Does Latin America Have a Growth-Impairing Saving Gap?

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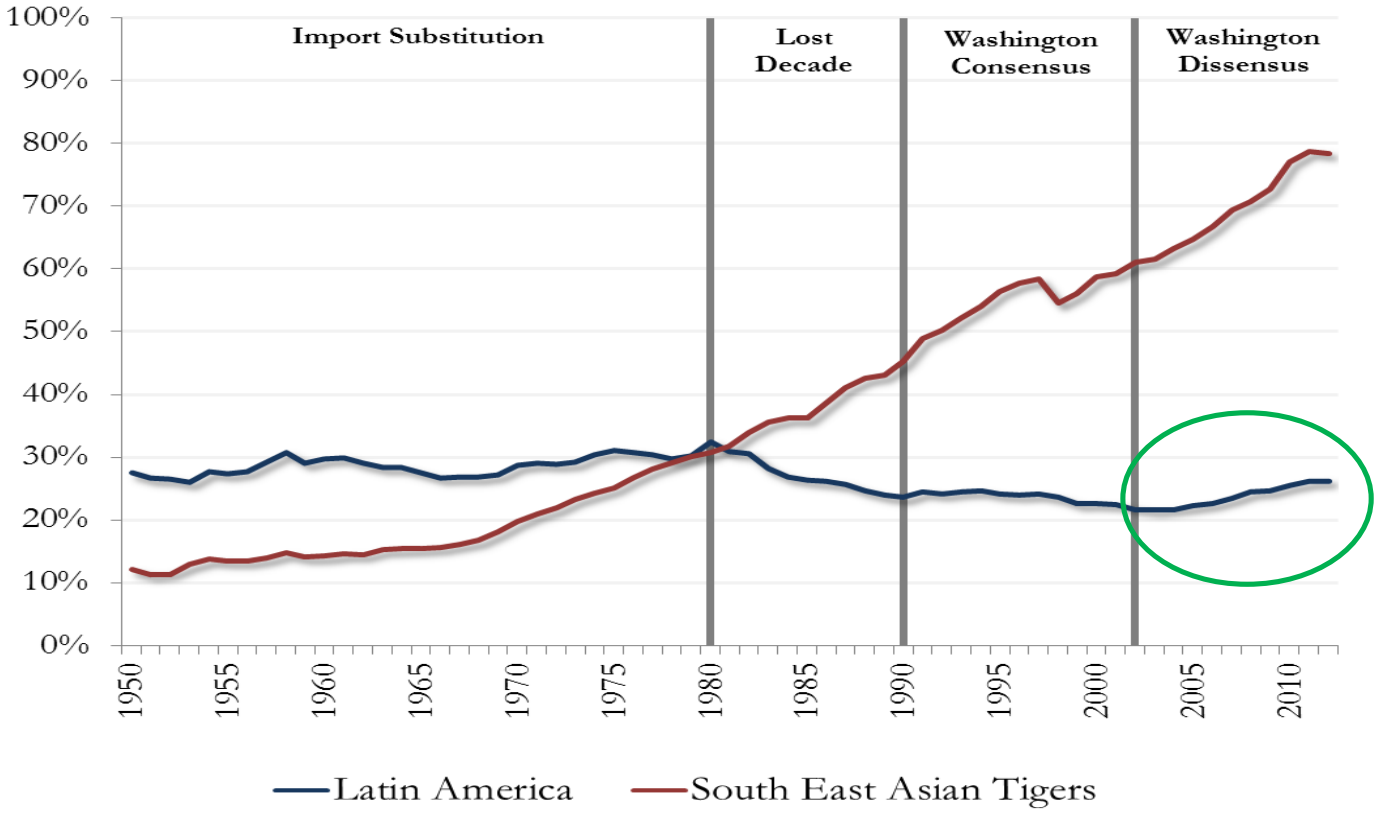
LAC's long-term growth record has been uninspiring, although the last decade raised hopes…

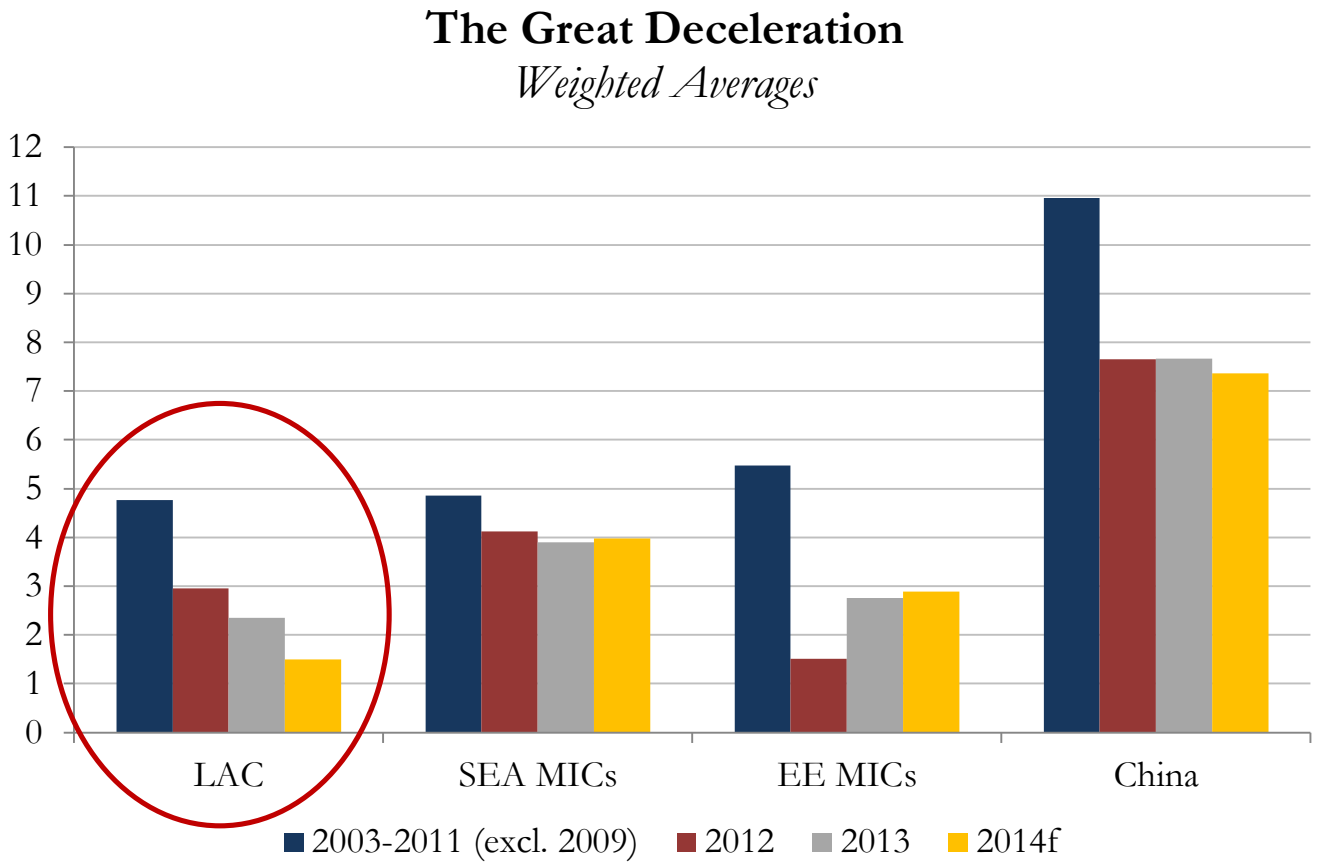
Contrasting Convergence Paths in LAC and the South East Asian Tigers

(Per capita income as a percent of US per capita income)



