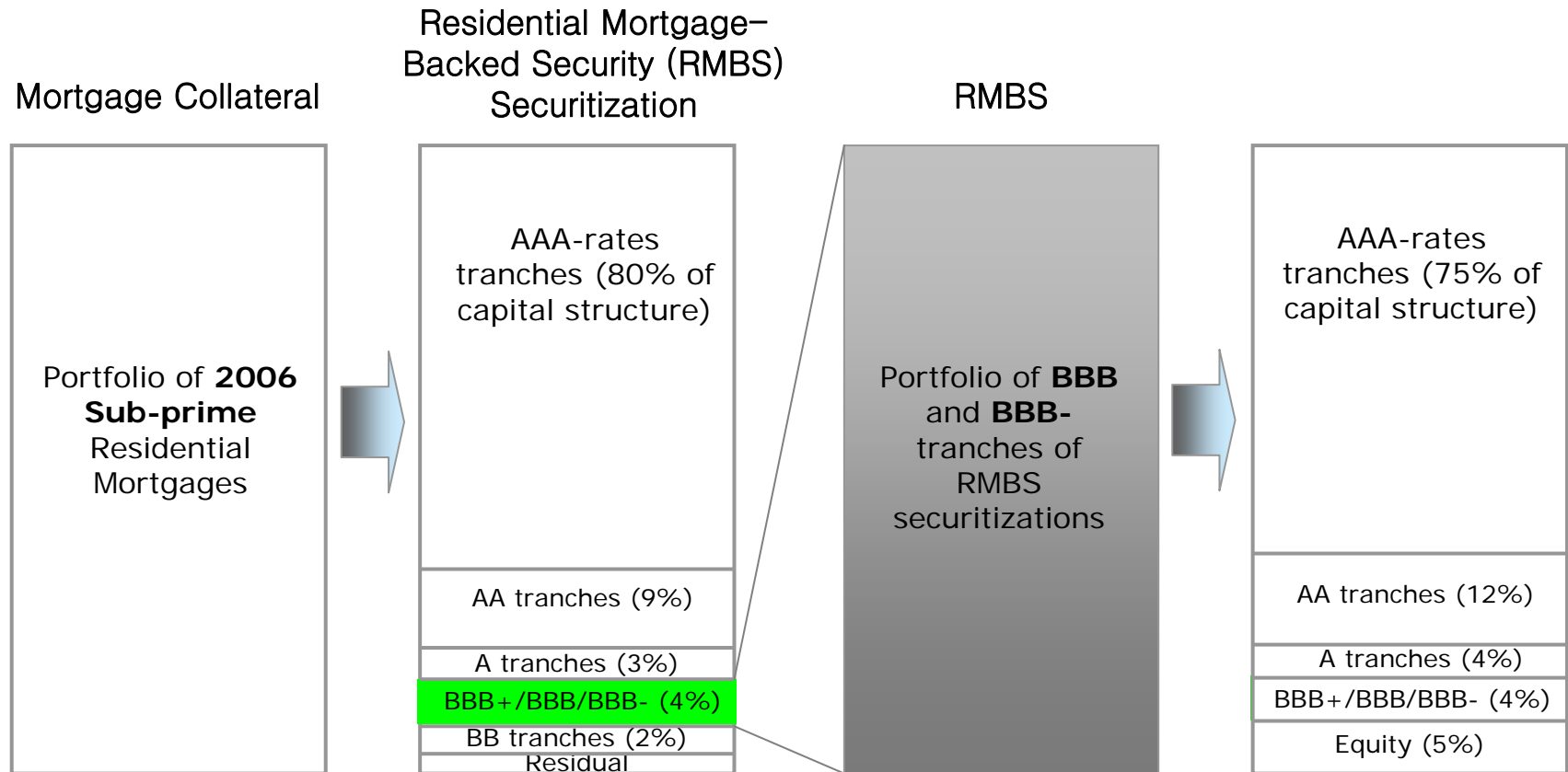
Structure of presentation

- The worrisome external environment
 - A financial crisis-driven recession in the U.S.
 - Rising food and fuel prices
- The financial channel: decoupling, so far
- The real channels: cyclical coupling, trend decoupling?
 - External demand
 - Remittances
 - Commodity prices
- The region's capacity to respond
- Beyond the cycle

The worrisome external environment

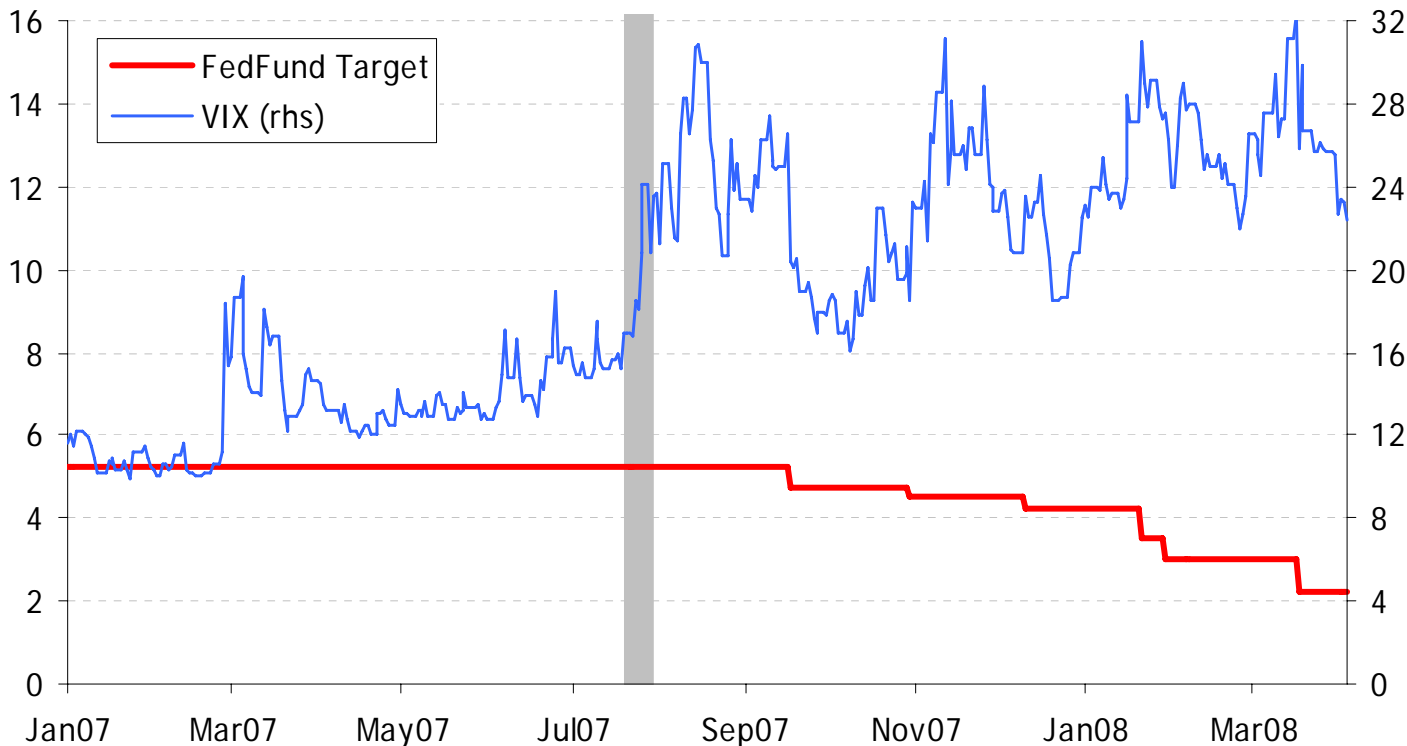
A financial crisis-driven recession in the U.S.
and
Rising international prices of foods and fuels

The source: sub-prime transgenic risk in the U.S.



The U.S. central bank has responded with unprecedented interventions

US MPR, New Lending Facilities & US Implicit Volatility Index
Fed Funds in %, VIX



Dec17: Term Auction Facilities (\$50 bn).

Mar7: Term Repurchase Transaction (\$100 bn).

Mar11: Fed Open Market Committee - Swap lines .

Term Securities Lending Facility (\$200 bn).

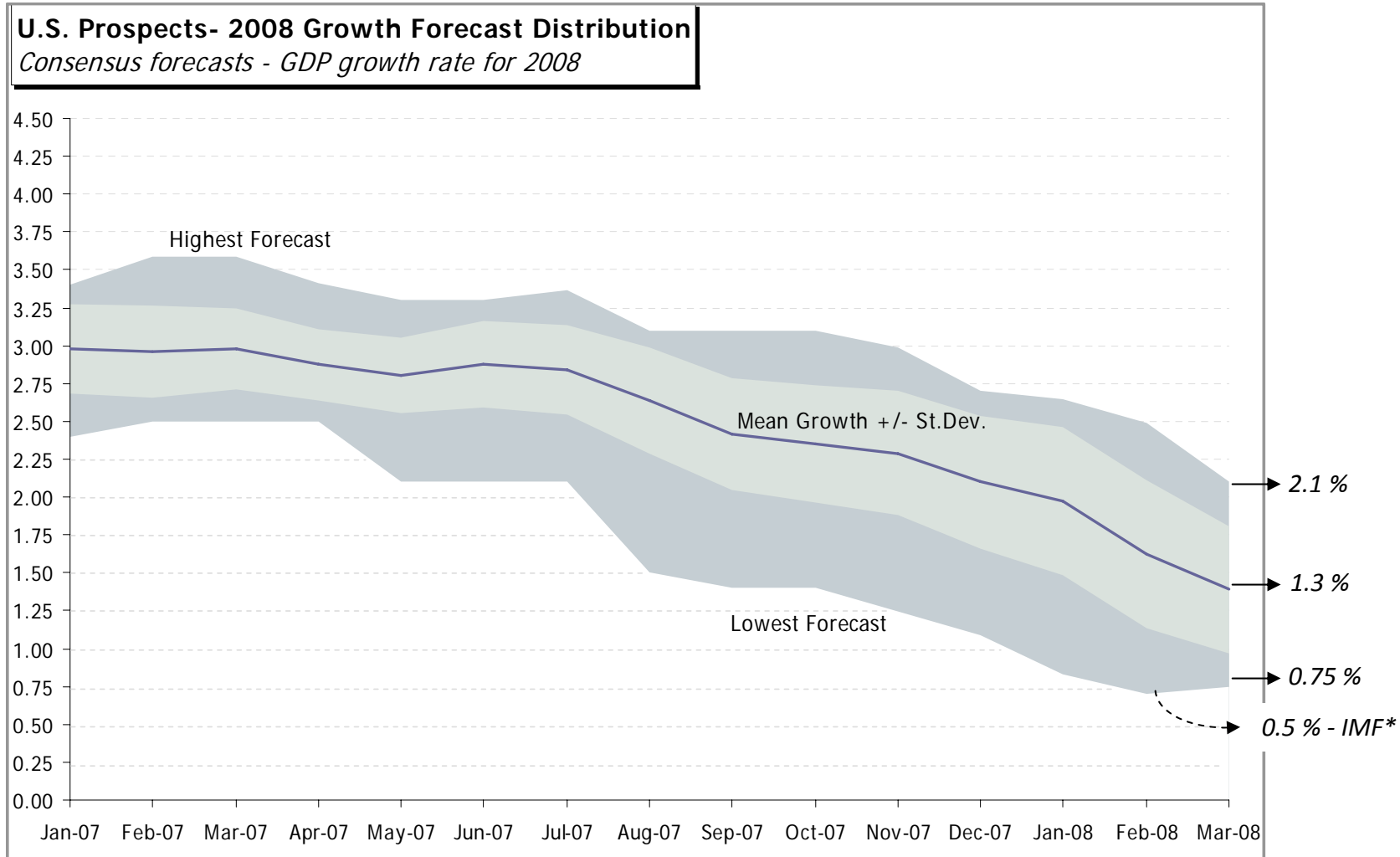
Mar16: Primary Dealer Credit Facility.

Mar20: Fed expands collateral for \$200 bn 'Treasury Swap' Facilities (TSLF)

As credit problems infect U.S. financial markets, the conviction of a recession rises

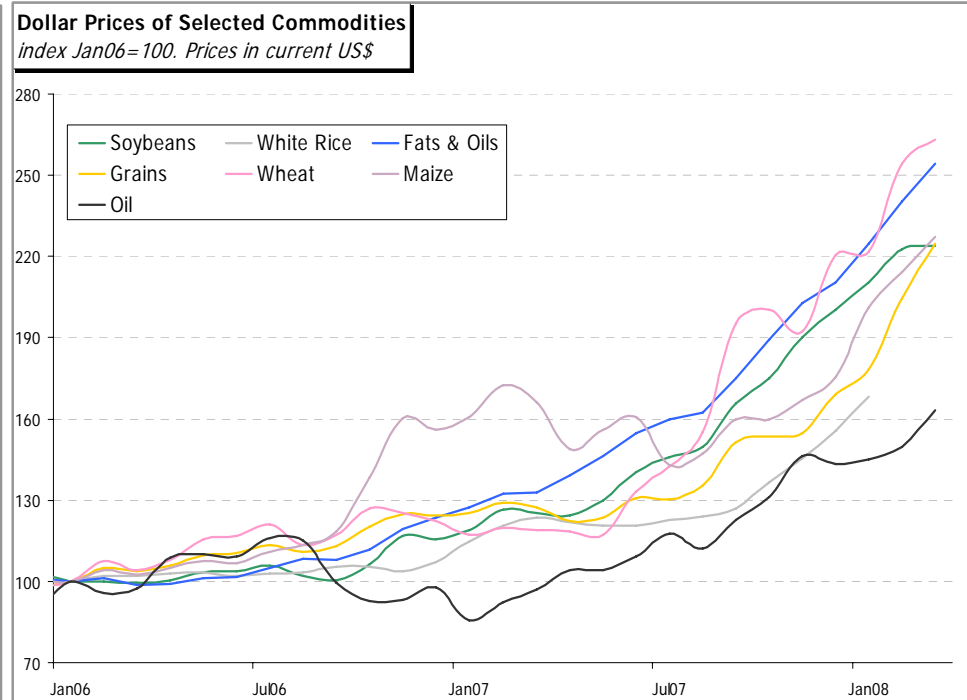
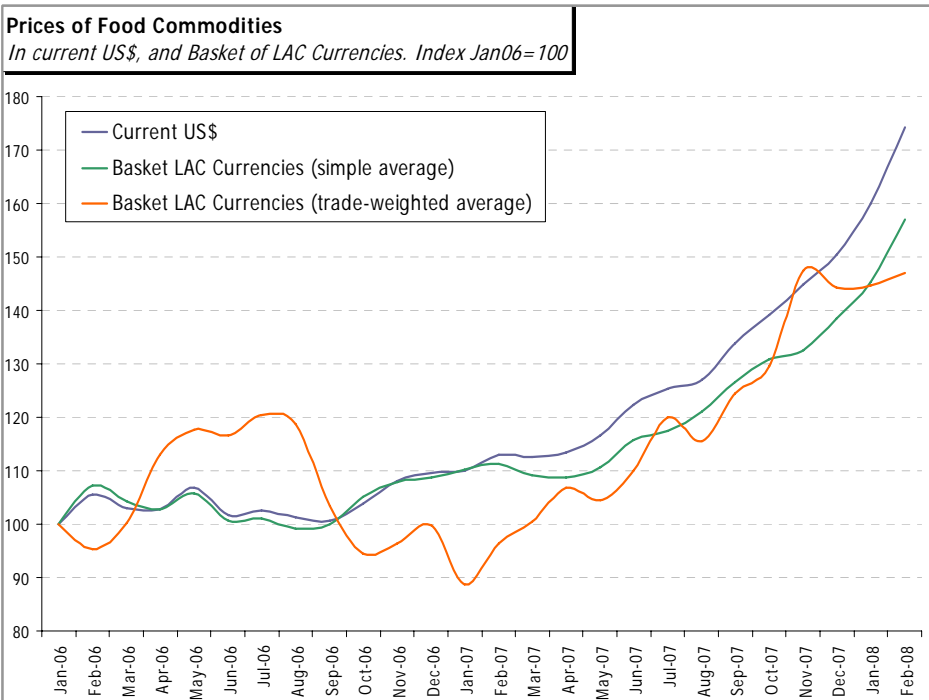


U.S. recession: forecasting or guessing?



Source: Consensus Forecasts. The mean is computed as average of the forecasts of more than 25 private agencies.

