
LAC's Long-Term Growth: Made in China?

2da Mesa Redonda sobre Comercio y Desarrollo Sostenible

7-8 de noviembre de 2011
Montevideo, Uruguay

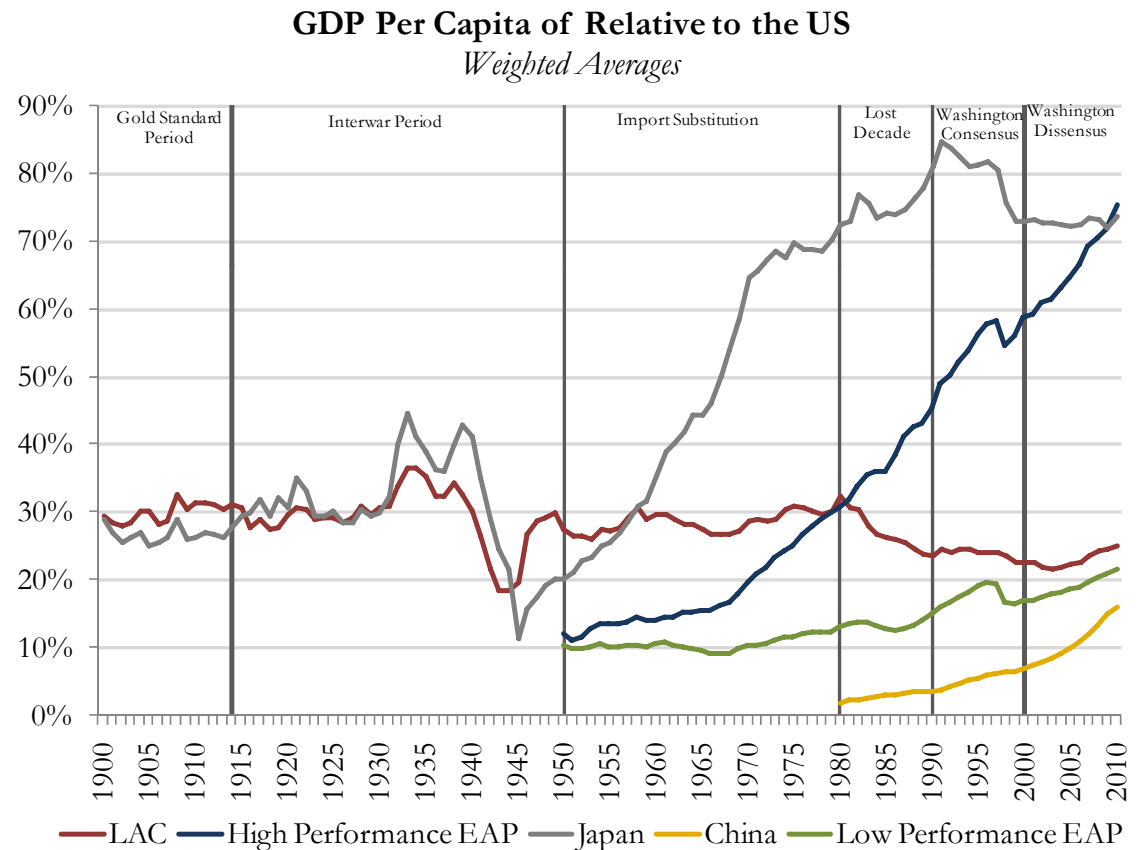
**Chief Economist Office
Latin America and the Caribbean
The World Bank**



100 Years of Solitude

High and sustained growth has eluded LAC for more than a century...

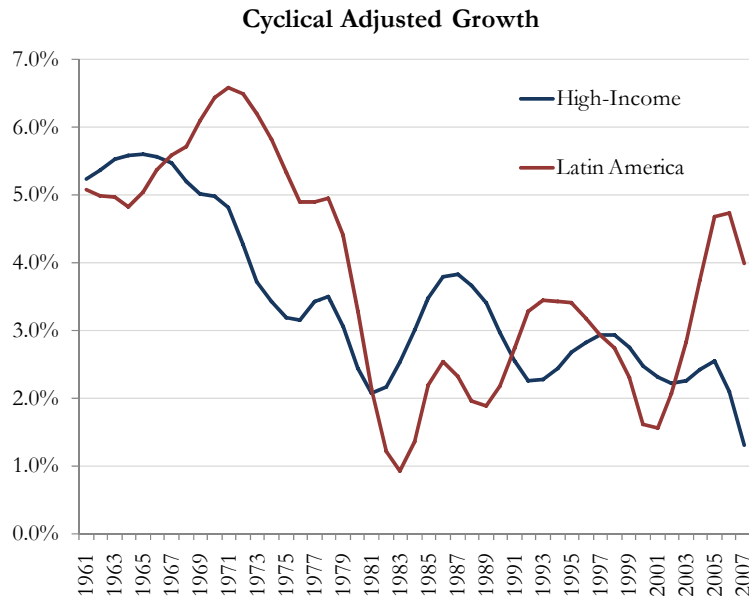
... in striking contrast, not only the East Asia Tigers and their “growth miracle” years, but also other EAP countries and China more recently.



Notes: In Panel B, High Performance EAP includes Korea Rep., Taiwan, Hong Kong, and Singapore; Low Performance EAP includes Indonesia, Philippines, Thailand, and Malaysia; LAC includes the following countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, Venezuela, Bolivia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, and Paraguay. The weights are calculated using the 2007 nominal GDP. Source: Penn World Tables.

Are the 2000s an exception to the rule?