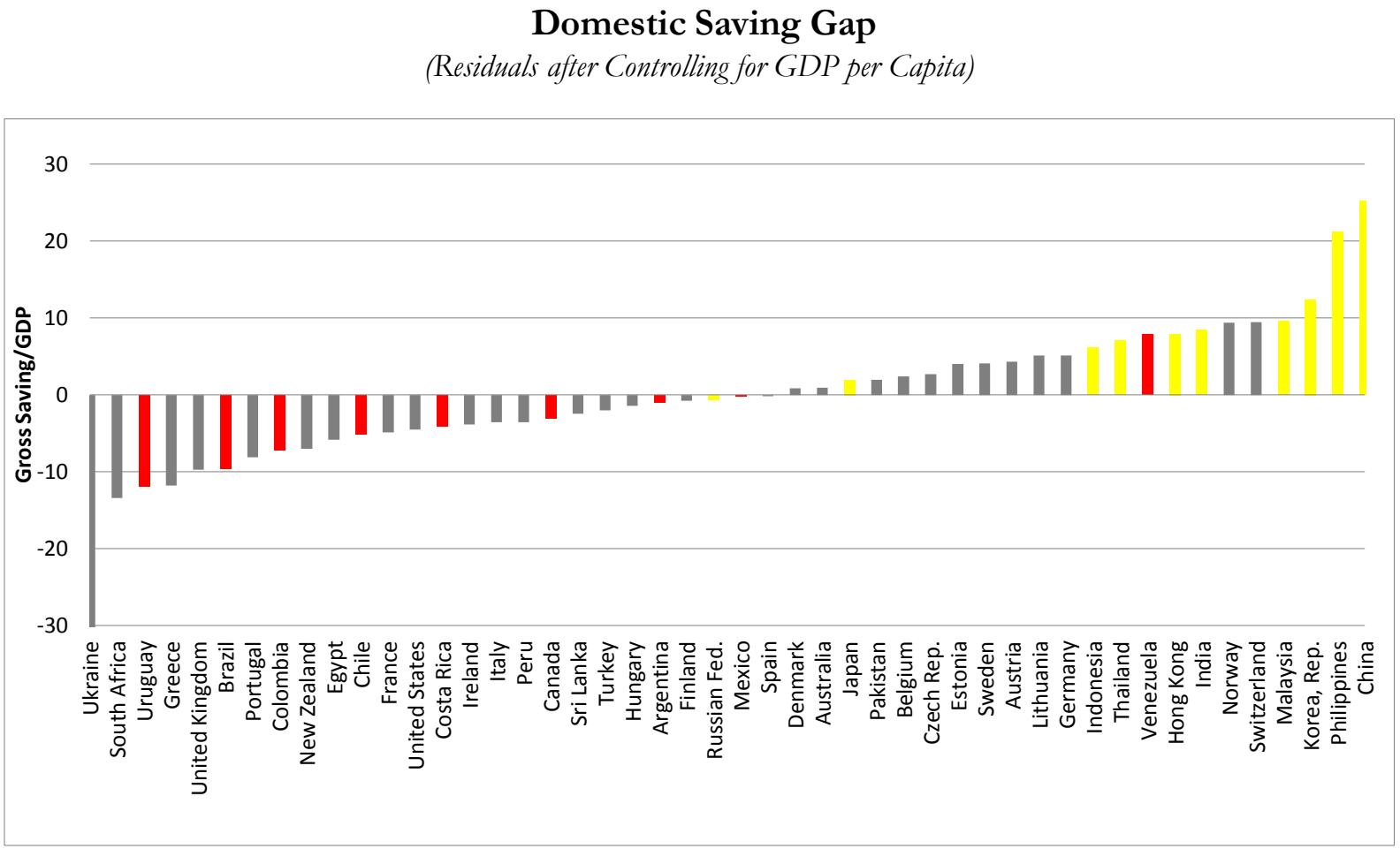
Note: The per capita GDP of regional country groups is a weighted average. The South East Asian Tigers include Hong Kong, Singapore, South Korea, and Taiwan.
Sources: Authors' calculations based on Penn World Tables, WDI, and Maddison (2009).

… but now LAC is back to its traditional low growth, and this may signal a new trend (not just a cyclical slowdown)



Sources: WDI, WEO, Consensus Forecasts (August 2014).

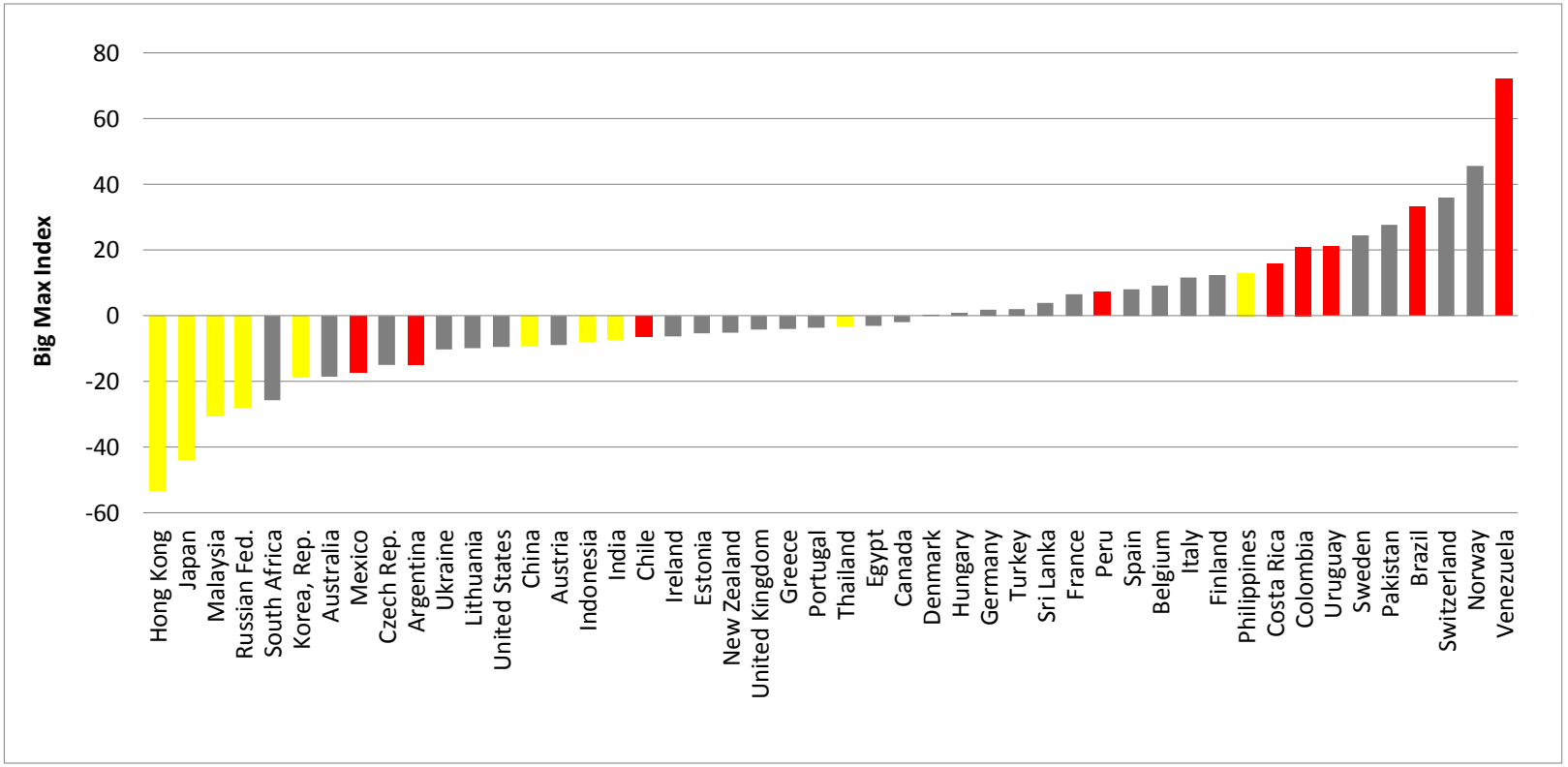
Is the low growth related to the low domestic saving rates?...



And are the low saving rates in turn related to the region's uncompetitive real exchange rates?