International prices of foods and fuels have been rising steeply



The financial channel

The region is less vulnerable to financial contagion than in the past – *this time, investors are not shorting Latin America*

Exhibit 1: Following the sub-prime crisis, Latin EMBI spreads have risen less than U.S. junk bonds spreads

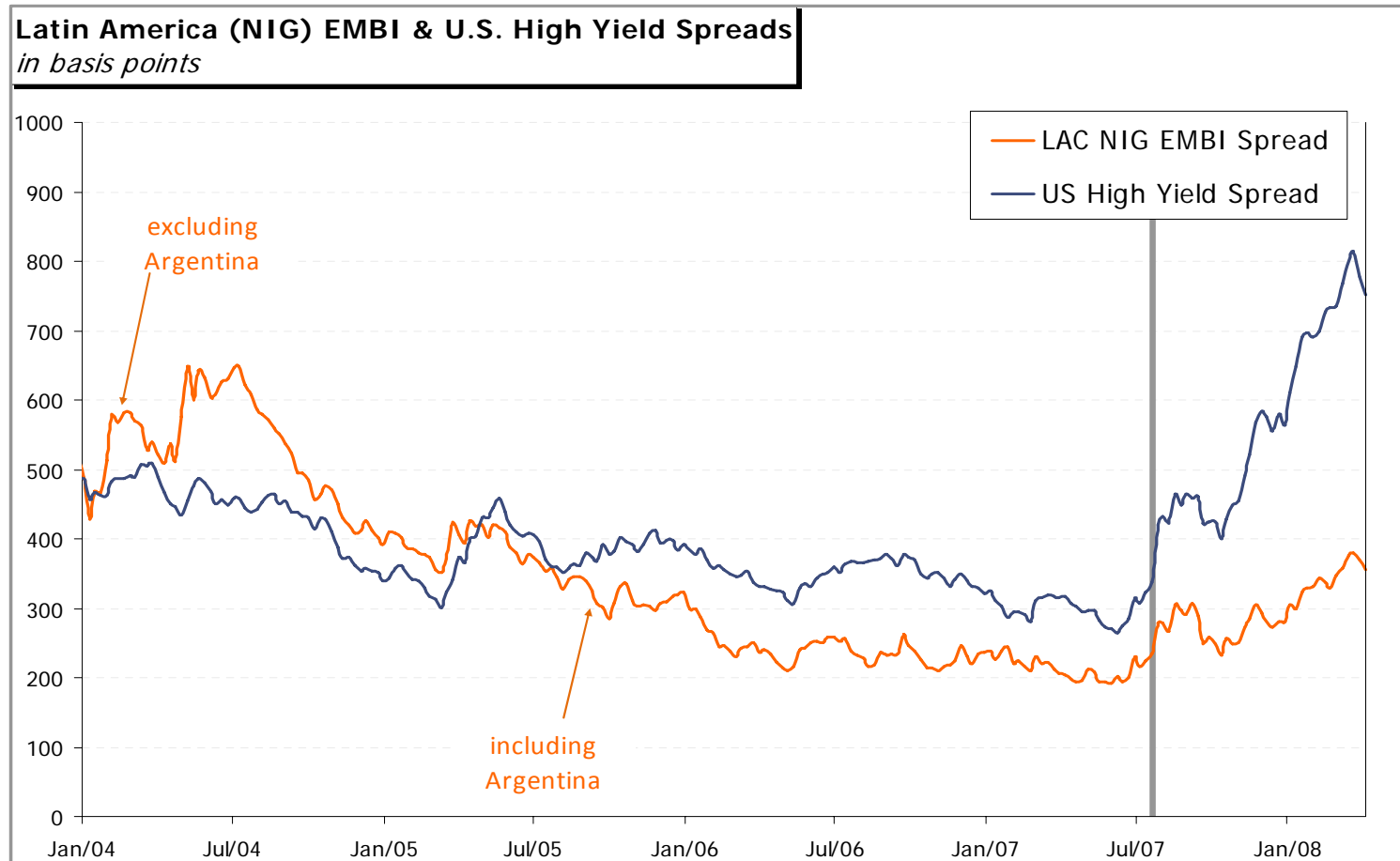
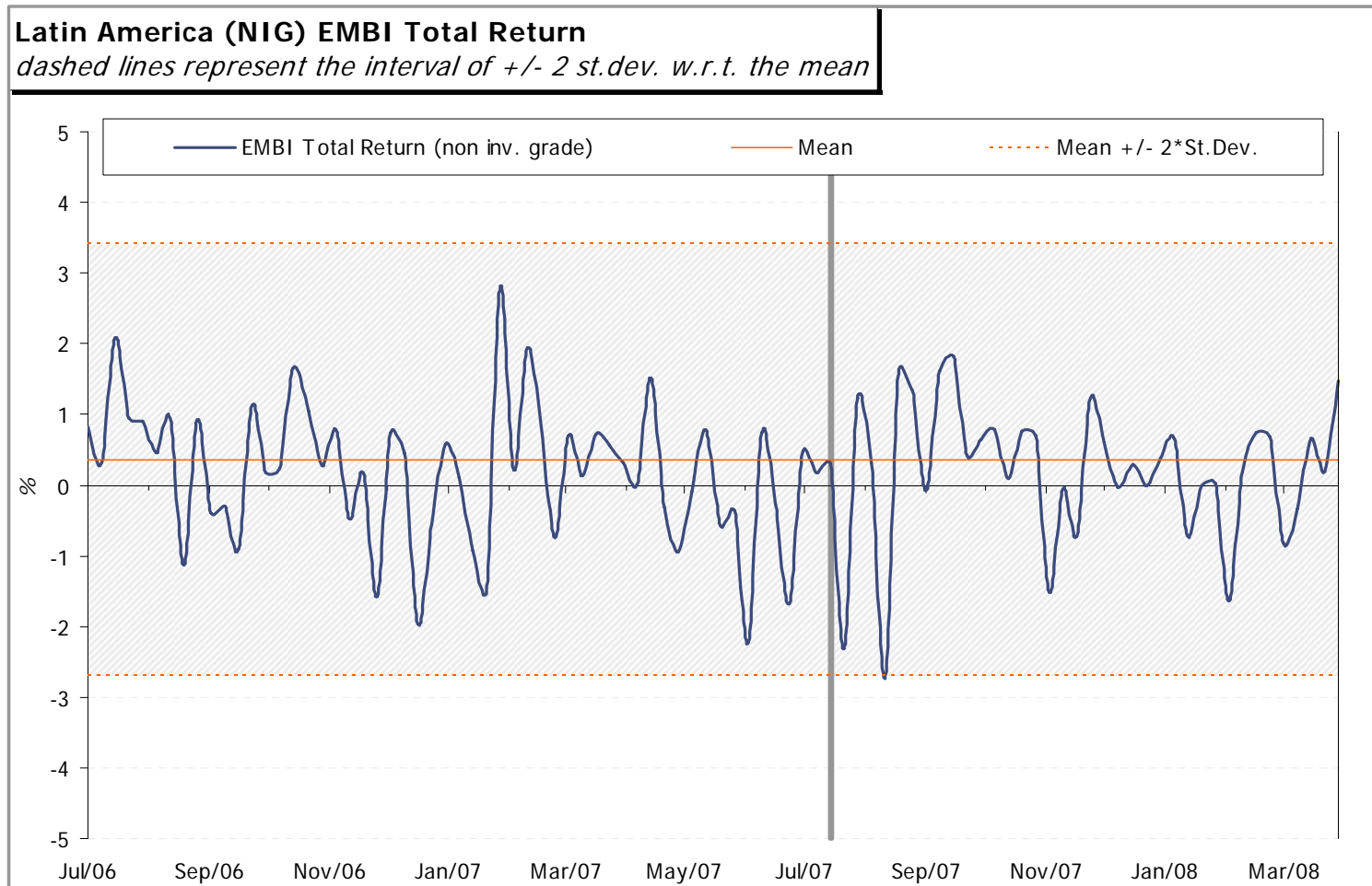


Exhibit 2: The returns on the Latin EMBI have remained within historical bounds...



... while the returns on U.S. junk bonds have exceeded historical bounds

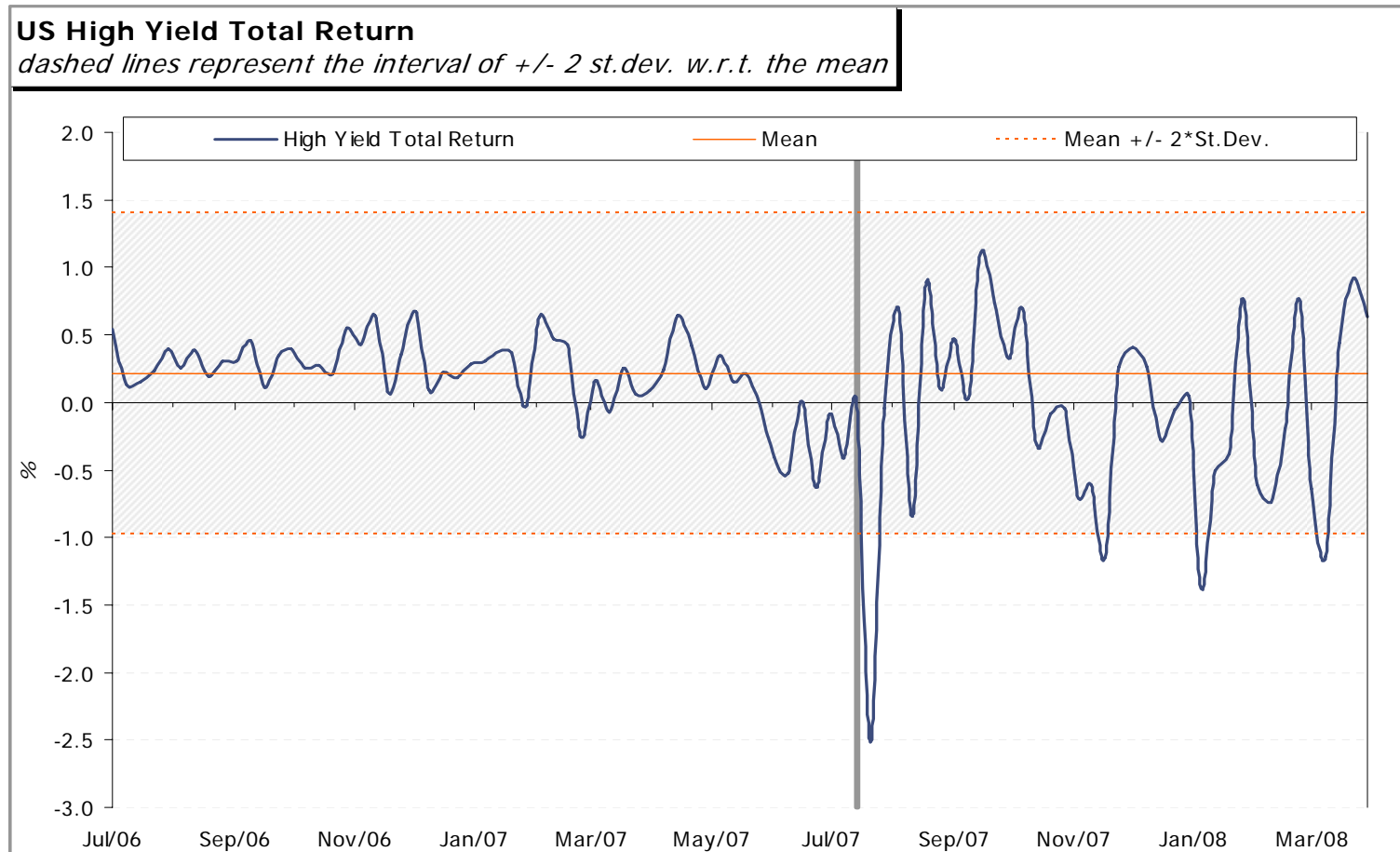


Exhibit 3: As volatility in Latin bonds fall, they add diversification benefits to a U.S. stock market portfolio

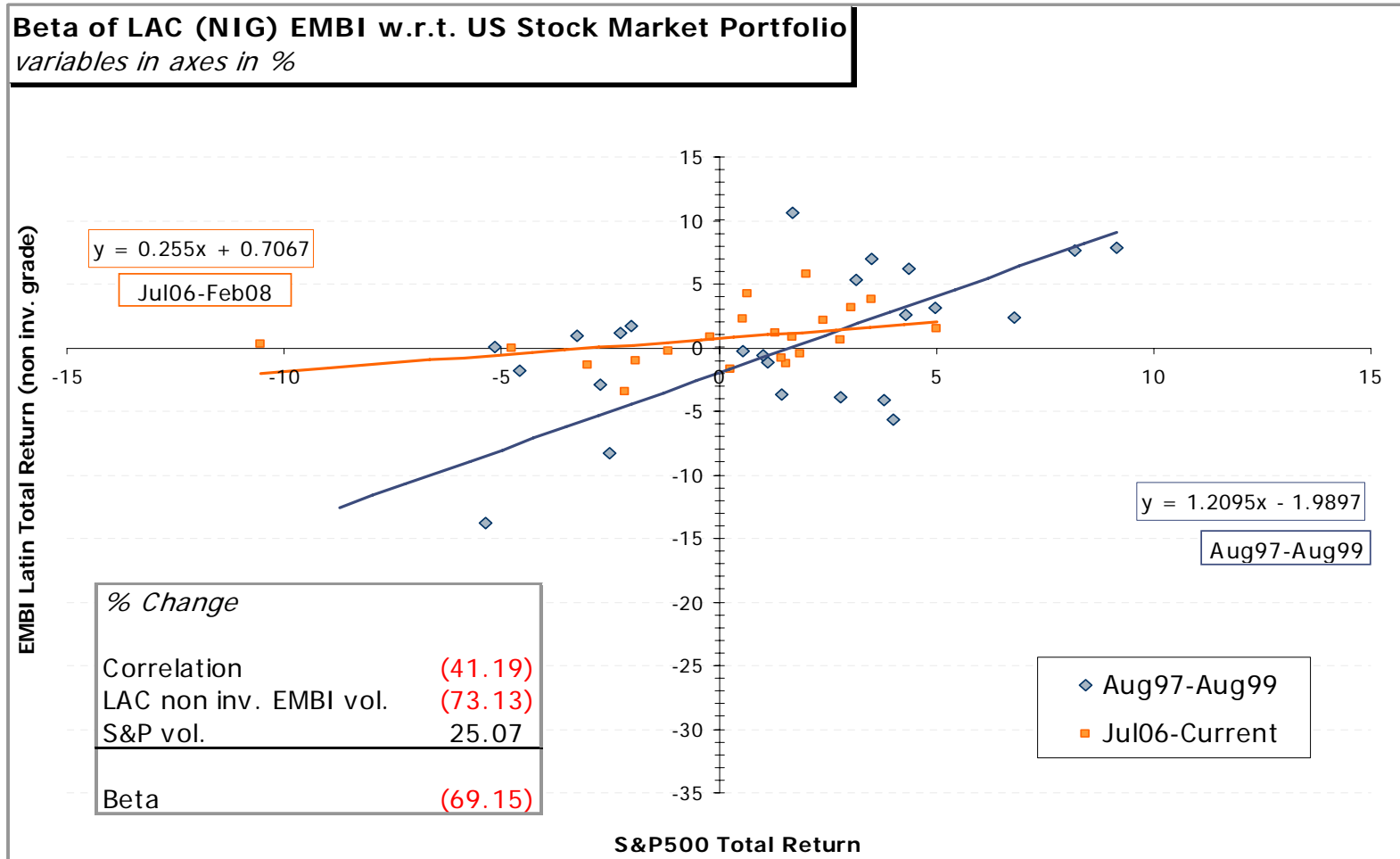
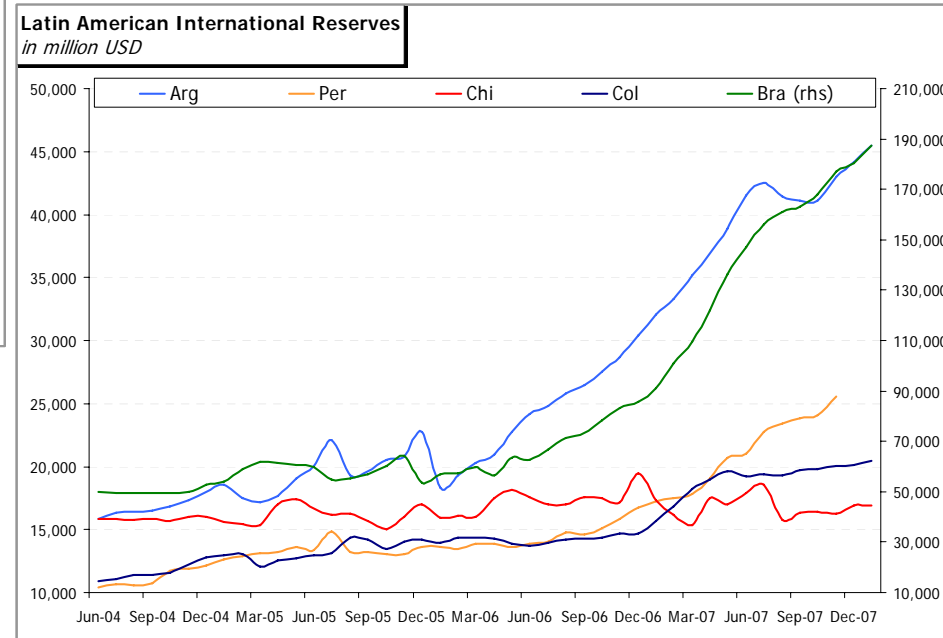
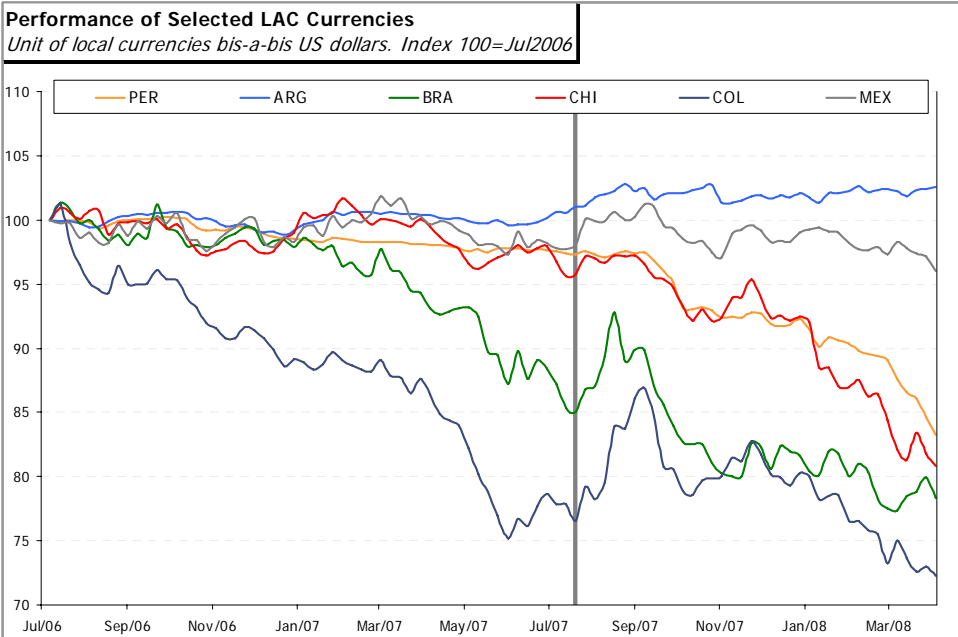
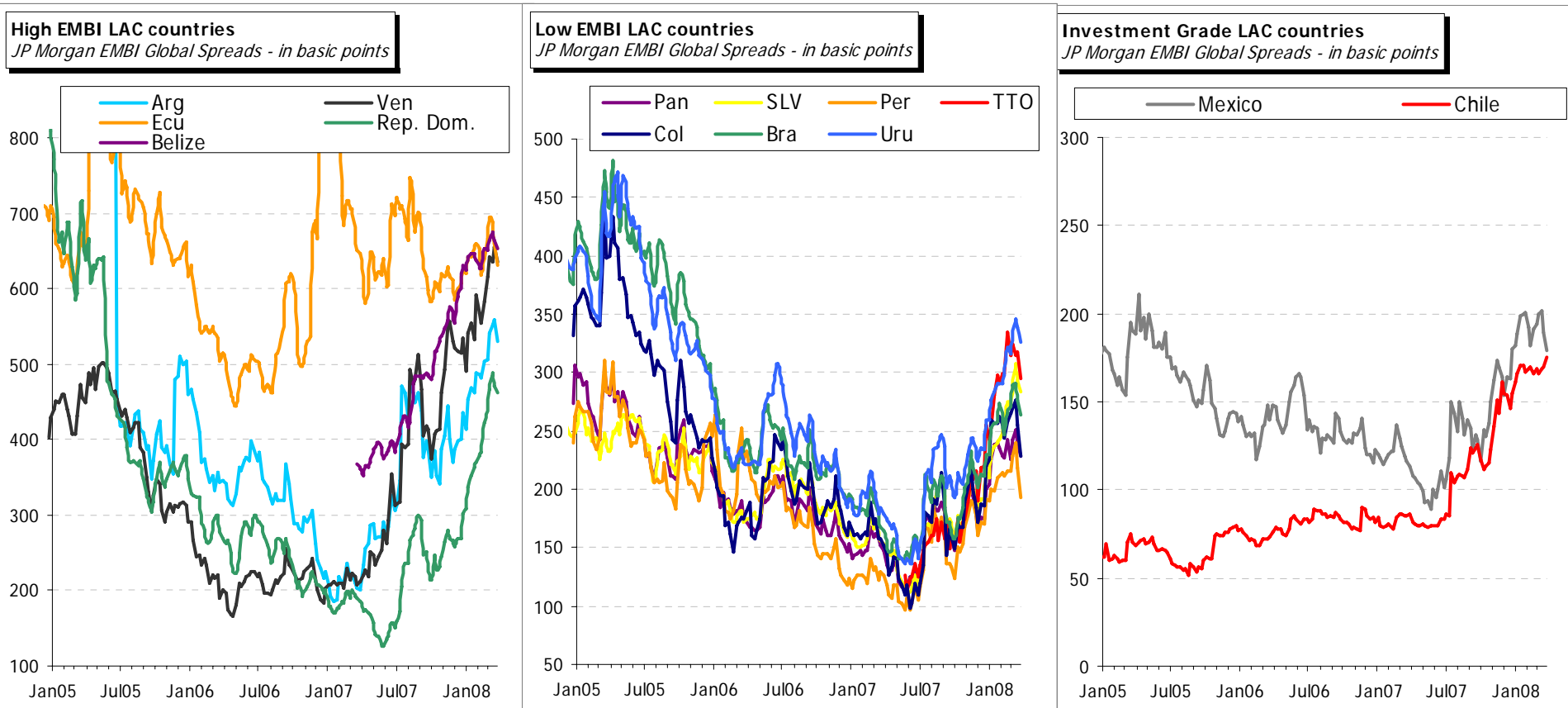