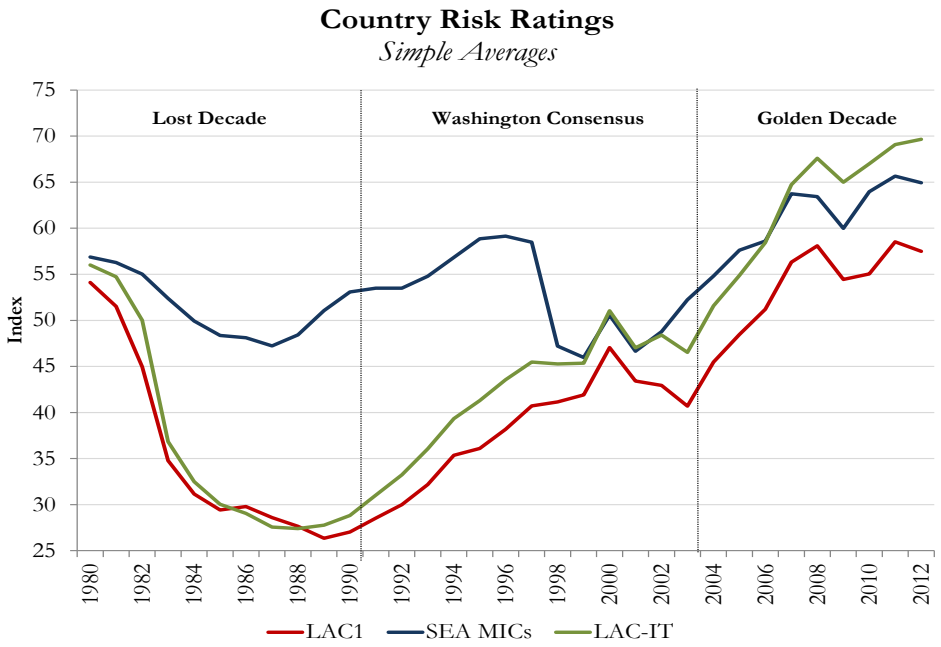
External Competitiveness Gap

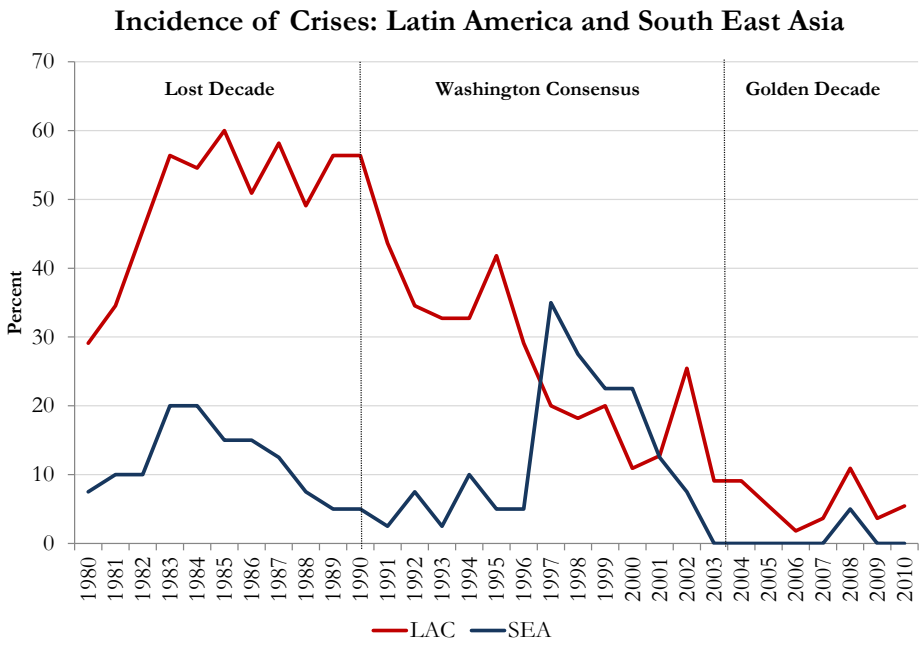
(Big Mac Index residuals after controlling for GDP per capita)



Note: The real exchange rate gap is computed as the deviation from the mean Big-Mac price index for the countries in the sample. Source: The Economist's Big Mac Index (July 2013).

But LAC's appreciation is relatively new and low saving in the past was associated with depreciation, default risk, and crises





Source: Institutional Investor database

This raises conceptual and practical questions

- Conceptual questions
  - Does domestic saving matter for growth, or just follow growth?
  - If it matters for growth, how?
  - ⇒ *Three main channels through which saving (aggregate demand) matters: exchange rate (ER), interest rate (IR), endogenous saving (ES)*
- Practical questions
  - Does LAC have a "saving problem"?
  - If so, how big is it and what can LAC do about it?
  - ⇒ *There is an important saving problem in LAC*
  - ⇒ *The IR channel dominated in the past for LAC but the ER channel is likely to dominate in the future*
  - ⇒ *Policies to raise saving can have a significant growth payoff*

Structure of presentation

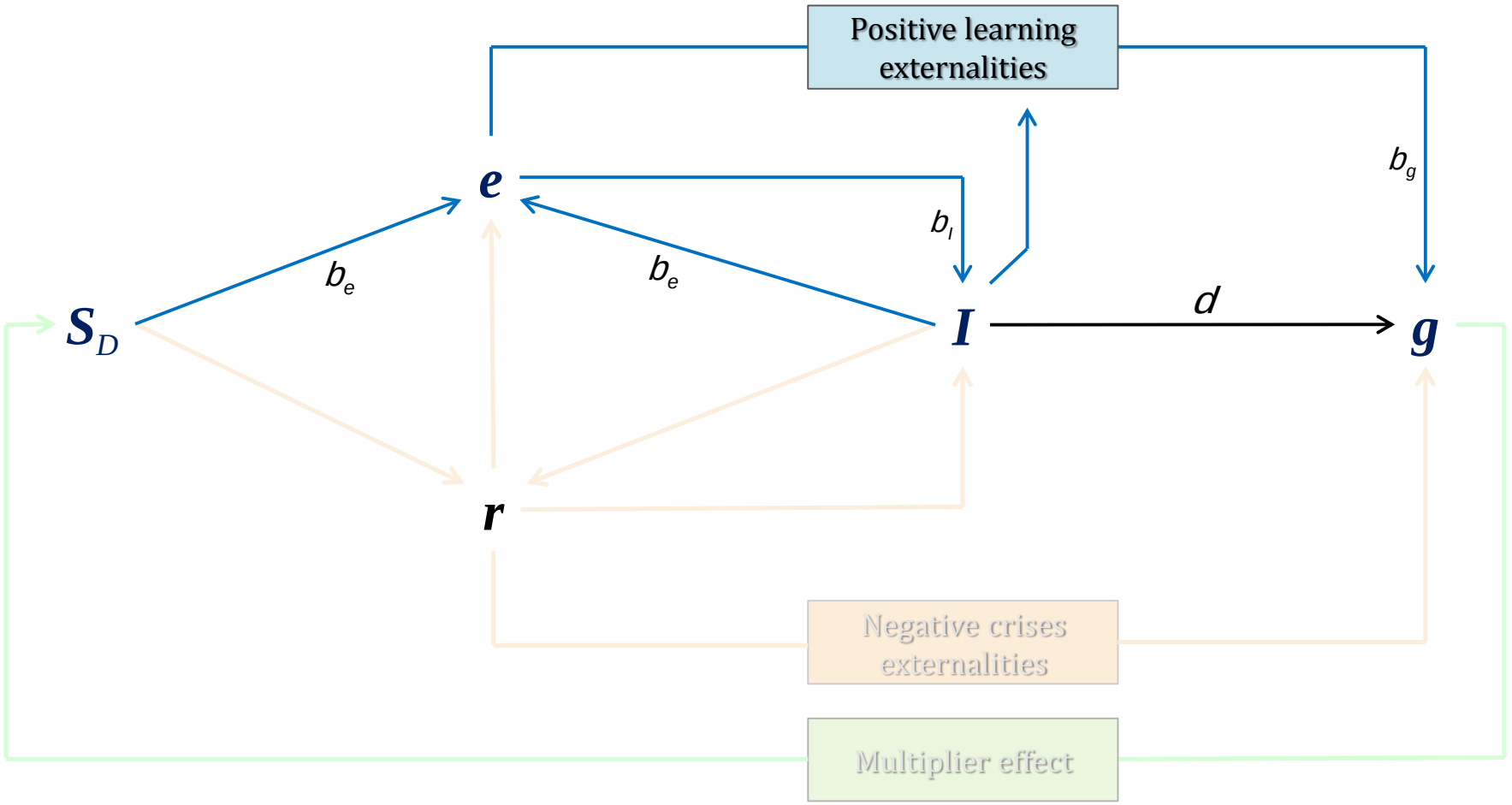
- The three channels linking saving and growth
- Relative importance of the channels (early results)
- LAC's growth history in light of the channels
- LAC's growth prospects and policy dilemmas in light of the channels

The three channels linking saving and growth

Domestic saving would ***not*** matter for growth policy ***if***…

- It is (constrained) optimal…
  - If so, no need to bother
- …or if it is fully growth-elastic…
  - If so, growth would raise saving sufficiently to finance itself
- …or if it can be perfectly substituted with foreign saving
  - If so, foreign saving would compensate for any shortfall and…
  - … the composition of financing (foreign vs. domestic), demand (domestic vs. external), and output (tradables vs. nontradables) would be of no consequence
- Hence, saving can matter for growth via three channels
  - An *endogenous saving channel - ES* (imperfect growth elasticity)
  - A *real exchange rate channel - ER* (imperfect tradable/nontradable substitution)
  - An *interest rate channel - IR* (imperfect foreign/domestic asset substitution)

ER channel: works via the current account, tradable vs. nontradable production, and the real exchange rate (***e***)



A fall in saving relative to investment (a rise in aggregate demand relative to supply) worsens the current account and appreciates the exchange rate (raises the price of nontradables relative to tradables)

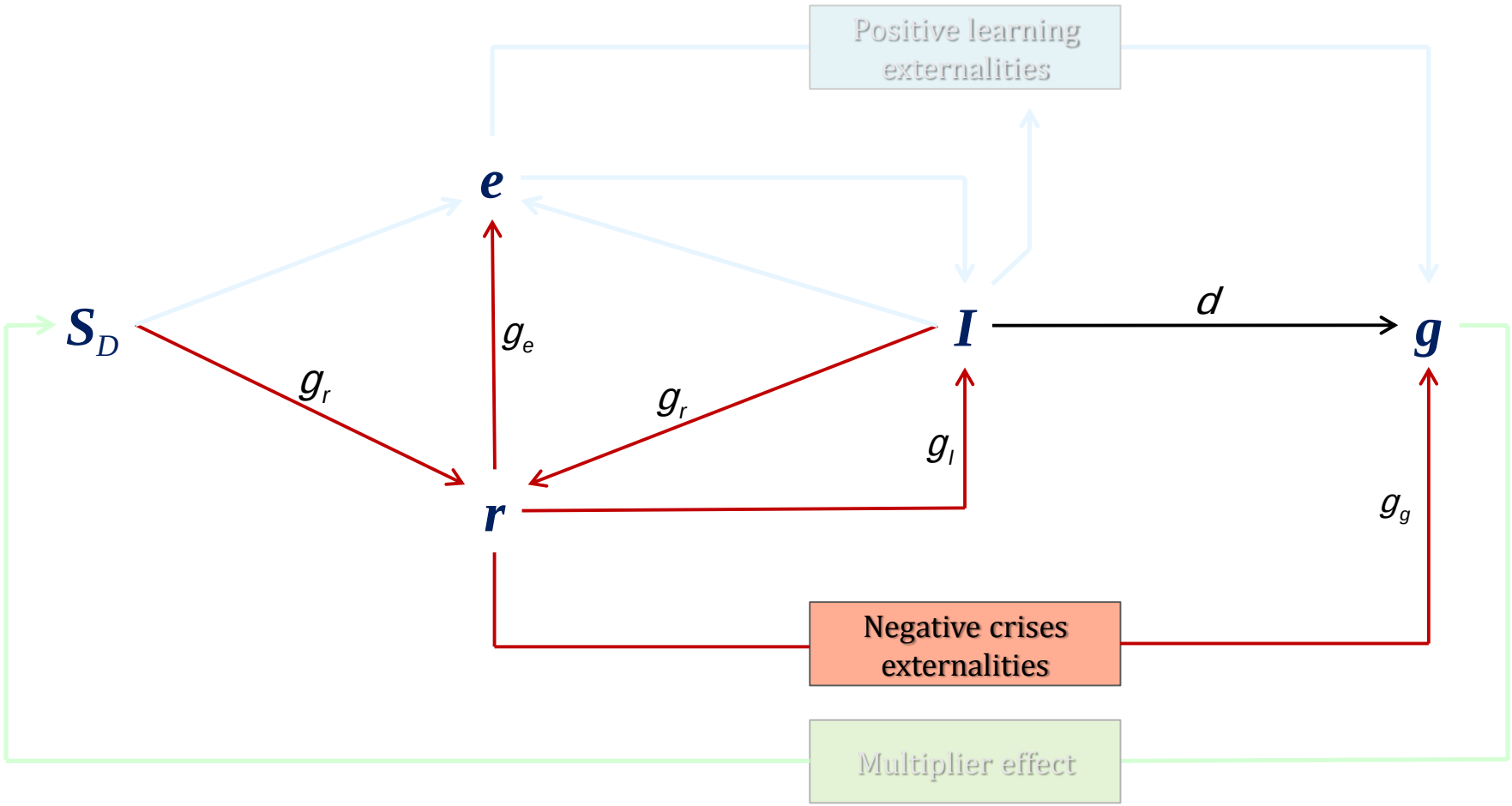
The literature has recognized the real exchange rate-to-growth link better than the saving-to-exchange rate link

- RER to growth link: well recognized
  - Countries with more depreciated exchange rates grew faster: Rodrik (2008)
  - Countries with higher current account deficits grew slower: Prasad et al. (2007)

- Saving to RER link: much less recognized
  - Recognized in the open macro ST models: Dornbusch (1980); Vegh (2013)
  - But not in the equilibrium RER and LT growth literature, which emphasizes relative sector productivities, *rather than aggregate demand*: Ricci et al. (2008)
  - ⇒ RER not seen as policy variable: Eichengreen (2006); Haddad & Pancaro (2010)

- One exception: Korinek and Serven (2010)
  - Fully micro-founded model where saving affects the RER, *thereby inducing changes in relative productivities*

IR channel: works via the capital account, domestic vs. foreign saving, and the sovereign risk rating (***r***)