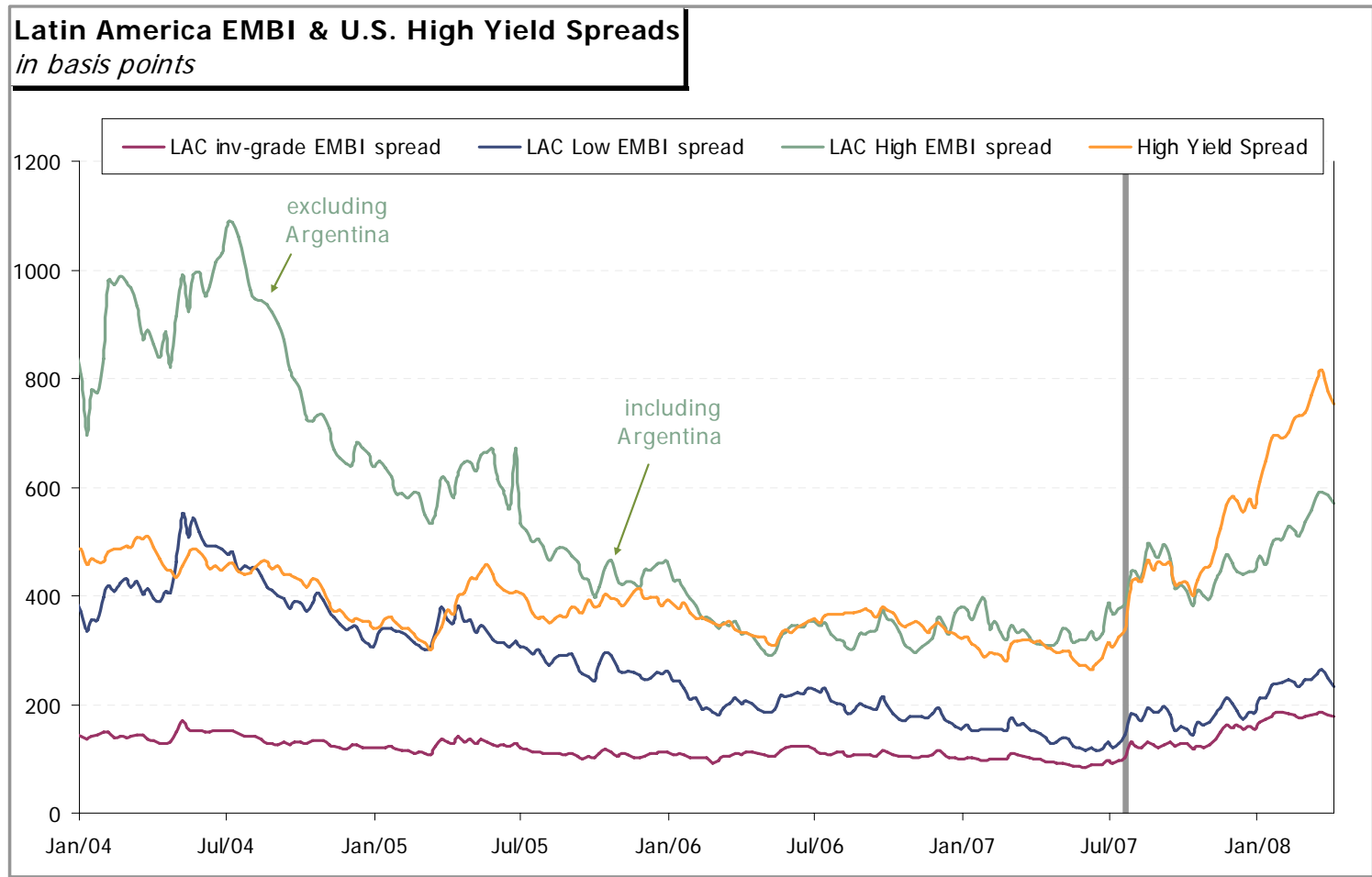
Exhibit 4: Latin currencies are not under attack; they are under appreciation pressures



Behind the average Latin EMBI, countries seem to be clustering into three groups...



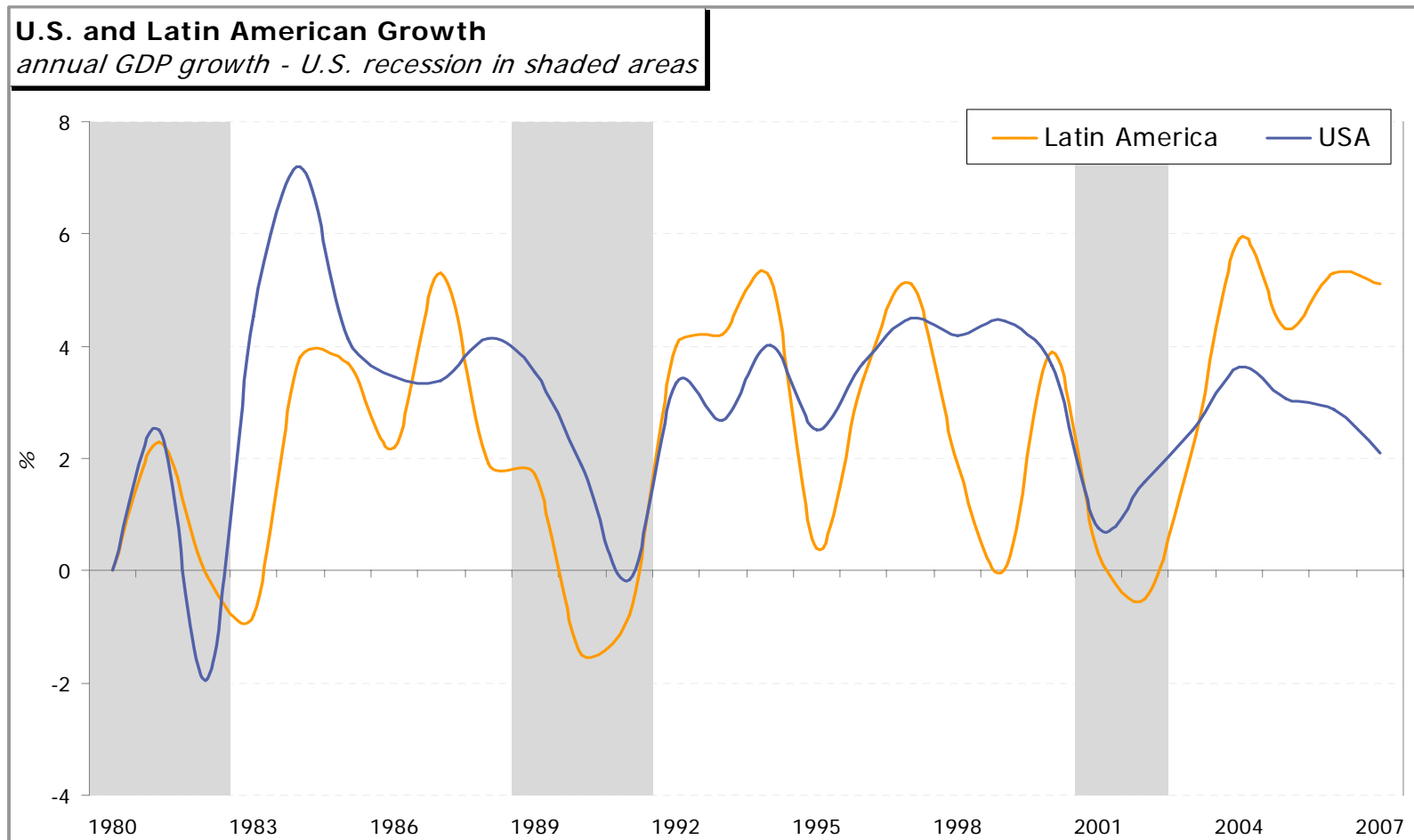
... depending on the behavior of their EMBI spreads relative to high-yield U.S. bond spreads



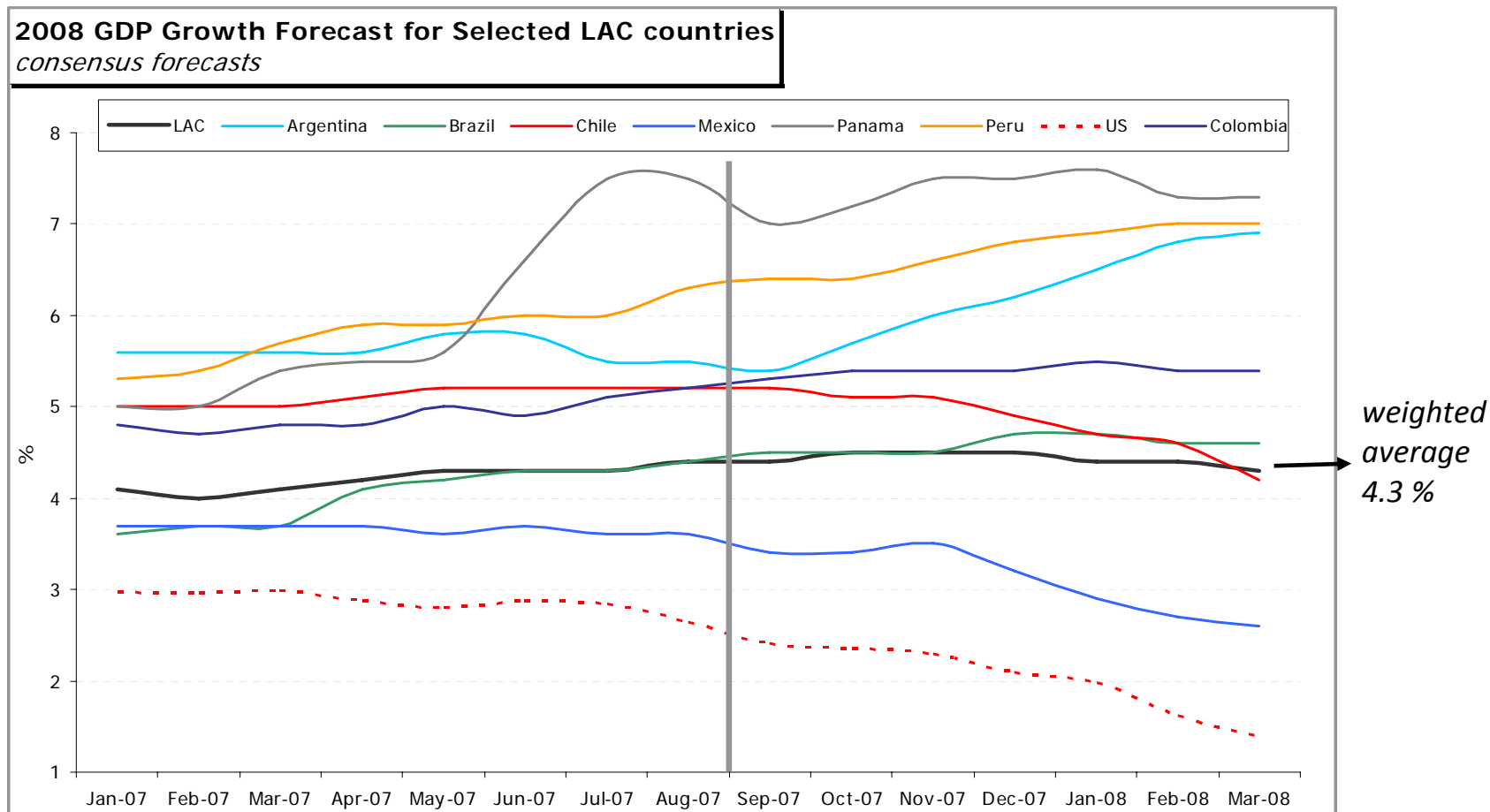
The real channels

External demand – a U.S. recession is an important concern, but less so if China maintains high growth

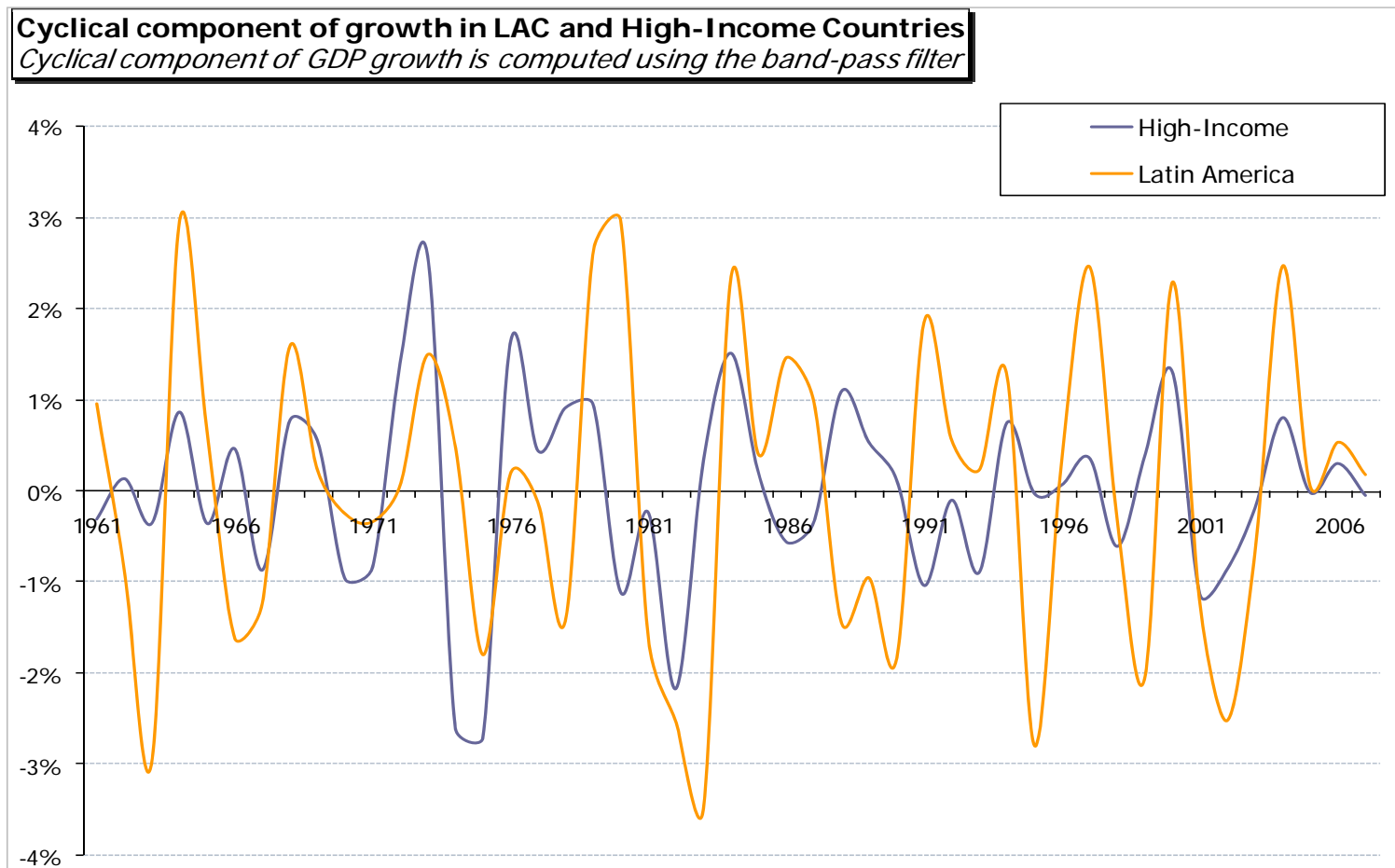
The evidence is puzzling – on the one hand, past U.S. downturns have dragged down Latin growth...



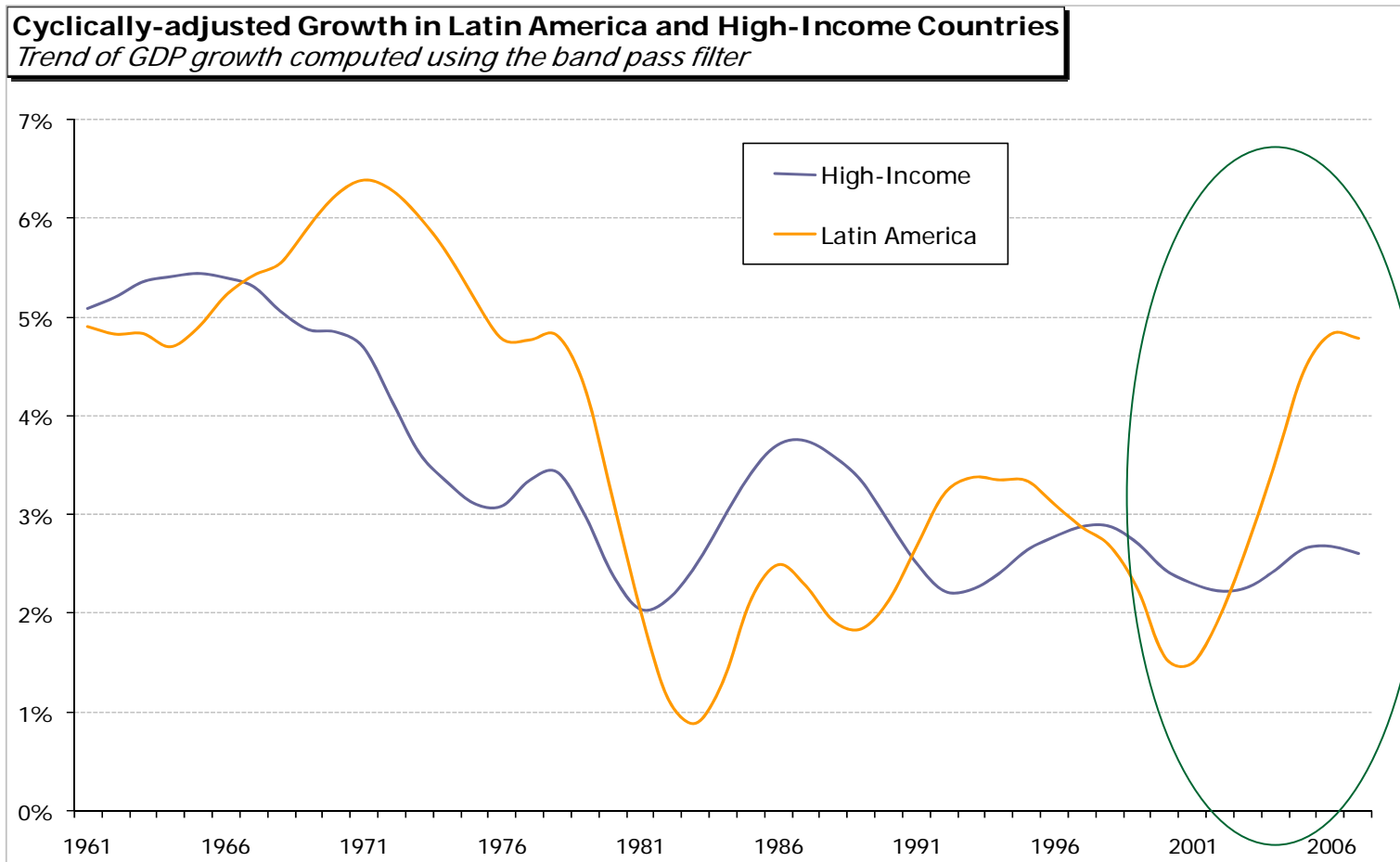
... on the other, Latin growth forecasts have remained high even as U.S. growth projections fall



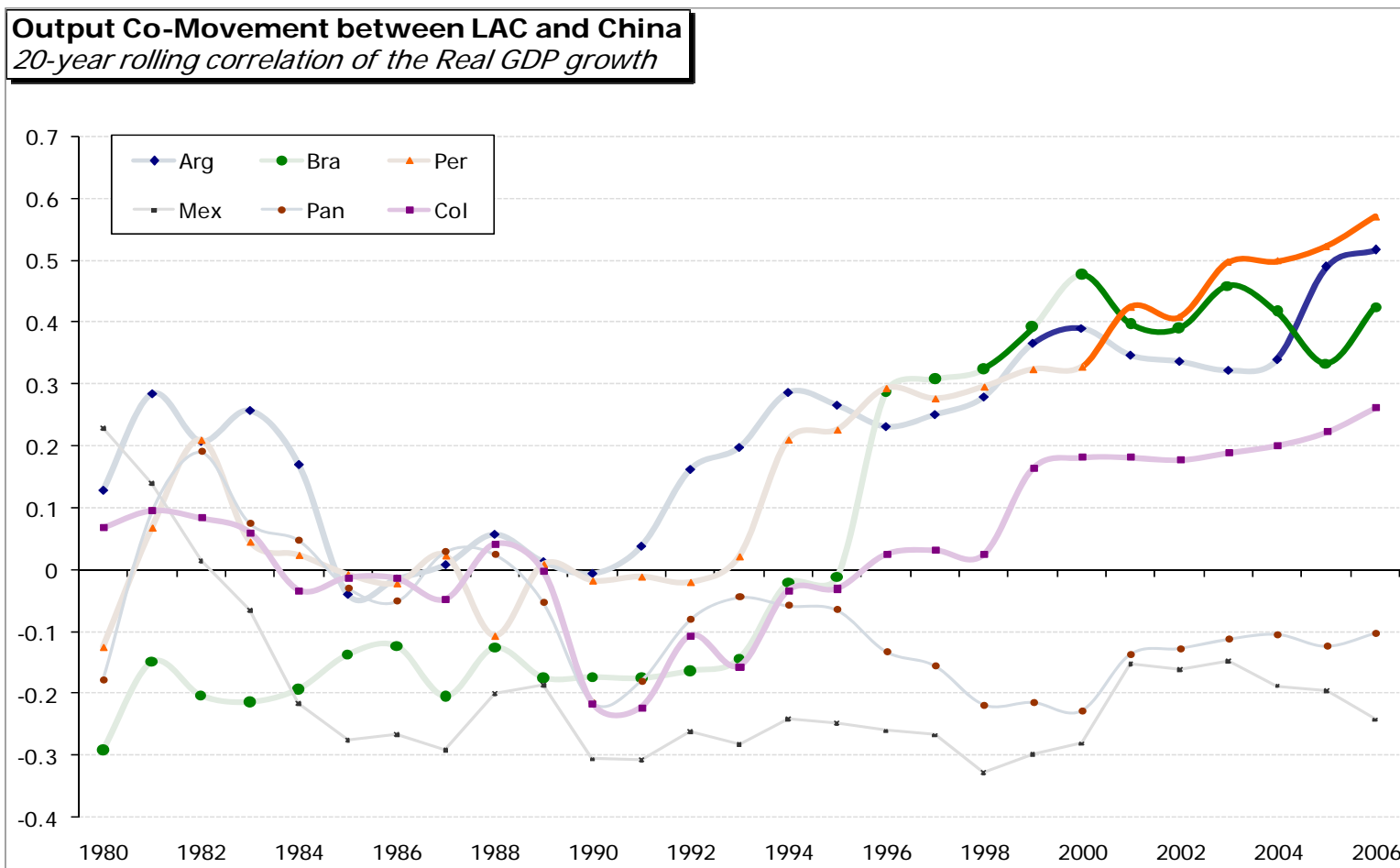
The *cyclical* components of growth in LatAm and high-income countries are clearly coupled...



... but do cyclically-adjusted growth paths suggest the beginning of *trend* decoupling?



The co-movement of growth between Latin America and China has been on the rise...



Source: National Authorities. Note: Solid colors reflect correlation values significant at a 10% confidence interval.

... and China is a key driver of rising commodity prices, which also sustain Latin growth

Correlations between commodity prices, US\$ and Growth

Agri Index	Energy Index	Indust. Metals Index	Prec. Metals Index	Soy	Copper	Oil WTI						
0.55	0.64	0.74	0.83	0.75	0.76	0.77	US\$ vs. EURO					
0.34	0.15	0.12	0.09	0.22	0.06	0.17	0.26	World %YoY				
0.62	-0.22	-0.18	-0.15	0.27	-0.14	-0.21	0.27	0.61	USA & YoY			
0.07	0.46	0.67	0.74	0.57	0.73	0.62	0.84	-0.14	-0.07	China %YoY		
0.19	-0.30	0.13	0.04	-0.09	0.17	-0.06	-0.02	-0.02	0.31	0.02	Europe & YoY	
0.26	0.49	0.53	0.57	0.60	0.56	0.56	0.73	0.40	0.27	0.61	0.18	LAC

The impact of a U.S. slowdown on Latin American growth – panel regressions

Impact of US Growth on LAC: Are there asymmetric effects?

Dependent variable: Growth in GDP of the LAC country (% , y-o-y)

Sample of 11 LAC countries, 1993:Q1 - 2007:Q4

Variable	[1]	[2]
US Growth (%, y-o-y)	0.3404 ** (0.138)	..
- US negative growth (%, y-o-y)	..	0.5728 ** (0.215)
- US positive growth (%, y-o-y)	..	0.2944 ** (0.127)
Growth in China (%, y-o-y)	0.2942 ** (0.107)	0.1864 * (0.117)
Growth in Euro Area (%, y-o-y)	0.0078 (0.170)	0.2146 (0.198)
Terms of Trade (%, y-o-y)	0.0153 * 0.010	0.0162 * 0.010
Observations	557	557
R**2	0.622	0.608

Notes:

-- The sample includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Peru, Mexico, Uruguay and Venezuela.

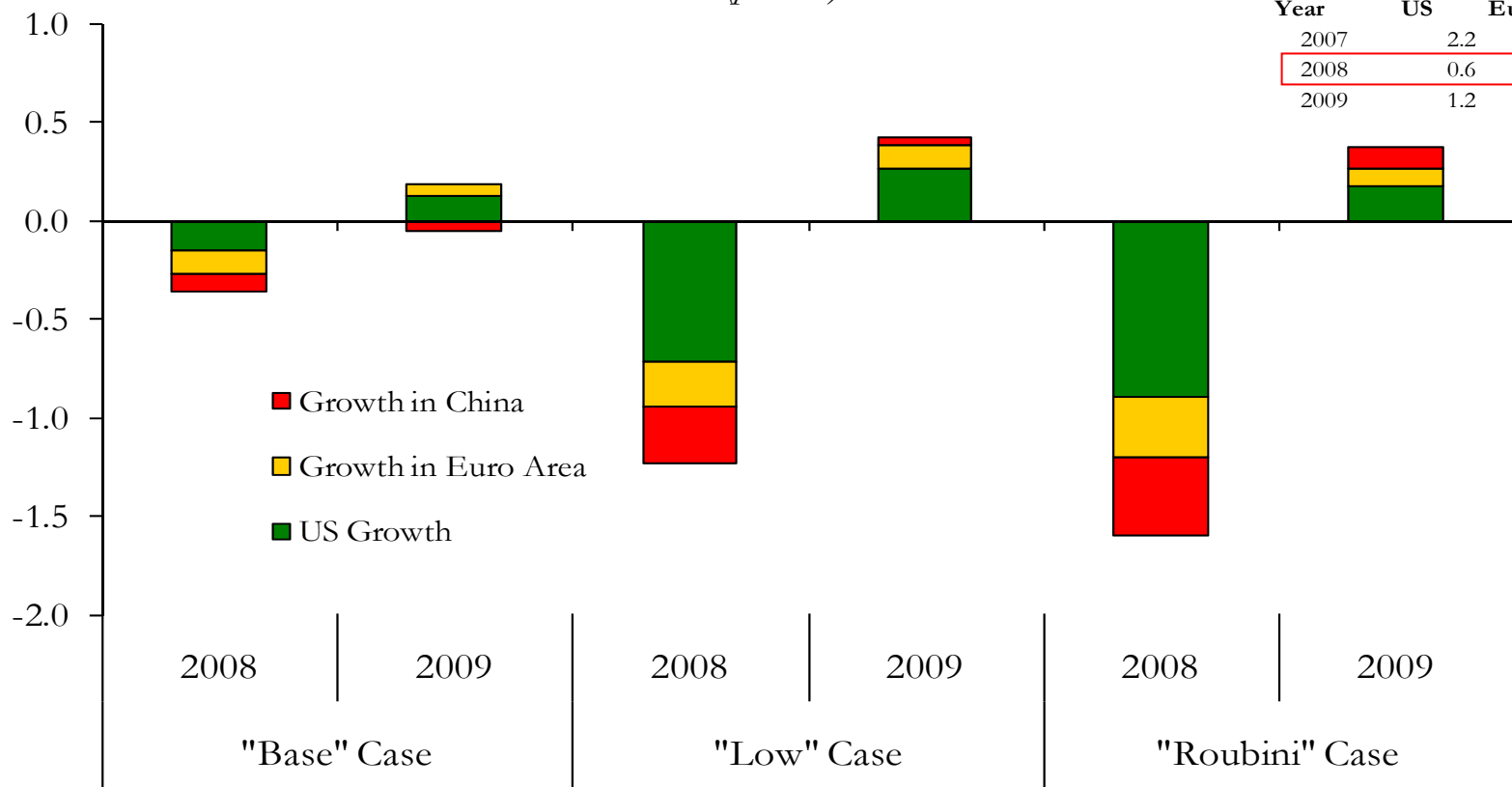
-- Asymmetric effects depend on U.S. negative (positive) growth, defined as growth below (above) the average y-o-y growth over the sample period.

-- Regressions account for country and time-effects and robust standard errors are computed.

-- Other explanatory variables include: lagged growth, exports of LAC countries to US, exports of LAC countries to China, exports of LAC countries to Euro Area, terms of trade shocks, 3-month US Libor rate, lagged real exchange rate misalignment, and dummies for the Tequila, Asian, and Argentine crises.

Much of the cyclical effect on LatAm will depend on growth in China and Europe

Impact of US, Euro Area and China growth on LAC
(percent)



"BASE" Case

Year	US	Euro Area	China
2007	2.2	2.7	11.3
2008	1.9	2.1	10.8
2009	2.3	2.4	10.5

"LOW" Case

Year	US	Euro Area	China
2007	2.2	2.7	11.3
2008	0.9	1.6	9.8
2009	1.8	2.1	10.0

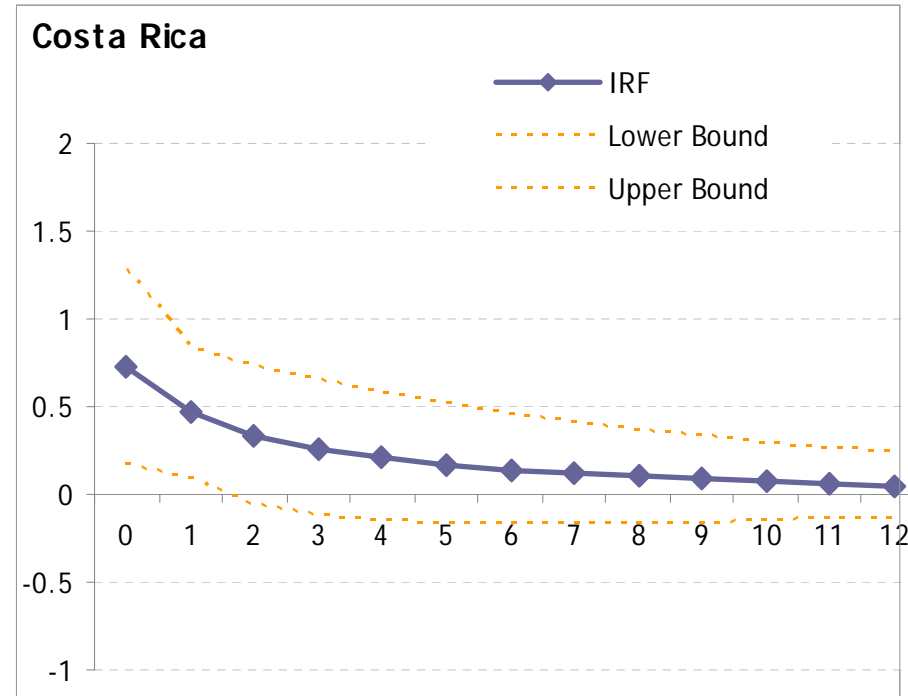
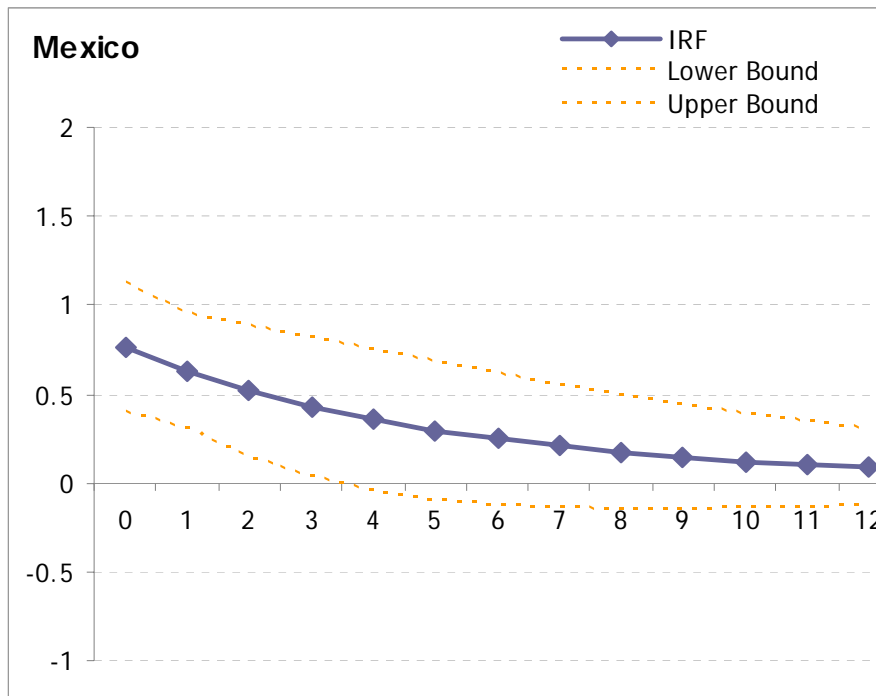
"Roubini's" Case

Year	US	Euro Area	China
2007	2.2	2.7	11.3
2008	0.6	1.2	9.2
2009	1.2	1.6	9.8

Heterogeneous impact of U.S. slowdown across countries – VAR approach

Direct effects dominate in countries tightly linked to the U.S. ...

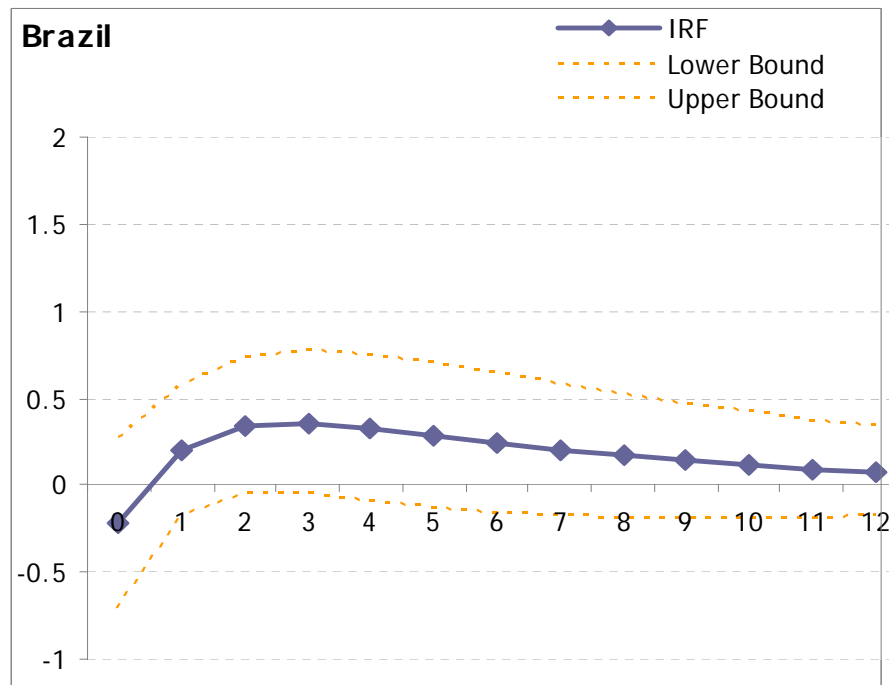
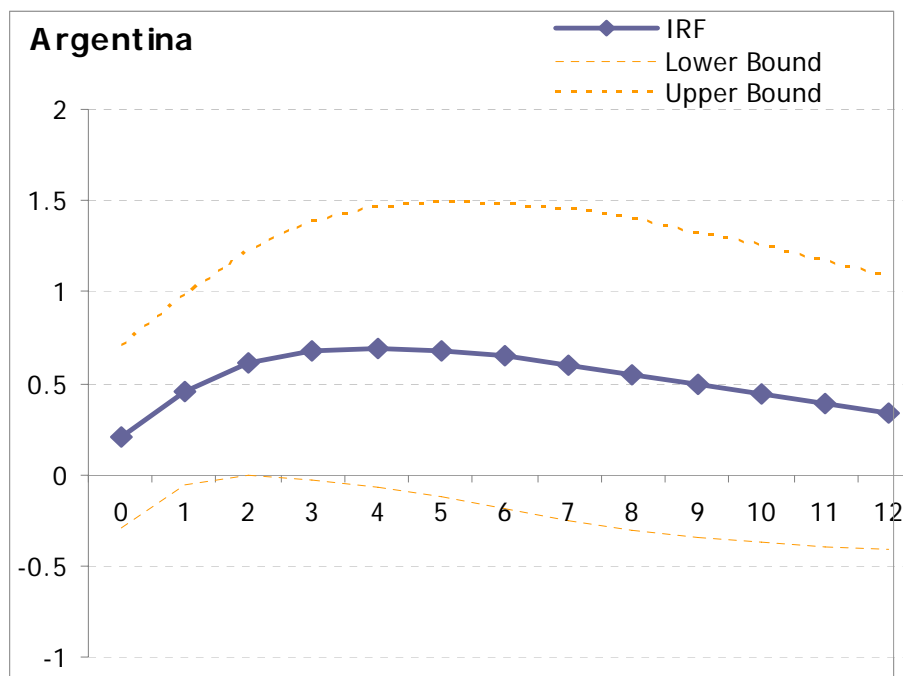
Impulse response function of a one standard deviation in the U.S. growth rate