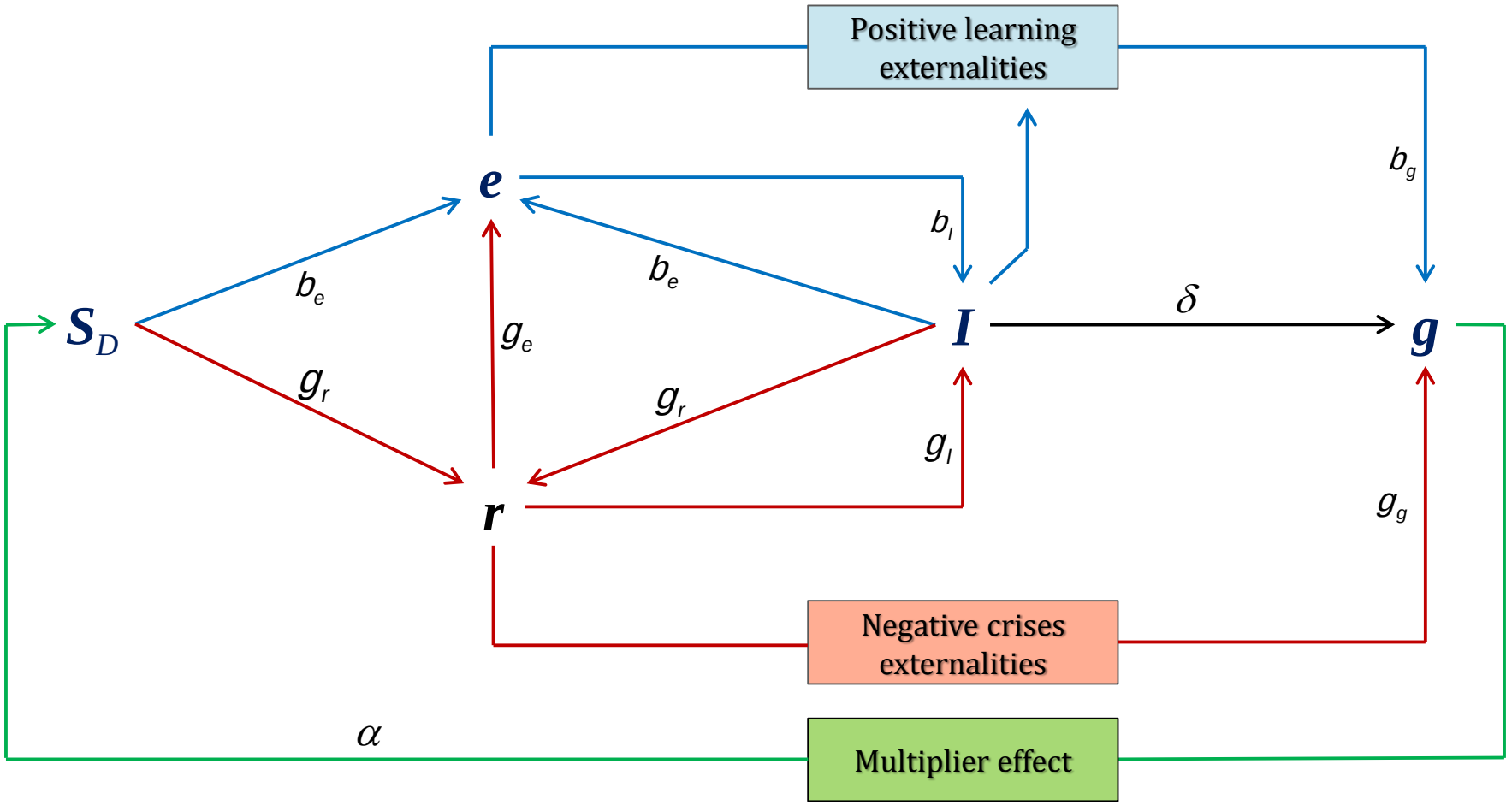
A fall in saving relative to investment widens the current account deficit, which could erode external debt viability and the sovereign risk rating, thereby undercutting growth (despite depreciating the exchange rate)

Literature: near perfect capital market integration, yet imperfect substitutability of foreign and domestic assets

- Our world is very close to full capital market integration…
  - Risk-adjusted marginal returns on capital are largely equalized across countries: Caselli and Feyrer (2006)
  - Increases in world saving have a one-for-one impact on world investment : Feyrer and Shambaugh (2009)

- … but this does not imply that foreign and domestic saving are perfect substitutes
  - Negative externalities of high debt and BOP crises: Korinek (2010)
  - Lasting adverse growth consequences of high debt and BOP crises: Reinhart and Rogoff (2013)

ES channel: works through the multiplier effect of the responsiveness of domestic saving to growth



A fall in saving relative to investment (a rise in aggregate demand relative to supply) worsens the current account and appreciates the exchange rate (raises the price of nontradables relative to tradables)

Wide support for the domestic saving follows growth view, yet the key condition remains untested

- Many reasons for domestic saving to follow growth
  - Demographics: Modigliani (1986)
  - Habits: Campbell and Cochrane (1994)
  - Firms' internal finance: Fazzari et al. (1988); Lewis (1954)
  - Keynesian effects on steroids: Rowthorn (1982)

- Good empirical support
  - Growth causes saving: Carroll and Weil (1993); Loayza et al. (2000)
  - Countries with growth transitions save more durably: Rodrik (2000)
  - China's saving boom largely came from firms: Guariglia et al. (2008)

- Yet, the key condition remains untested: does an autonomous increase in demand for domestic saving generate its own supply?

Relative importance of the channels

A minimalist *medium-term* macro model linking saving to growth (all short-run dynamics turned off)

Functional Form

$$I(\overset{-}{e},\overset{+}{r},p_I) = S_D(\overset{+}{g},p_{S_D}) + S_F(\overset{+}{e},\overset{-}{r},p_{S_F})$$

$$g = g(\overset{+}{I},\overset{-}{e},\overset{+}{r},p_g)$$

$$\rho = \rho^* + f(r)$$

Linearized Form

$$S_D = \overset{+}{a}\, g + n_S p_S + e_S$$

$$e = \overset{-}{b_e}(I - S_D) + \overset{+}{g_e} r + n_e p_e + e_e$$

$$\begin{cases} r = \overset{-}{g_r}(I - S_D) + n_r p_r + e_r, & I - S_D < t \\ r = \overset{-}{g_r'}(I - S_D) + n_r p_r + e_r, & I - S_D > t \end{cases}$$

$$I = \overset{-}{b_I}\, e + \overset{+}{g_I}\, r + n_I p_I + e_I$$

$$g = \overset{+}{d} I + \overset{-}{b_g} e + \overset{+}{g_g} r + n_g p_g + e_g$$

Testable hypotheses

- *Where the ER channel dominates*, countries that save more should have more competitive real exchange rates and grow faster
- *Where the IR channel dominates*, countries that save more should have higher risk ratings and grow faster
  - Despite the more appreciated real exchange rates
- The *IR effect* of a change in saving should be *asymmetric*
  - A decline should strongly undermine growth where saving is already low (current account deficit high), boosting the risk of a BOP crisis
  - An increase should not help growth much (or not at all) where saving is already high (current account deficits low)
- *Where the ES dominates*: an increase in investment (hence growth) should increase saving enough to cover the increase in investment

The empirical approach

- Benchmarks and gaps
  - *Benchmark*: where a country is expected to be, given its (non policy) structural features and the policies followed on average by its peers
  - *Gaps*: deviations from benchmarks (they capture policy related differences while neutralizing noisy factors/shocks)

- Estimation strategy
  - *Simple OLS estimates of structural form equations*: testing for significance and non-linearities; identifying potential instruments
  - *Instrument-based OLS estimates of reduced form equations*: to deal with endogeneity, derive the basic elasticities, and assess impacts

Early results (still ongoing work on instrumentation)

- The *ES channel*: reduced form estimates lead to higher critical ($\alpha\delta$) thresholds than structural estimates but still substantially below one (< 0.6)
- The *IR channel*: structural estimates confirm strong non-linearity – i.e., an increase in saving raises growth only when the CA deficit is > 4% of GDP
- The *ER channel*: reduced form estimates suggest substantial effects
  - A 10 pp increase in the domestic saving to GDP ratio raises yearly per capita growth by about 2pp + up to 1pp bonus on account of ES channel