Uneven impact of a U.S. slowdown – VAR approach

... and indirect effects in countries with diversified export markets

Impulse response function of a one standard deviation in the U.S. growth rate

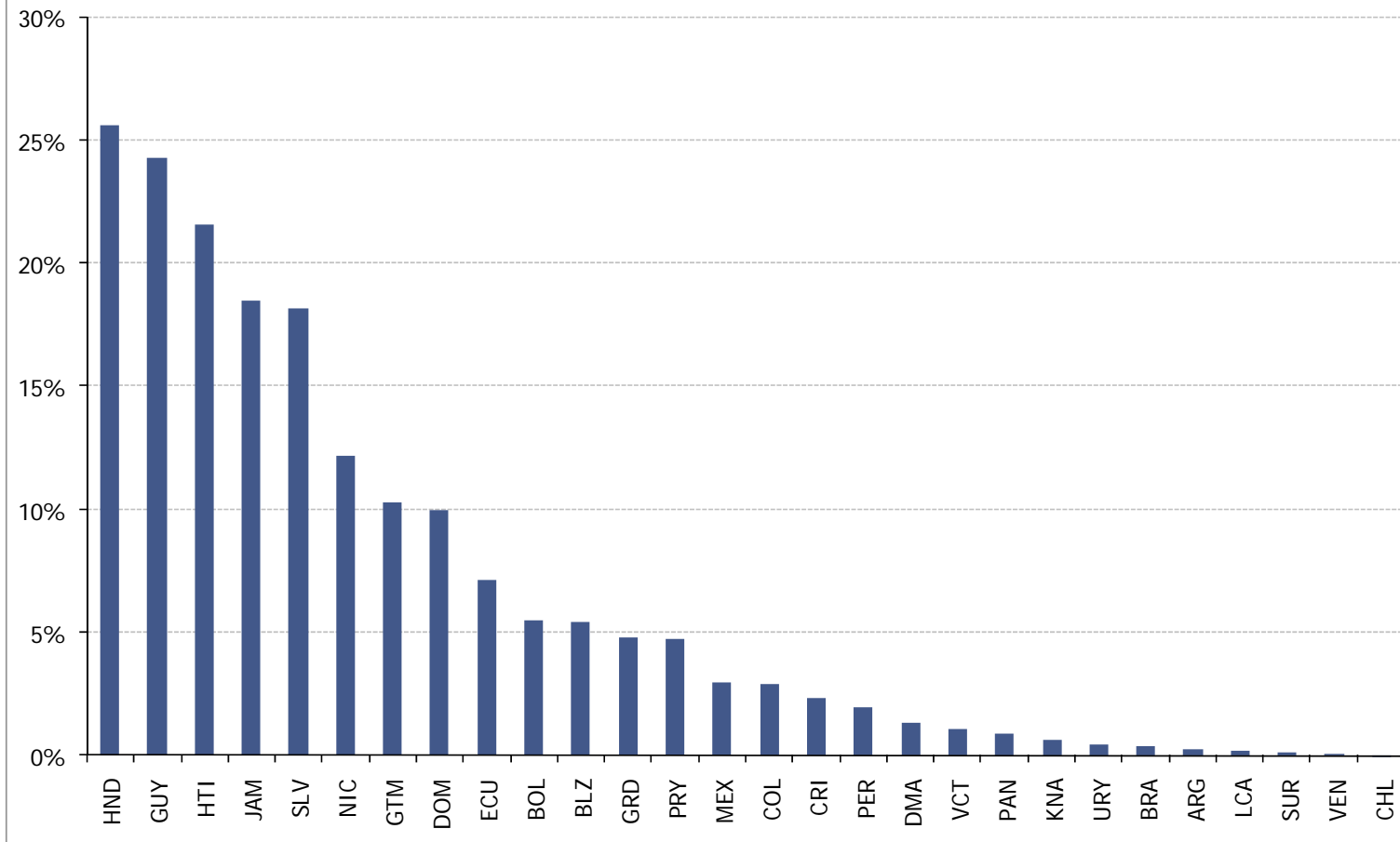


The real channels

Remittances – their decline hurts a well-defined set of Latin countries

Remittances represent 10-20 percent of GDP in eight Caribbean and Central American countries

Remittances to LAC in 2006
(Remittances inflows as % GDP)



Remittances are countercyclical w.r.t. recipient country growth but procyclical w.r.t. to sending country growth

Cyclical Behavior of Workers' Remittances in Latin America

Panel Data Evidence

Sample of 26 LAC countries, 1970-2004 (Annual Data)

Dependent Variable: Fluctuations in the Workers Remittances as a percentage of GDP

Method: Instrumental Variables

Variable	Band-pass	Hodrick-Prescott
Recipient GDP growth	-1.2913 ** (0.573)	-1.1293 * (0.586)
Sender GDP growth	2.1792 ** (1.028)	1.9001 * (0.988)

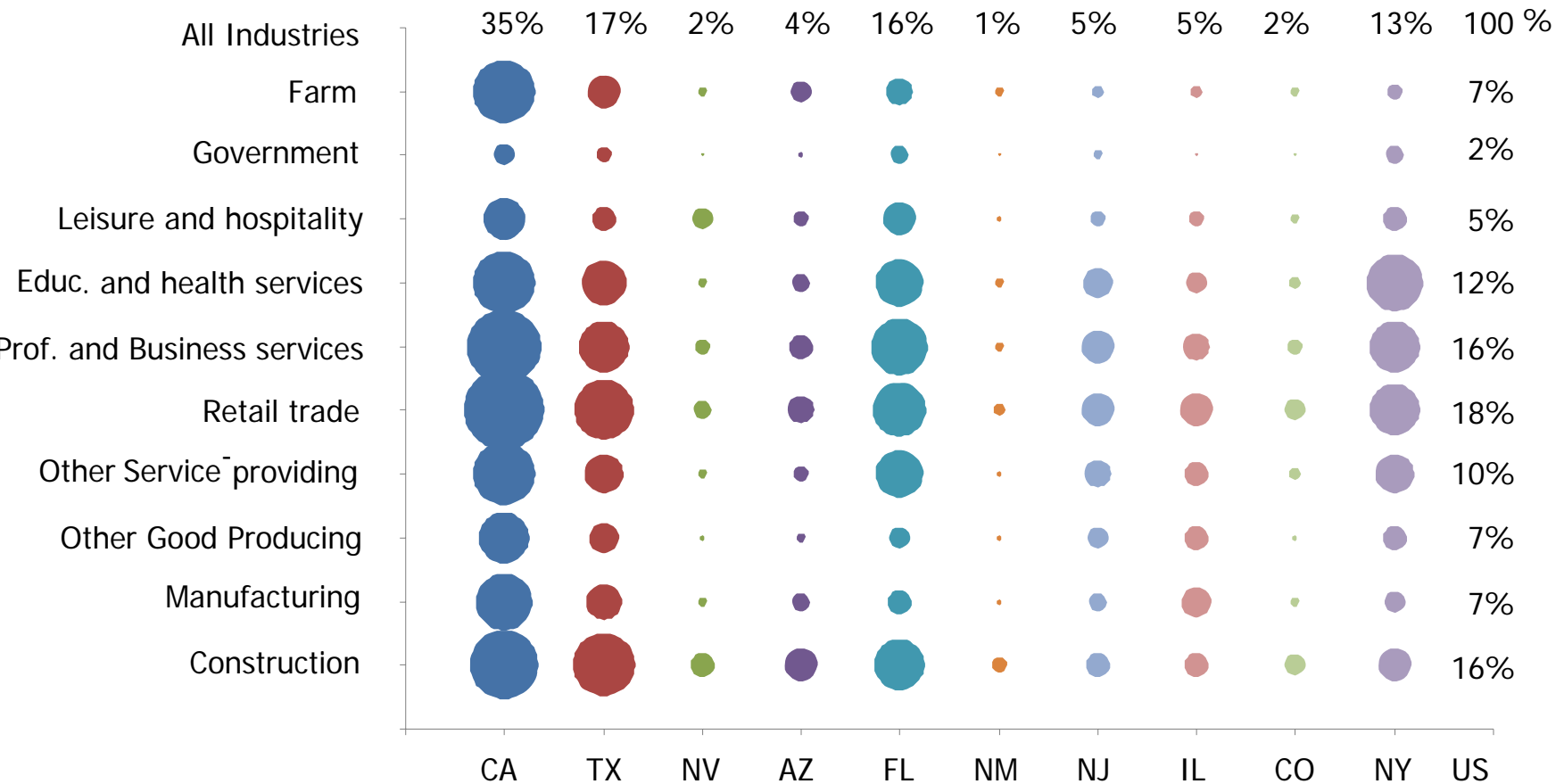
Our regression equation includes fluctuations in real output of the remittance-receiving and remittance-sending countries as well as a deterministic time trend and the lagged value of the ratio of remittances to GDP. Real GDP growth in the recipient country is instrumented with its lagged values and (current and lagged values of) international crude oil prices, following the strategy of Fatas and Mihov (2006).

** (**) implies statistical significance at the 10 (5) percent.*

Latin migrants in the U.S. work in states and economic sectors that are hit hard by current crisis

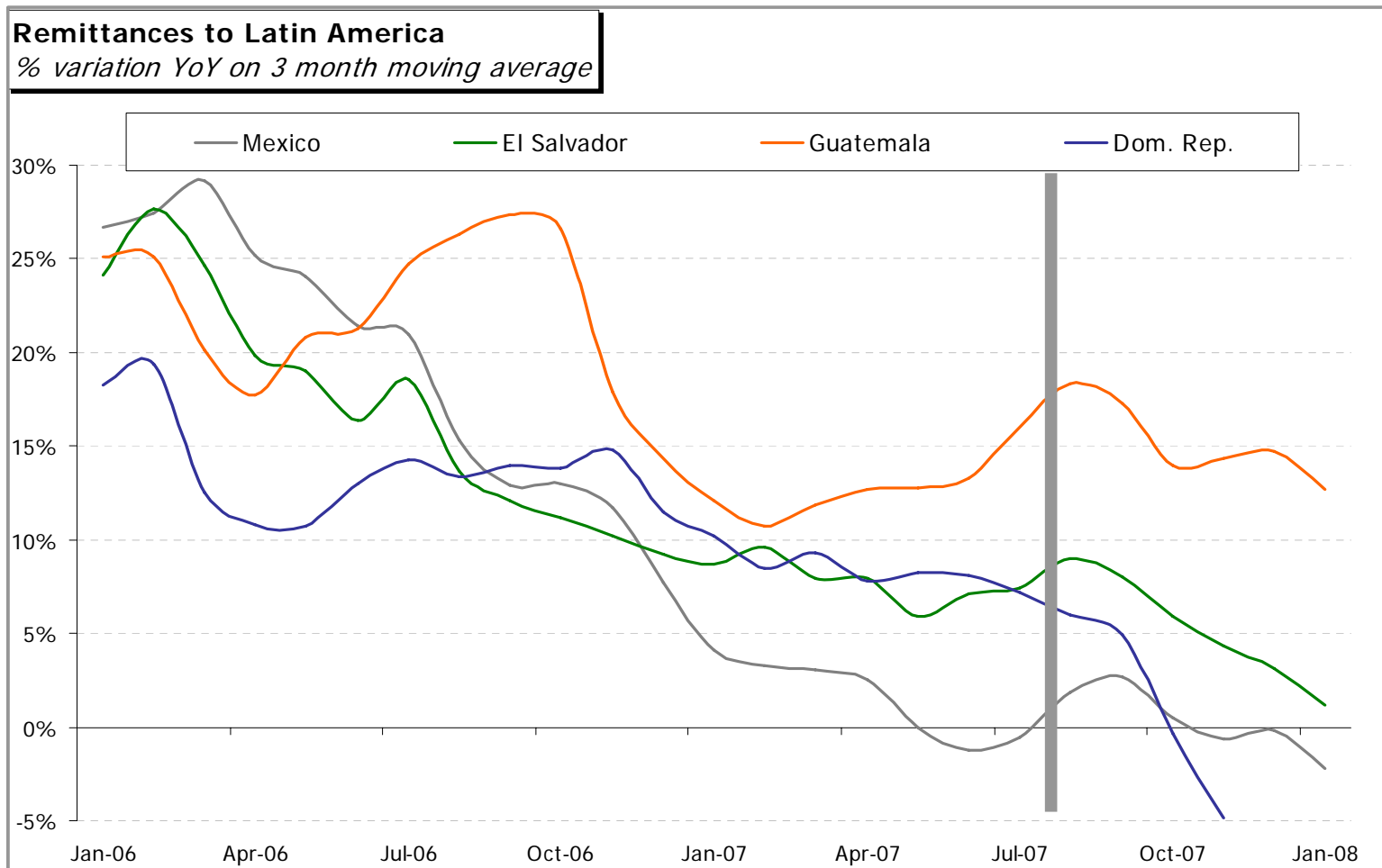
Latin Americans inmigrnats in the US
by states of residence and industry sector

(15 million)



Source: IPUMS – 2006 census. US Pop. filtered by birthplace. States shown account for 80% of the total. Size of bubbles represent immigrant population size.

It is thus not surprising that the growth rate in remittances to LatAm has been decelerating



A U.S. recession would reduce remittances significantly, but the effect on LatAm growth would be marginal

A deceleration of 1.5 percentage points in U.S. growth leads to a decline in the ratio of remittances to GDP of 2.7 percentage points...

$$\begin{array}{rcccl}
 \text{change in US growth due to the SubPrime crisis} & & & & \\
 \overbrace{(\hat{y}^{US} - \hat{y}^{US*})} & \hat{\beta} & = & \Delta(R/GDP) & \\
 & \underbrace{\hspace{1cm}} & & & \\
 & \text{Effect over} & & & \\
 & \text{LAC average} & & & \\
 (3\% - 1.6\%) & (1.9) & = & -2.66 &
 \end{array}$$

... and this leads to a reduction of 0.12 percentage points in LAC growth

$$\begin{array}{rcccl}
 \Delta \ln(R/GDP) & \hat{\gamma} & = & \hat{y}^{LAC} & \\
 & \underbrace{\hspace{1cm}} & & & \\
 & \text{Effect of R/GDP} & & & \\
 & \text{over GDP} & & & \\
 (0.54) & (0.226) & = & -0.12 &
 \end{array}$$

A U.S. recession would significantly increase poverty among recipients, but only modestly nationwide

Poverty rates would increase by 17% among remittance recipients:

$$\begin{array}{rcl} \Delta(R / GDP) & \hat{\alpha} & = \% \Delta P^{LAC} \\ (2.66) & \text{Elasticity of recipient poverty w.r.t. (R/GDP)} & \\ & (6.6) & = 17.5 \end{array}$$

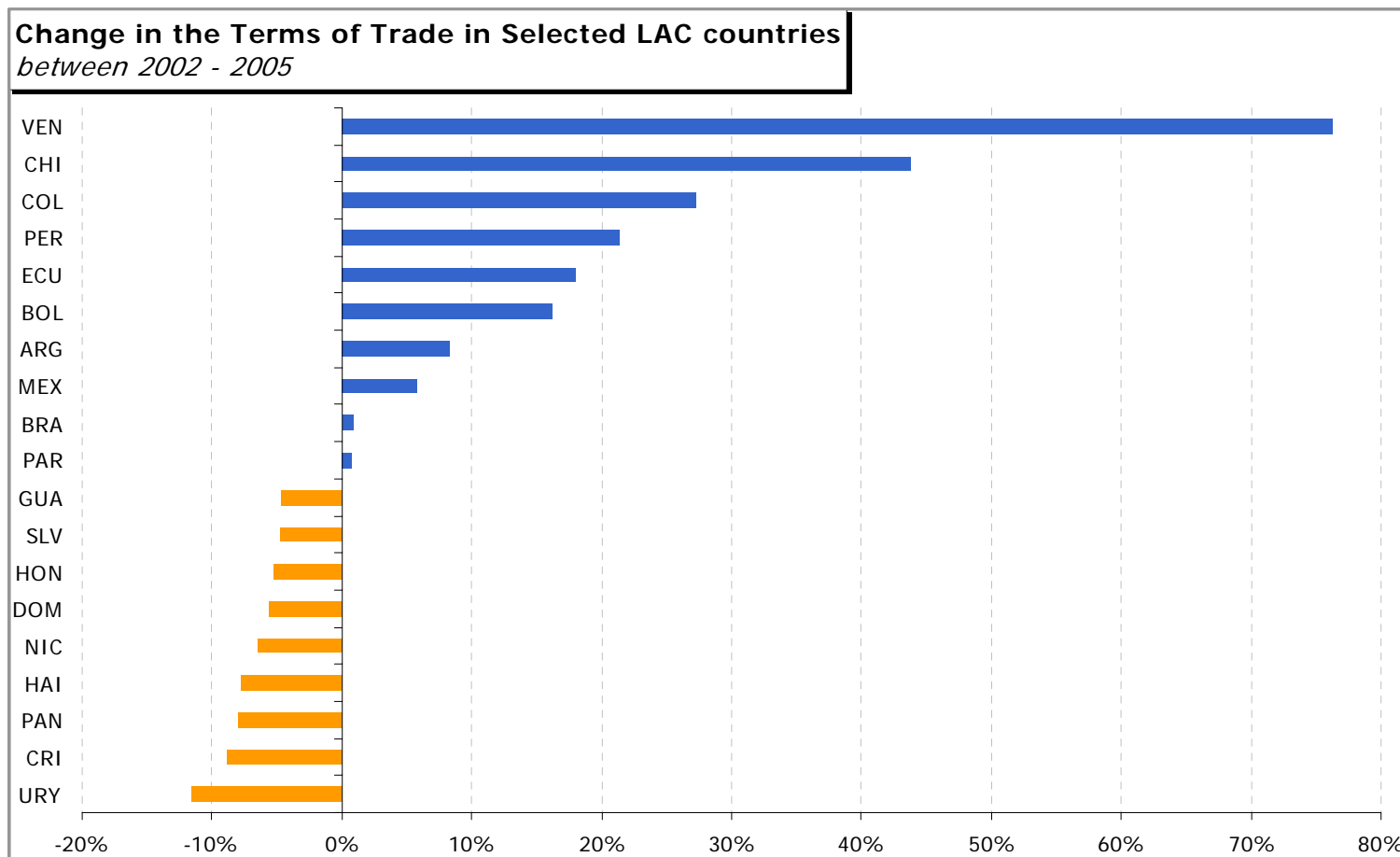
Poverty would increase by only 1% at the national level:

$$\begin{array}{rcl} \Delta(R / GDP) & \hat{\delta} & = \% \Delta P^{LAC} \\ (2.66) & \text{Elasticity of poverty w.r.t. (R/GDP)} & \\ & (0.39) & = 1.04 \end{array}$$

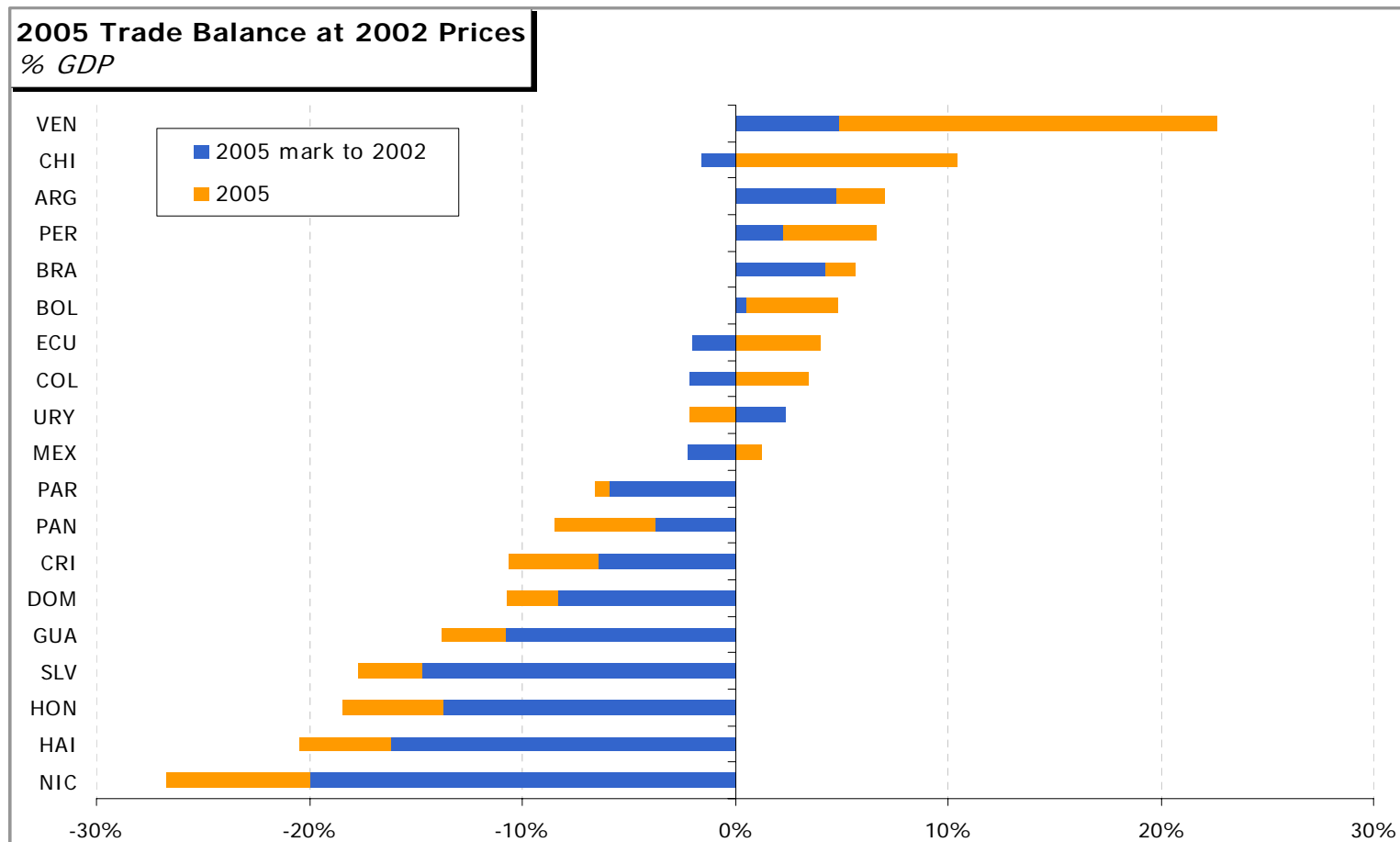
The real channels

Commodity price increases – asymmetric effects
across and within Latin countries

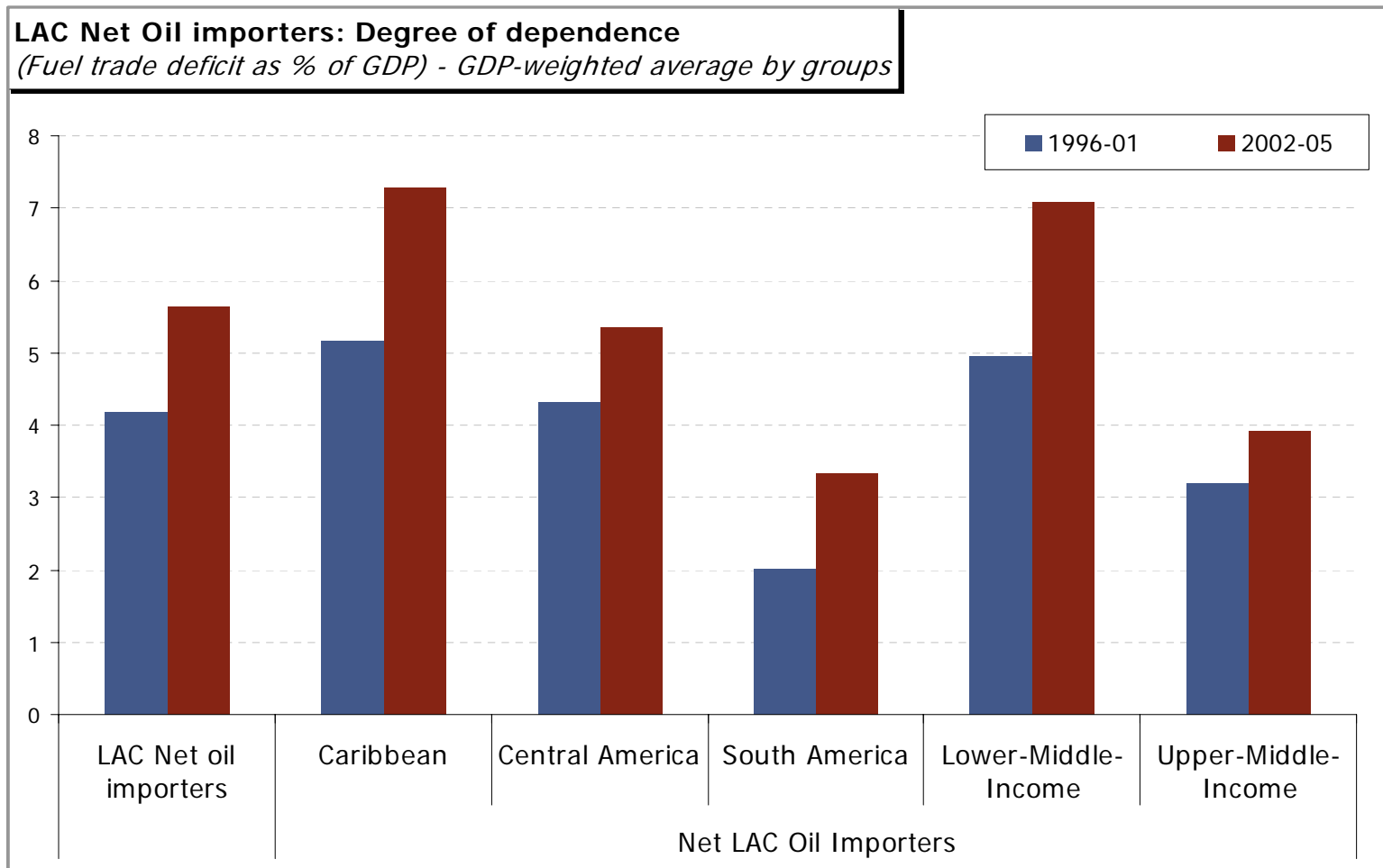
Changes in commodity prices have a highly heterogeneous effect on Latin economies



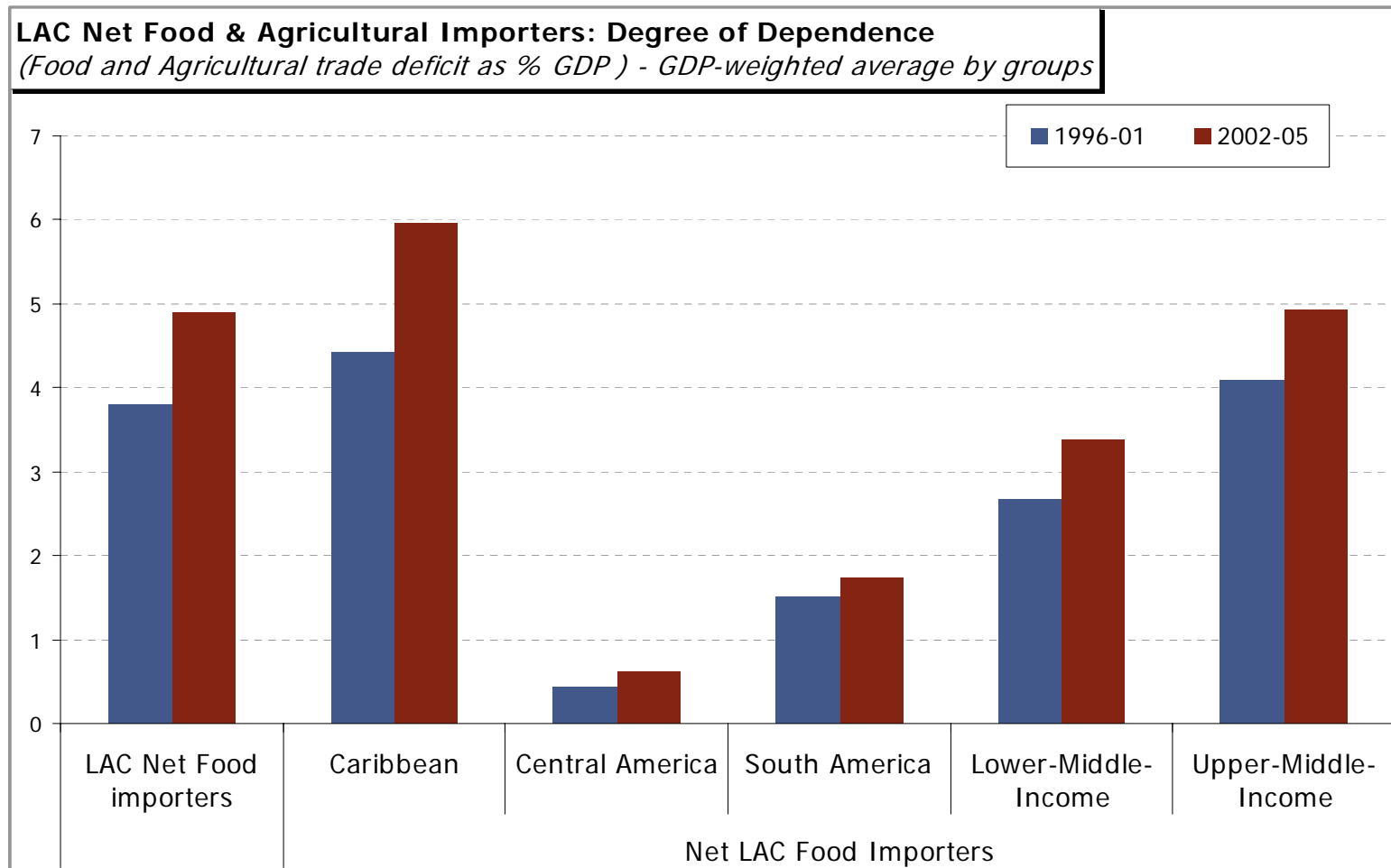
Changes in commodity prices have a highly heterogeneous effect on Latin economies (cont.)



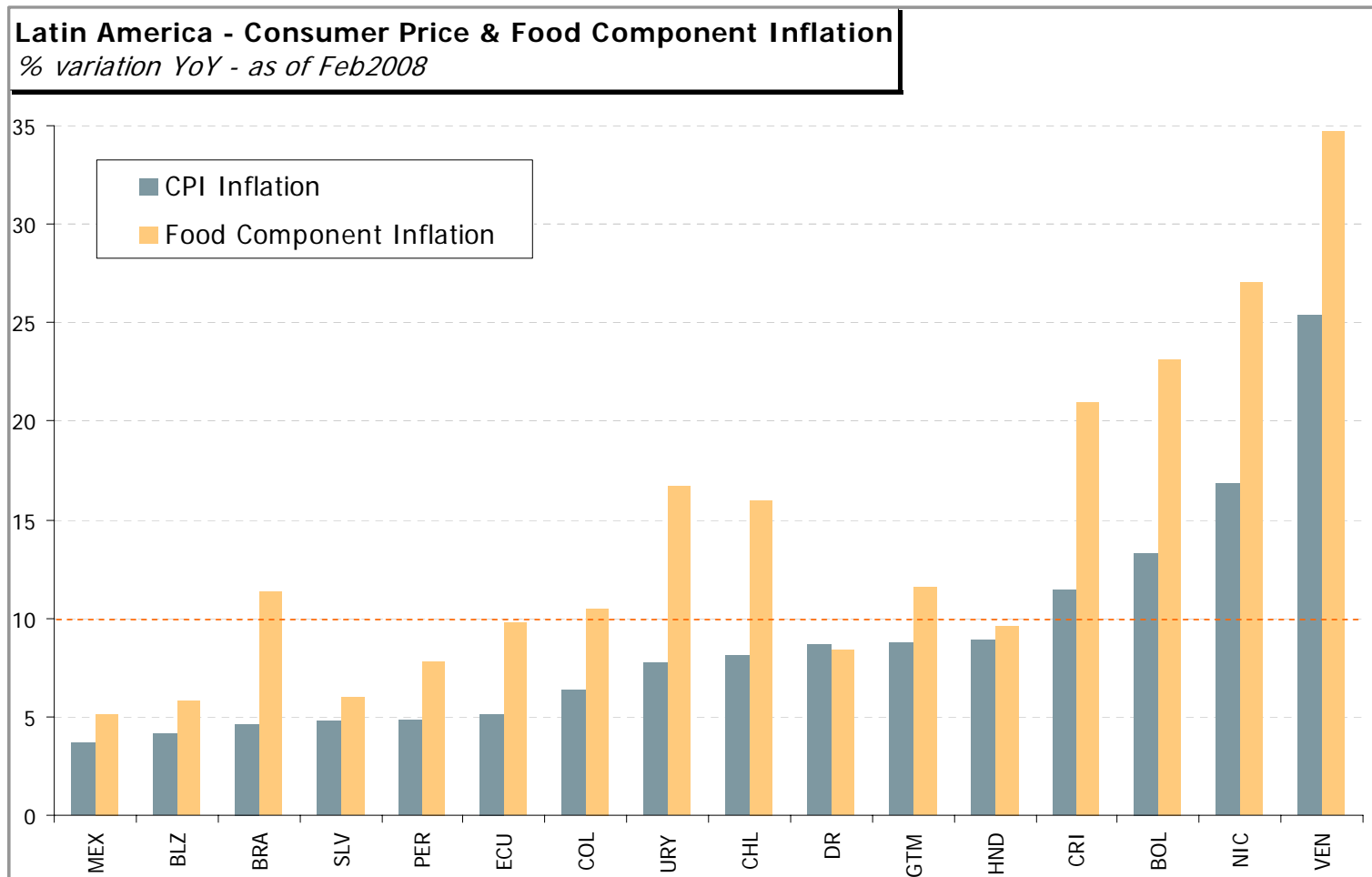
High oil prices hurt mainly the small and low-income countries in Central American & Caribbean...



High agricultural commodity prices hurt mainly middle-income Caribbean & South American countries



The pass-through of rising international food prices has uneven distributional impacts within countries



The region's capacity to respond

Latin America is better positioned this time, but some factors restrict the scope for countercyclical policies

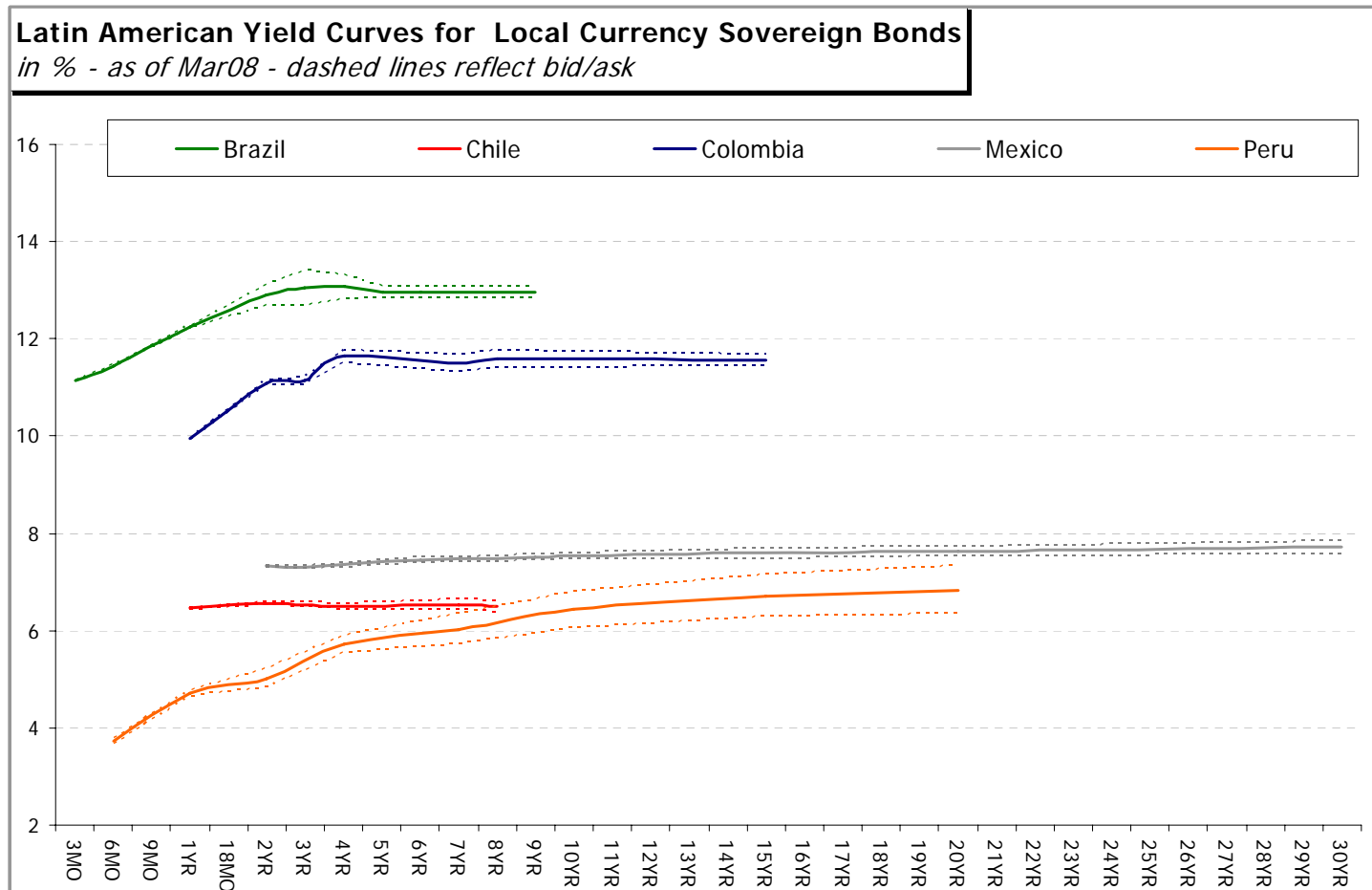
Latin American vulnerability to sudden stops has fallen considerably...