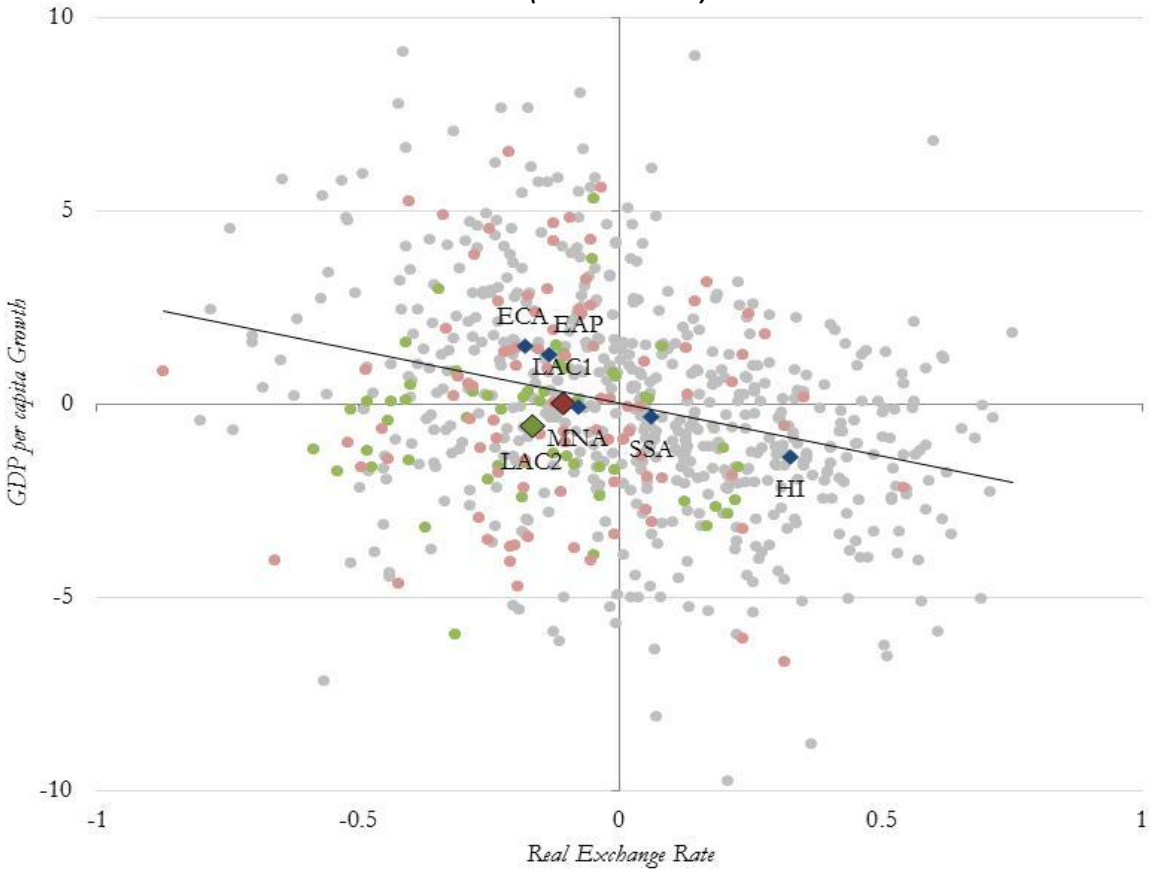
Looking back

LAC's recent growth history in light of the channels

Countries with more appreciated exchange rates grow less, yet LAC e-rates have historically been under-valued

Domestic Real Exchange Rate and Growth Gaps

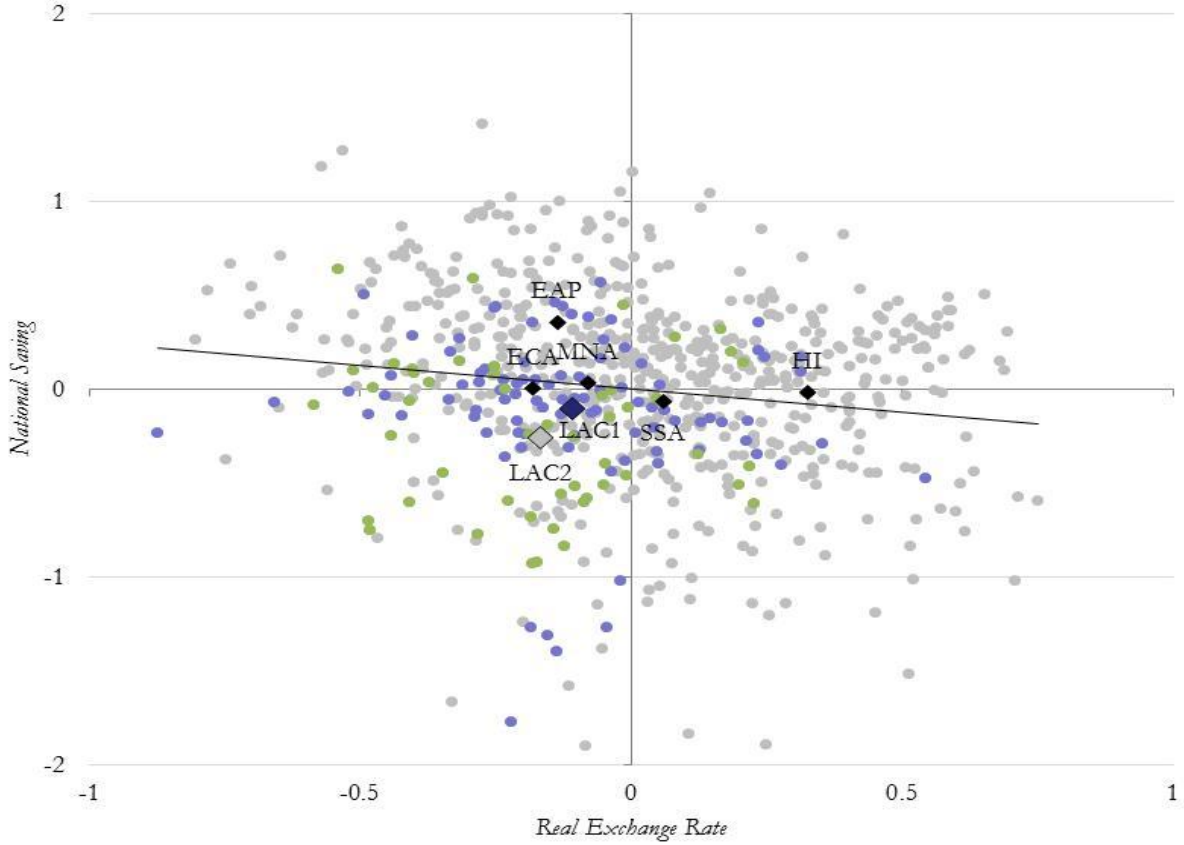
(1990-2011)



The ER characterizes the world (under-savers have over-valued e-rates) but LAC has been in the IR quadrant…

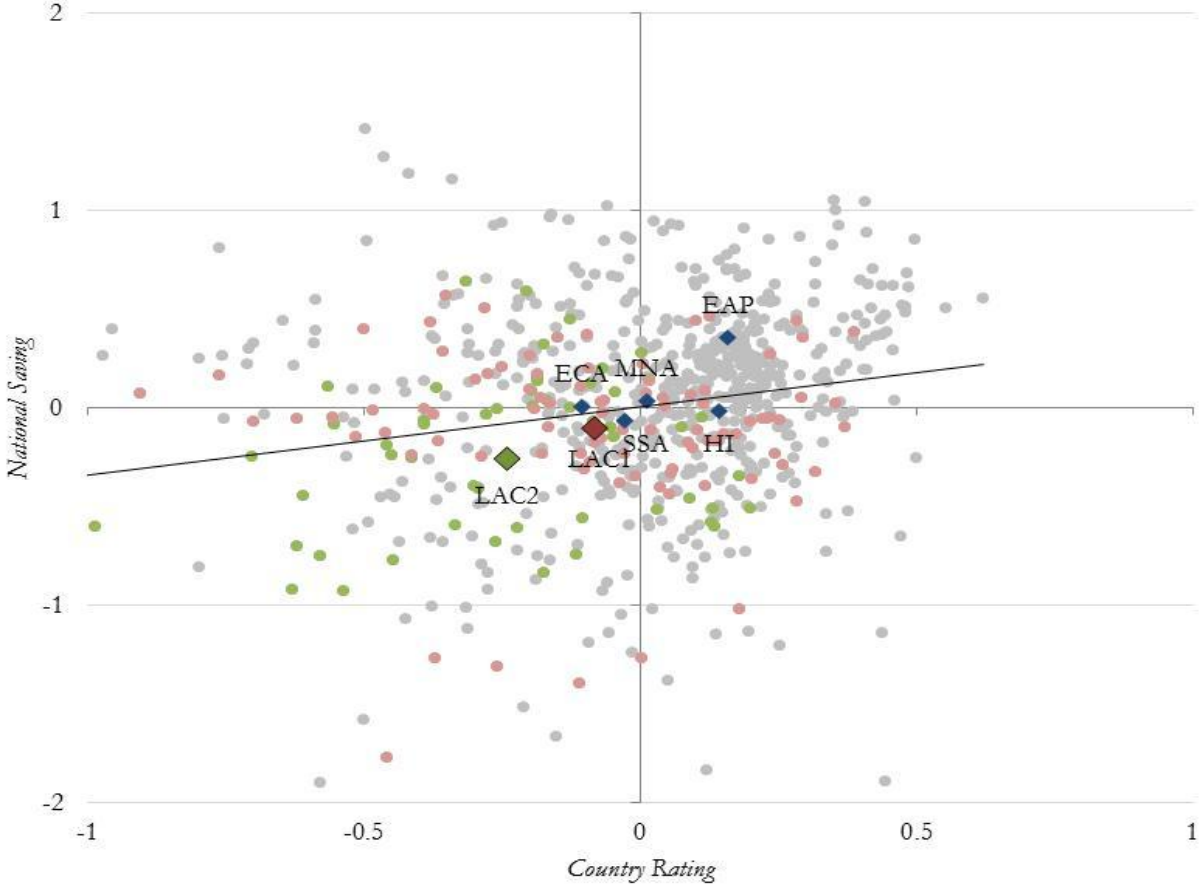
Domestic Saving and Real Exchange Rate Gaps