- A stronger immune system, associated with...
 - Higher FX liquidity cushions
 - Lower public sector and external borrowing requirements
 - Exchange rate flexibility
 - Lower exposure to currency, interest rate, and rollover risks in public sector debt portfolios
 - Significant increase in local currency-denominated loanable funds in domestic markets
- ... has reduced the *beta* of the region, on average

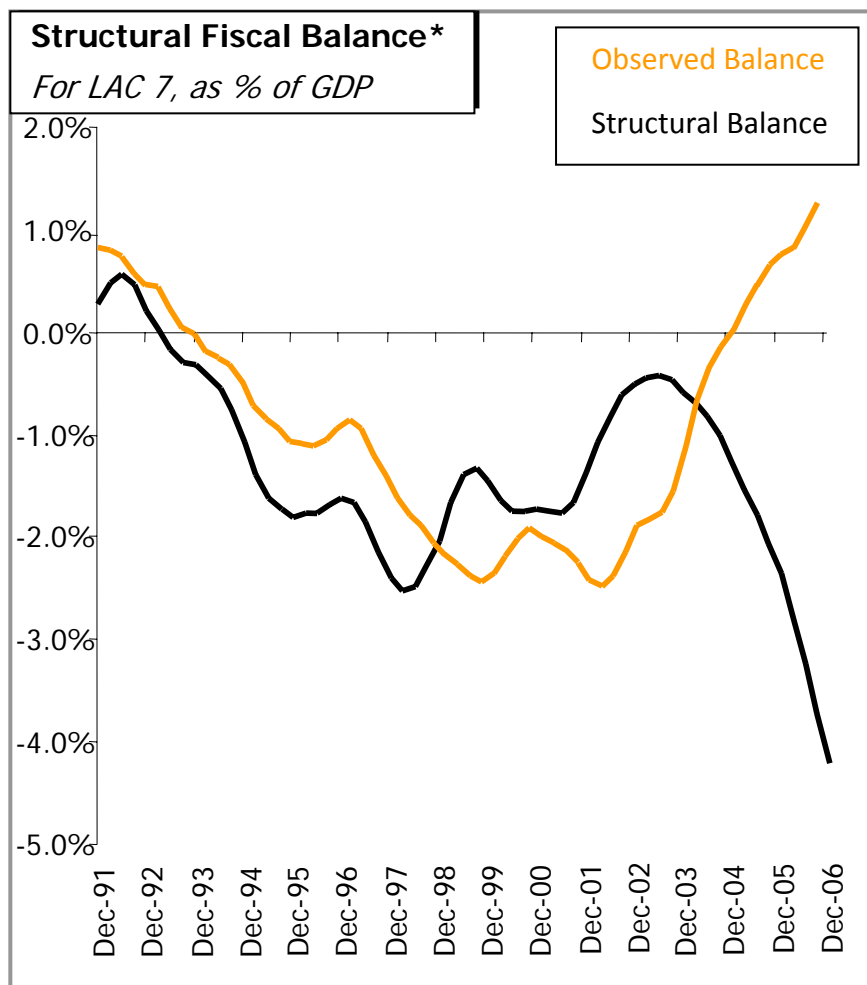
... but there are constraining factors to the scope for policy maneuvering

- Exchange rate flexibility – effective mainly where local currency debt markets are deep
- Countercyclical fiscal policy – ability depends on the true, underlying fiscal balance
- Political considerations can lead to sub-optimal policy responses to rising prices of foods and fuels
- Countercyclical monetary policy – constrained by global rise in food and energy prices

Some Latin countries have deep local currency debt markets that can sustain e-rate flexibility



The underlying fiscal position may not be as strong as it seems



Actual and Structural Primary Balance
Of the Public Sector in % of GDP

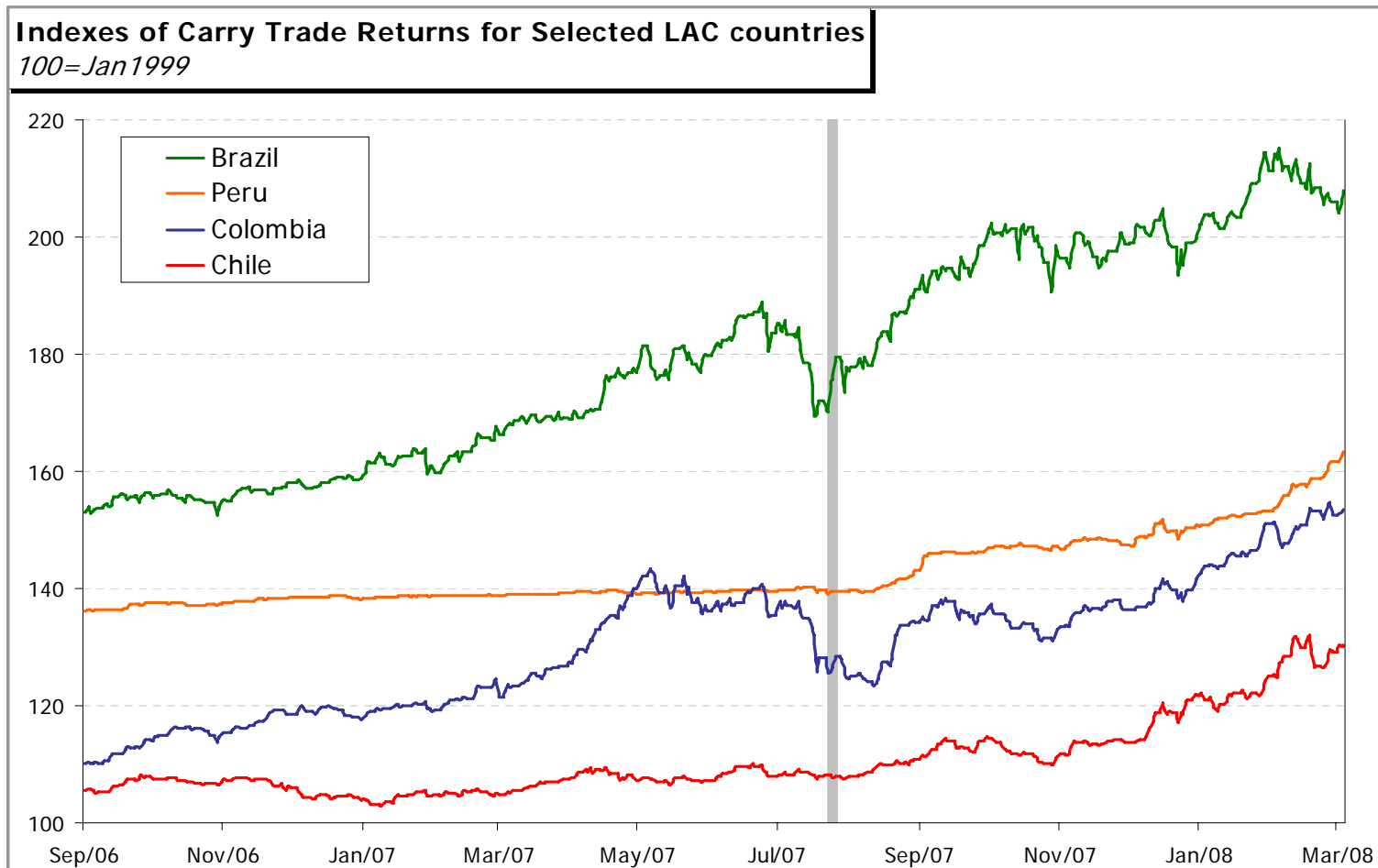
	2006			2007		
	Actual	Structural 1/ Max	Min	Project ed	Structural 1/ Max	Min
Argentina	4	3.7	0	3.3	2.8	2.1
Bolivia	7.2	5.8	3.6	3.4	1.5	0.2
Brazil	3.9	4.1	3.1	3.6	3.8	2.5
Chile	8.5	5.7	3.2	8.8	6.3	3.7
Colombia	3.4	3.1	1.1	3.6	3.4	0.7
Costa Rica	3.4	3.2	2.8	1.4	1.2	0.3
Ecuador	5.1	4.9	2.8	1.3	1.4	-0.4
El Salvador	-0.4	-0.3	-0.7	0.1	0.3	-0.4
Mexico	1.7	1.5	-1.3	1.6	1.6	-0.9
Panama	4.9	4.8	3.4	3.9	3.9	2.5
Peru	4.1	4.2	2.2	2.4	2.2	0.5
Trinidad and Tob	8.8	7.9	2.3	4.8	4.1	-0.3
Venezuela	0.6	0	-5.6	-5.2	-3.7	-9.9

Source: IMF, Regional Economic Outlook Nov 2007. 1/ Estimates. "Max" uses most favorable commodity price forecasts and assumes that any positive (negative) revenue "residuals" are permanent (transitory). "Min" uses least favorable commodity price forecasts and assumes that any positive (negative) revenue "residuals" are transitory (permanent) except for Argentina, where Min estimates assume that the (positive) residuals are permanent, based on the statistical properties of the residuals (see text and appendix table). If the residuals for Argentina are assumed to be transitory, the "Min" estimate for Argentina would be reduced to -1.4 from 2.1.

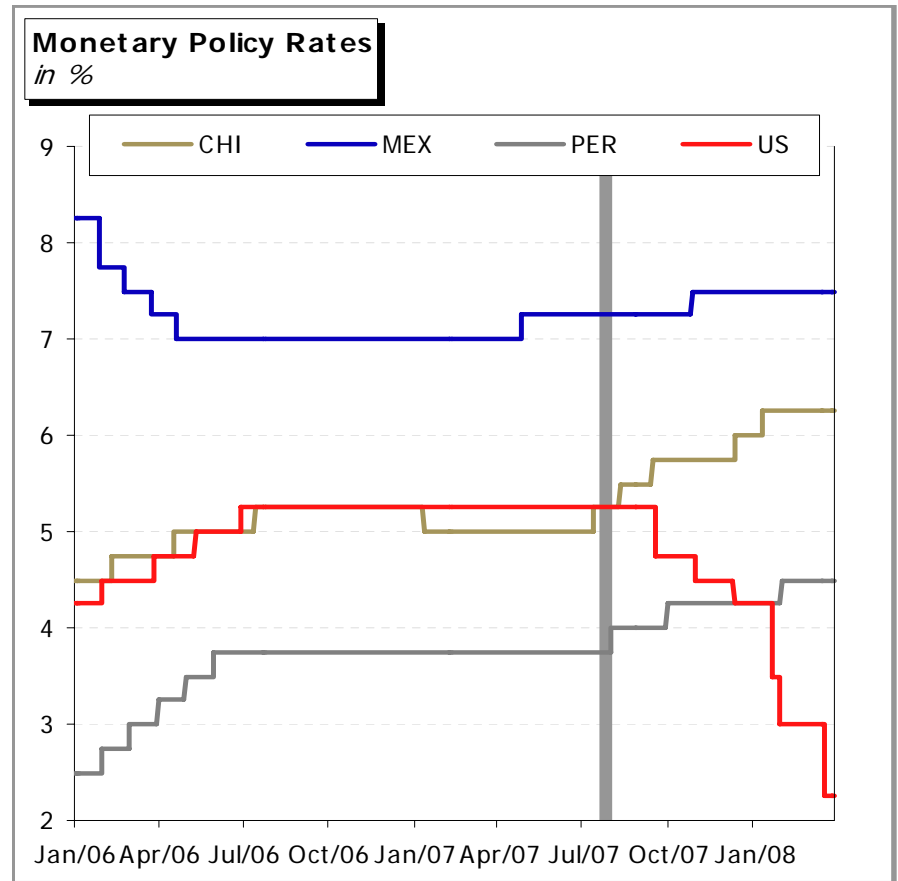
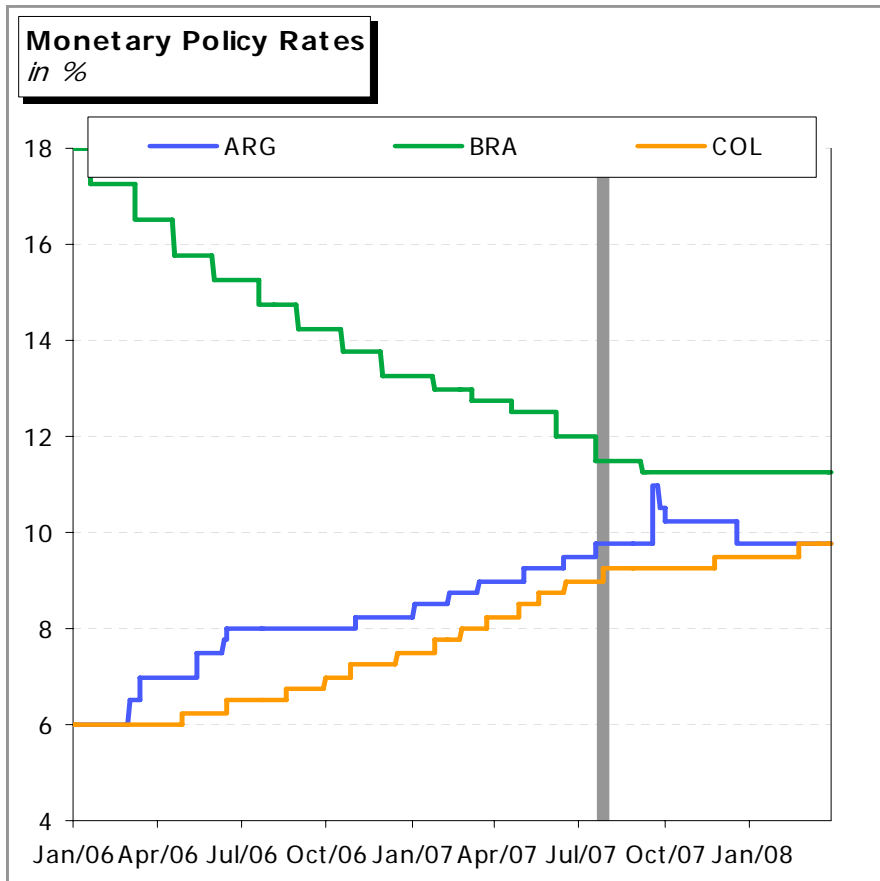
Policy response to rising foods & fuels prices

- Distributional pains of pass-through...
- ... can elicit measures to drive a wedge between international & domestic prices...
- ... which lead to economic inefficiencies, are often untargeted, and delay necessary adjustment
- A superior alternative: policies to facilitate the supply response *and* income transfers to vulnerable groups

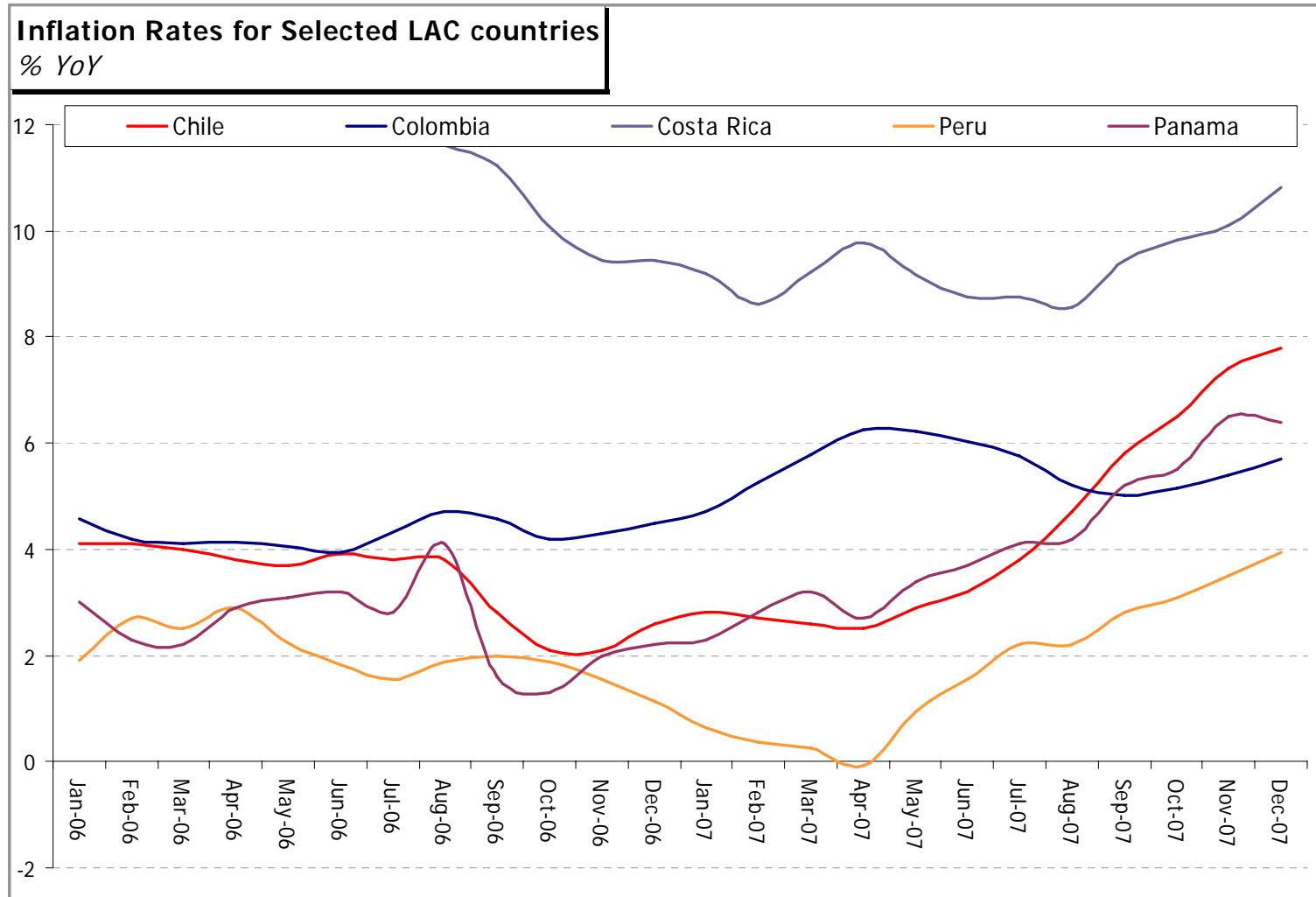
Monetary policy faces a dilemma: currency appreciation exacerbated by “carry trades” ...