(1990-2011)



Indeed, low savers have low country ratings, but LAC has been a significantly under-rated under-saver

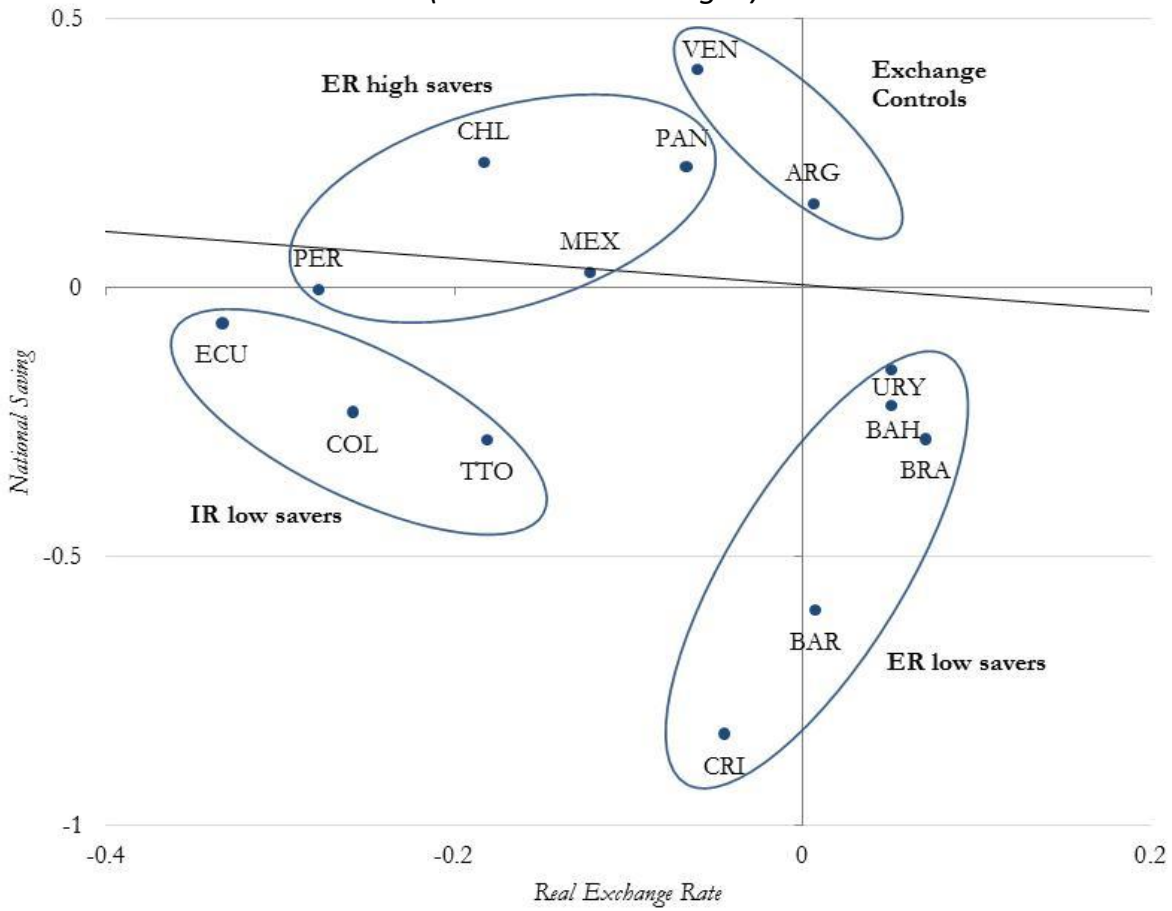
Domestic Saving and Sovereign Rating Gaps
(1990-2011)



However, within LAC, a significant diversity prevailed…

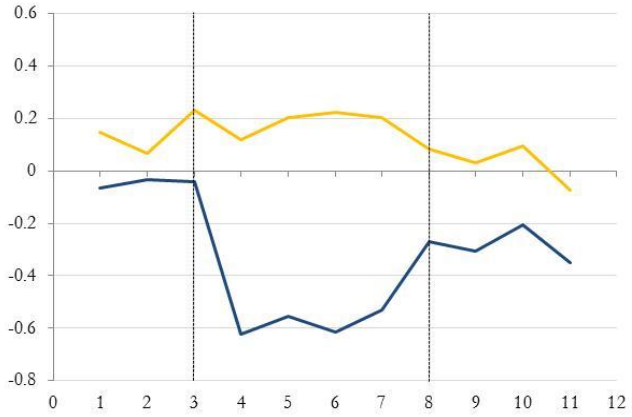
Domestic Saving and Real Exchange Rate Gaps for Higher-Income LAC Countries

(1990-2011 Averages)

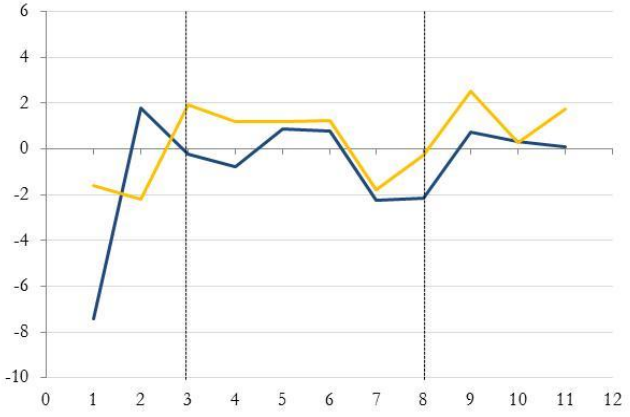


…with contrasting macro performances over time and an evolution towards a rising relative importance of the ER

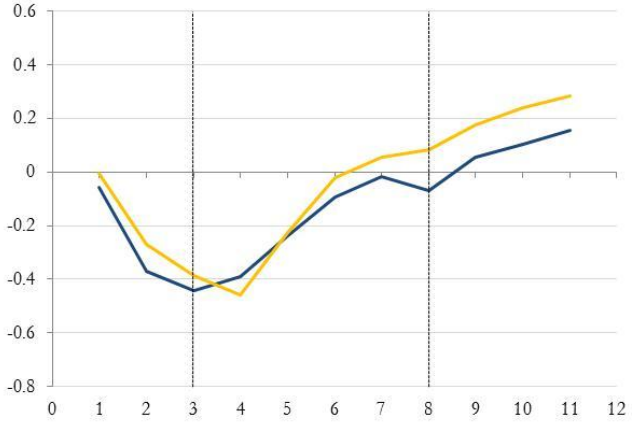
National Saving Gaps



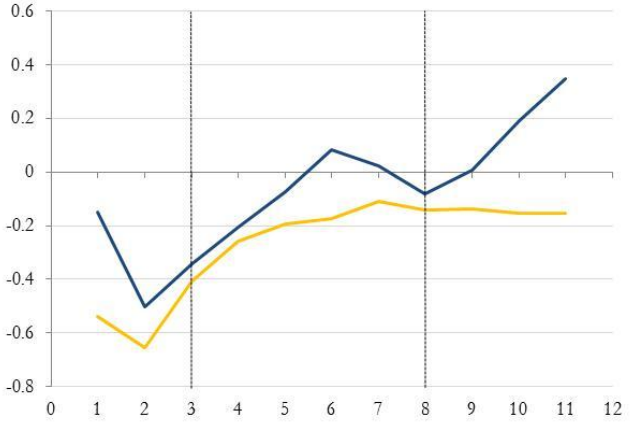
GDP per capita Growth Gaps



Sovereign Rating Gaps



Real Exchange Rate Gaps



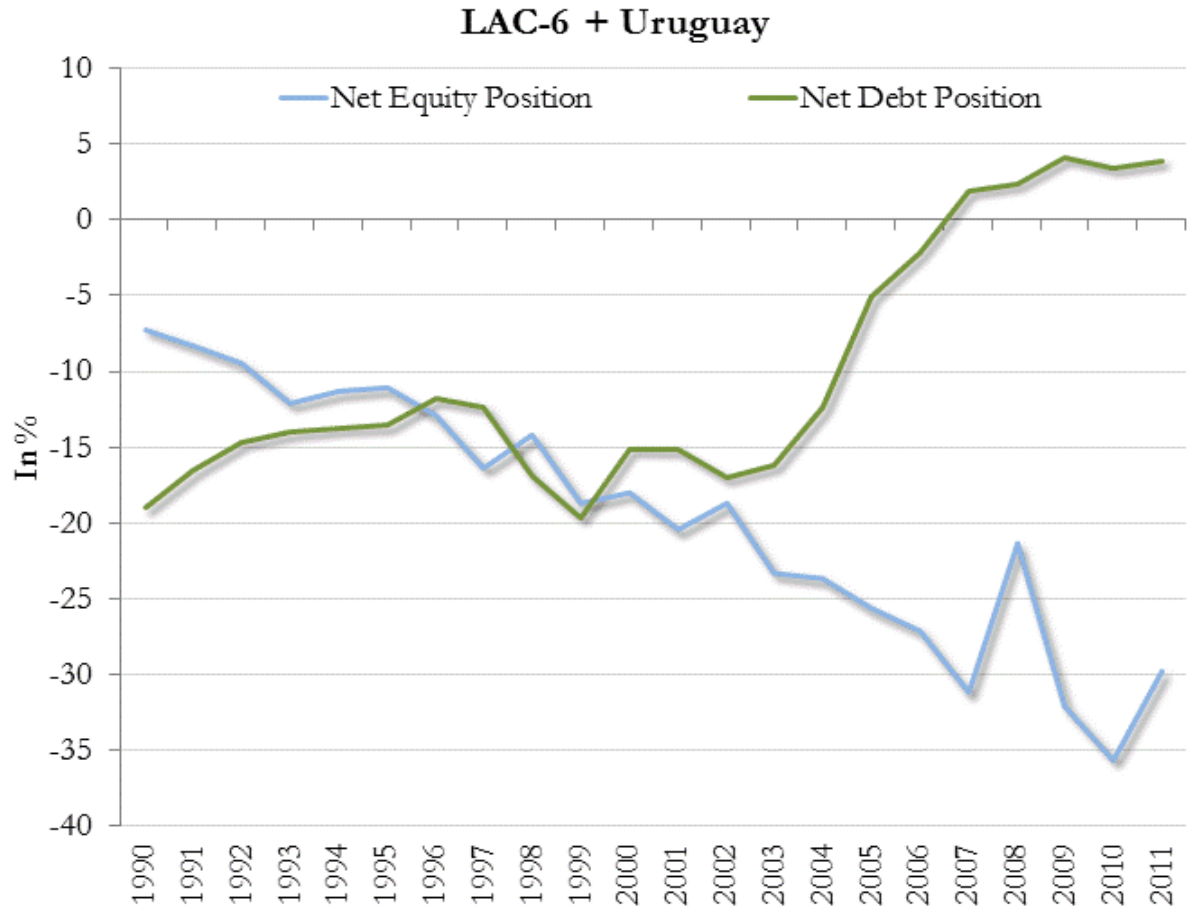
LAC1 Low Savers

LAC1 High Savers

Looking ahead

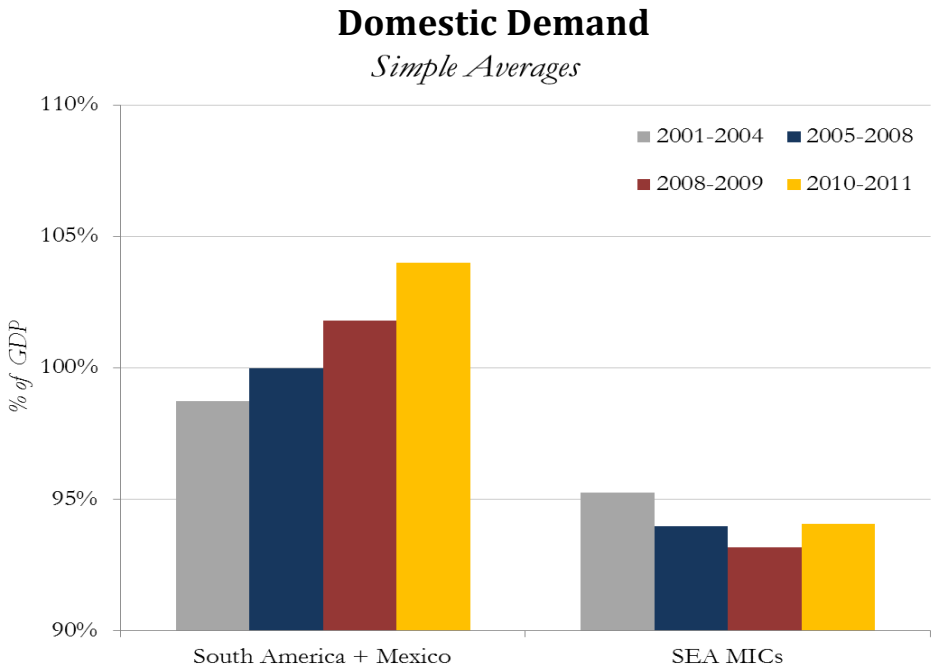
LAC's growth prospects in light of the channels

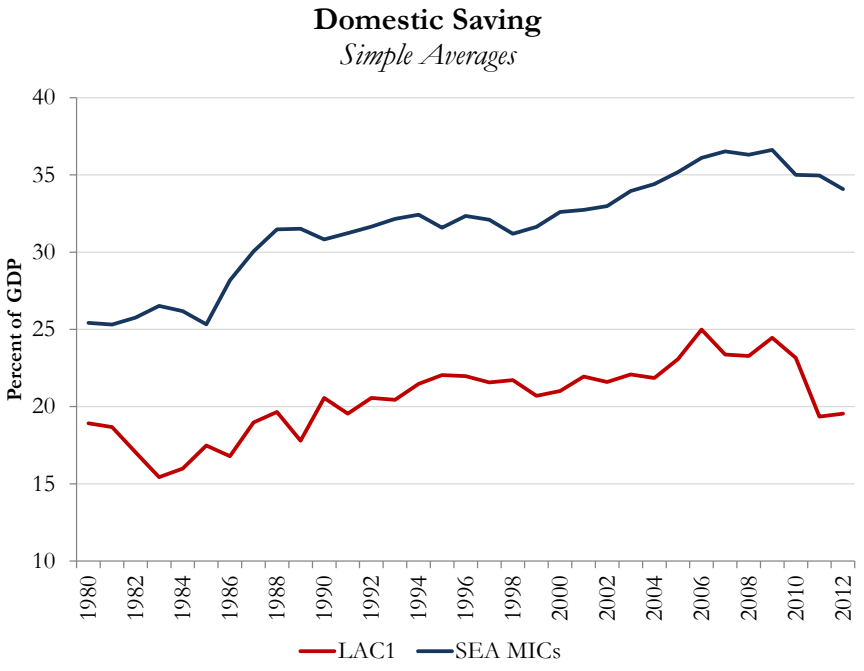
The improved macro frameworks and shift from debt to equity finance should mitigate the IR effects of low saving



Source: Milessi-Ferreti.

But a domestic demand-driven (low saving) pattern persists in LAC, suggesting a rising importance for the ER channel





Source: UN statistics.

This confronts LAC with difficult policy dilemmas

- There seems to be a good case for saving-promoting policies in LAC, as important complement to supply-side growth-oriented reforms
- Yet, the region's social pressures militate in favor of higher spending
  - Conflict between immediate social objectives and longer-term growth
- And the current juncture of weak world demand make it an even tougher sell…
  - Risk of pro-cyclical policies that can throw into a slump… (ST/LR conflict)
  - …and exacerbate the world situation (individual/collective conflict)
- …especially as the world seems willing to finance higher current account deficits, particularly for the better rated LAC countries
  - But relaxing the IR constraint will exacerbate the ER problem…

Thank you