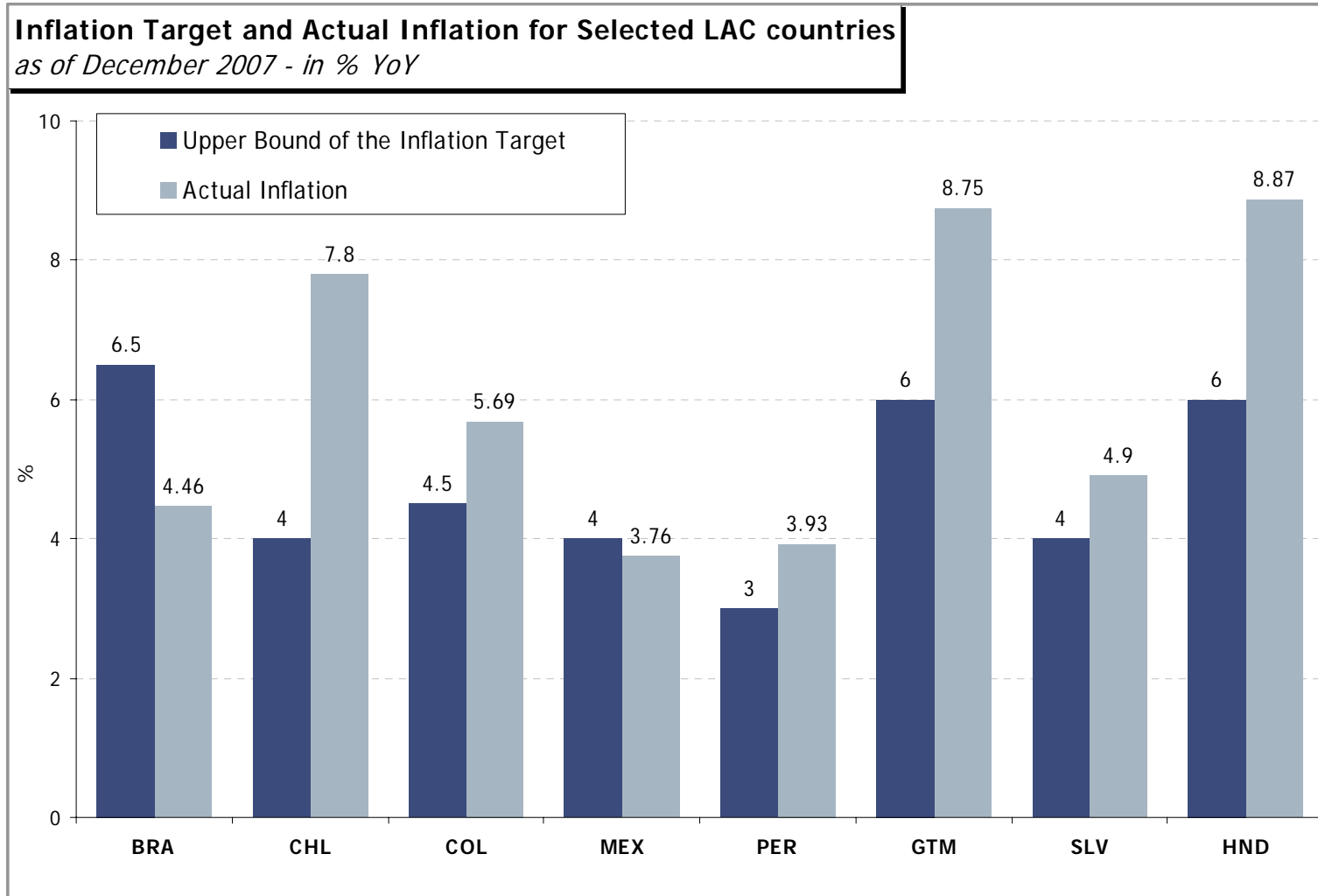
... driven by the increasing spread between foreign and domestic interest rates...



... and the recent pick up in domestic inflation...



... running above target in many Latin countries

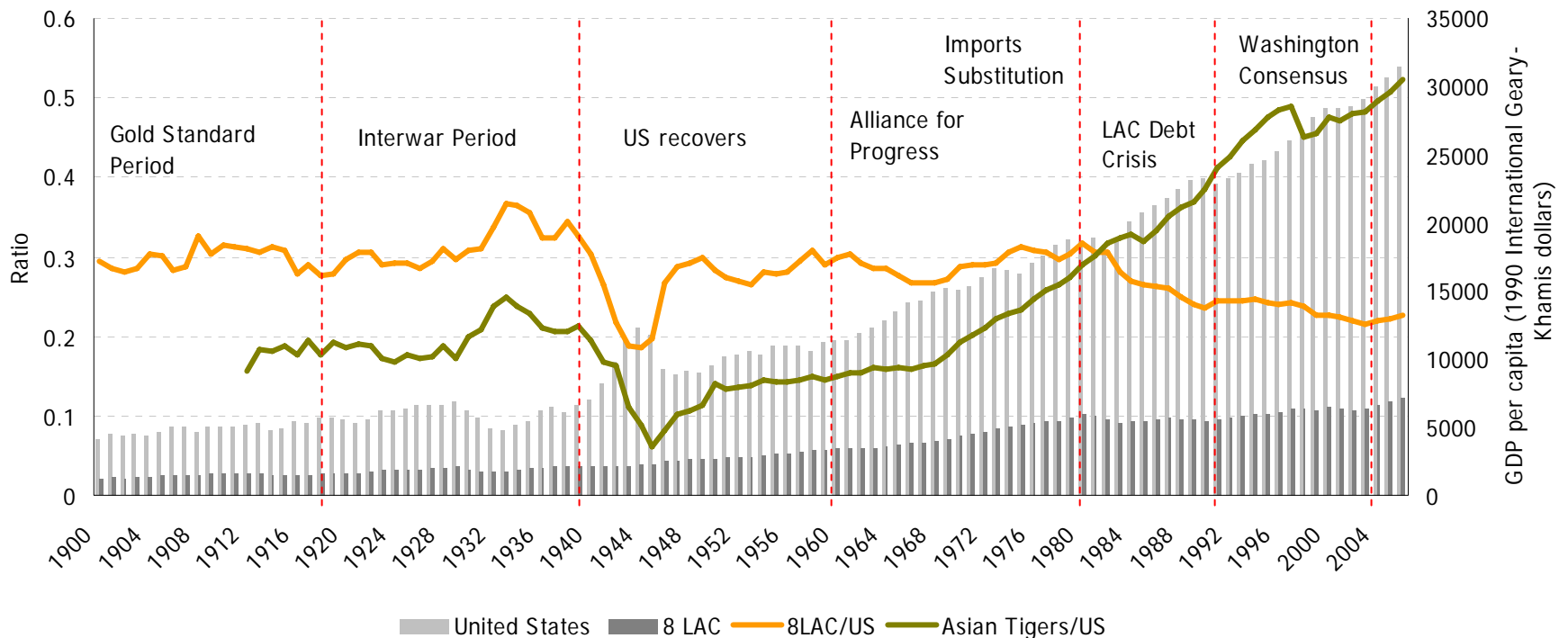


Beyond the cycle

Can Latin America raise and decouple its *trend*
growth rate?

Historically, Latin America has not been able to generate “convergence”

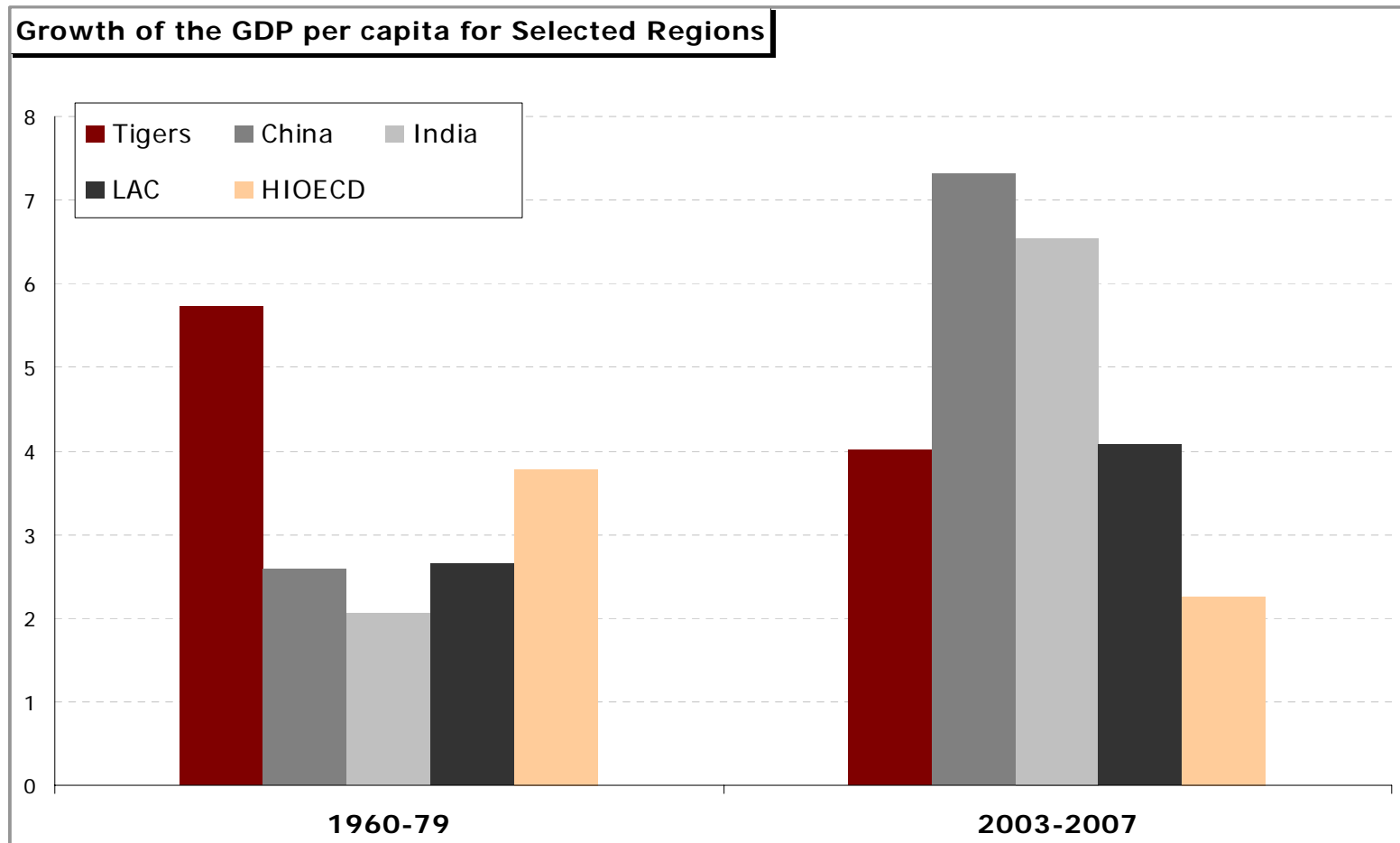
GDP per capita: LAC/US



Source: Angus Maddison Historical Statistics for the World Economy. The unit is 1990 International Geary-Khamis dollars

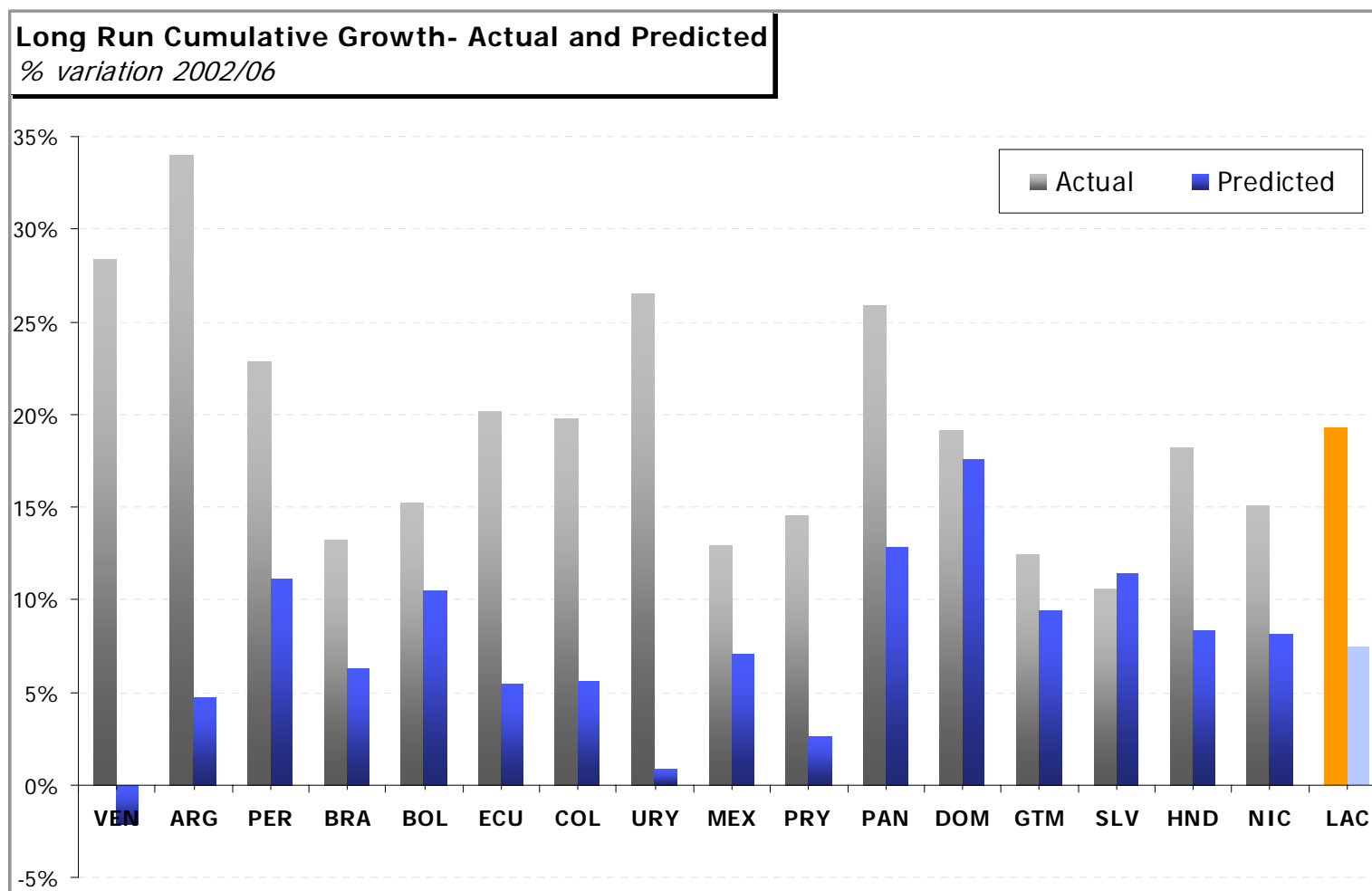
Note: The aggregated GDP per capita is a simple average of the countries in the region. GDP per capita for the United States and Latin America are in levels. 8 LAC: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela; Asian Tigers: Hong Kong (China), Indonesia, Malaysia, Singapore, South Korea, Taiwan (China), Thailand. Before 1950, the Asian Tigers sample varies. From 1950 on, Asian Tigers comprise all the seven countries.

And while the recent pace of growth in Latin America has been the best in decades...

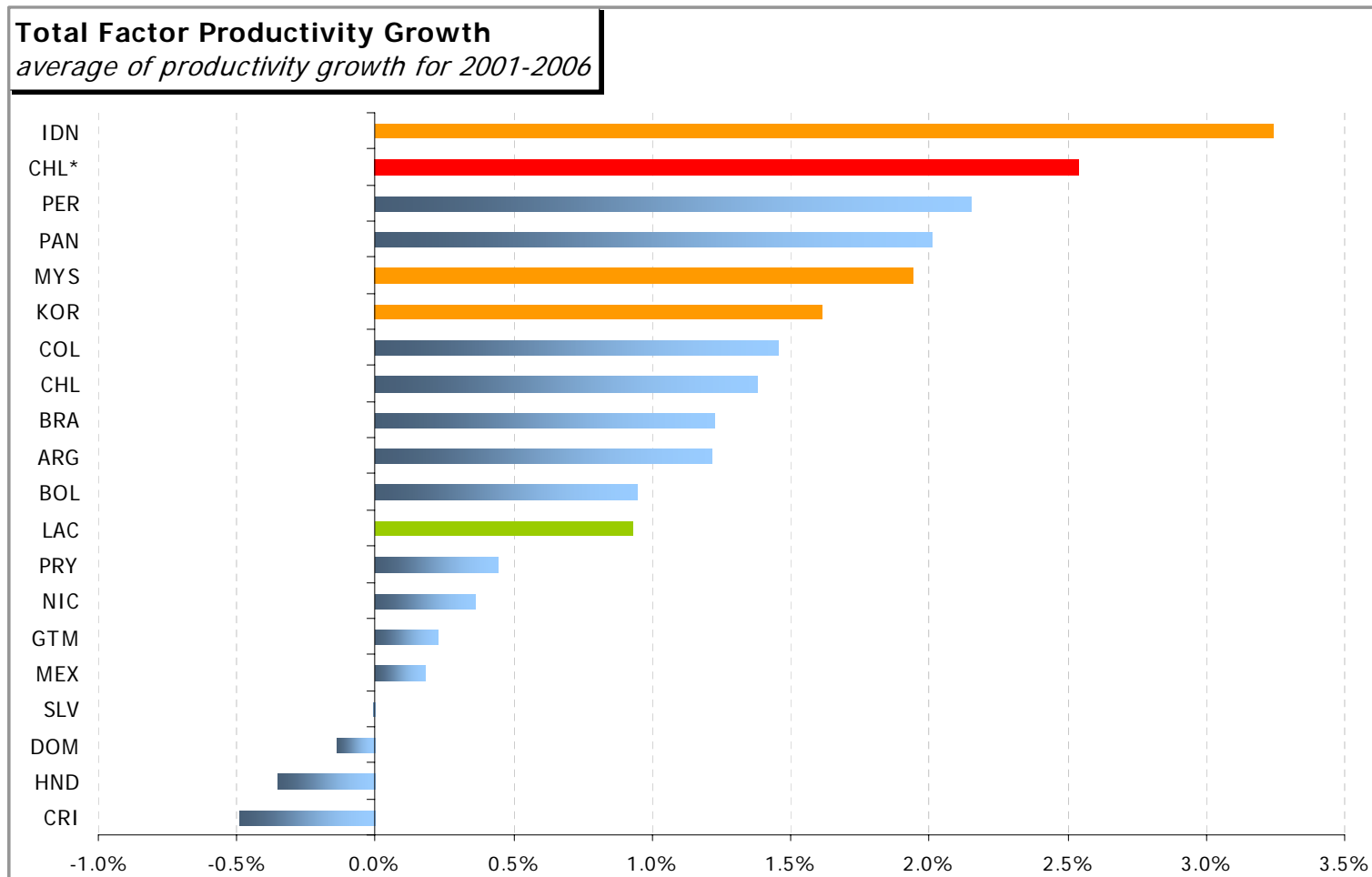


Note: The Regional growth is a simple average of the GDP per capita growth of the countries in the region. GDP per capita is PPP adjusted from Penn World Tables. From 2004 on, the data is from International Monetary Fund, World Economic Outlook Database 2007

... much of it was due to the until recently favorable external environment



Comparatively, the region has not fully capitalized on the recent benign external environment



END