Growth *and* productivity picked up

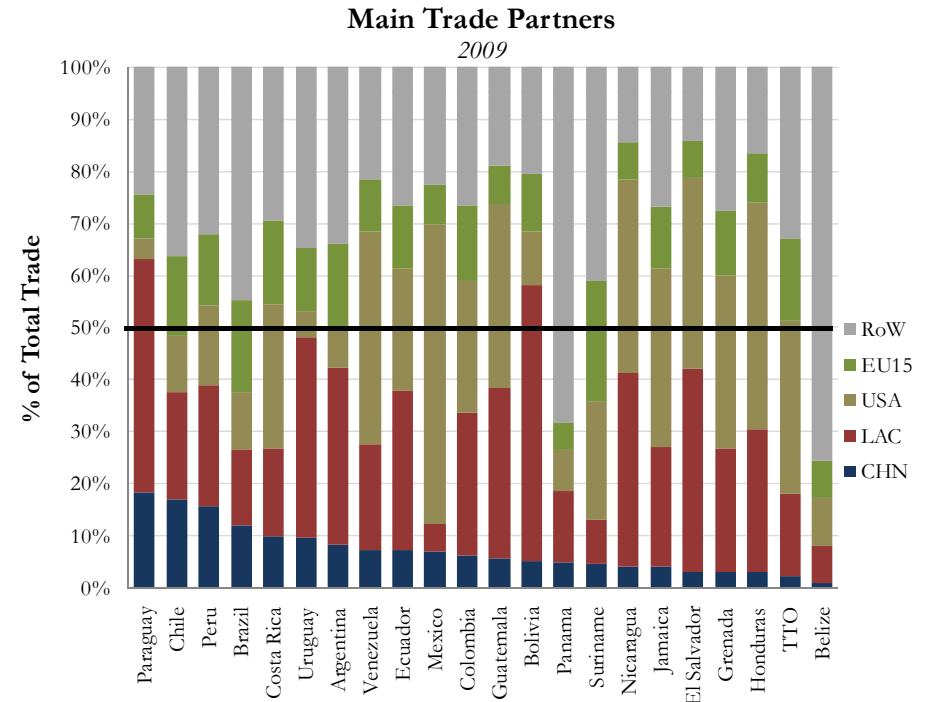
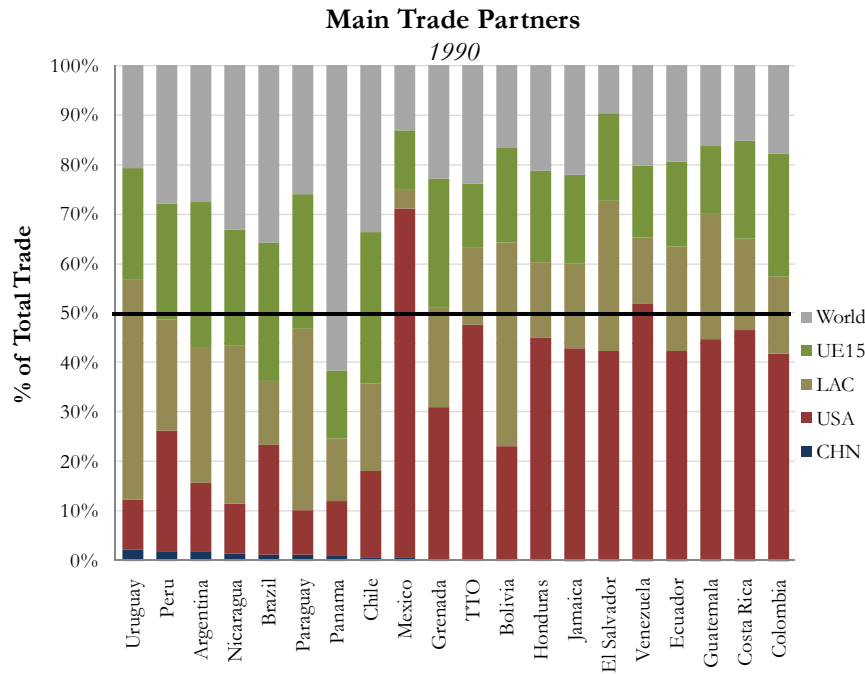


Average TFP growth per year

| | Avg 61-70 | Avg 71-80 | Avg 81-90 | Avg 91-00 | Avg 01-08 | Avg 61-08 |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| LAC 7 | 1.9% | 0.4% | -2.0% | 0.2% | 1.0% | 0.3% |
| Non - LAC 7 | 1.1% | 0.5% | -2.0% | 0.1% | 1.2% | 0.2% |
| Argentina | 1.3% | -0.2% | -2.5% | 2.0% | 1.4% | 0.4% |
| Brazil | 2.9% | 3.2% | -3.3% | -1.7% | 0.5% | 0.3% |
| Chile | 1.5% | 0.5% | -0.5% | 2.9% | 0.5% | 1.0% |
| Colombia | 1.4% | 1.0% | -1.3% | 0.0% | 1.3% | 0.5% |
| Mexico | 2.0% | 0.3% | -0.9% | -1.6% | 0.3% | 0.0% |
| Peru | 2.4% | -0.2% | -3.8% | 0.5% | 2.9% | 0.4% |
| Venezuela | 2.1% | -2.1% | -1.6% | -0.5% | 0.2% | -0.4% |
| EAP | 3.1% | 2.1% | 2.3% | 1.3% | 2.0% | 2.2% |
| China | -0.5% | 0.9% | 1.6% | 3.4% | 6.2% | 2.3% |
| United States | 0.9% | -0.4% | 1.1% | 1.0% | 0.6% | 0.6% |
| Japan | 6.7% | 1.1% | 1.4% | -0.7% | 0.9% | 1.9% |

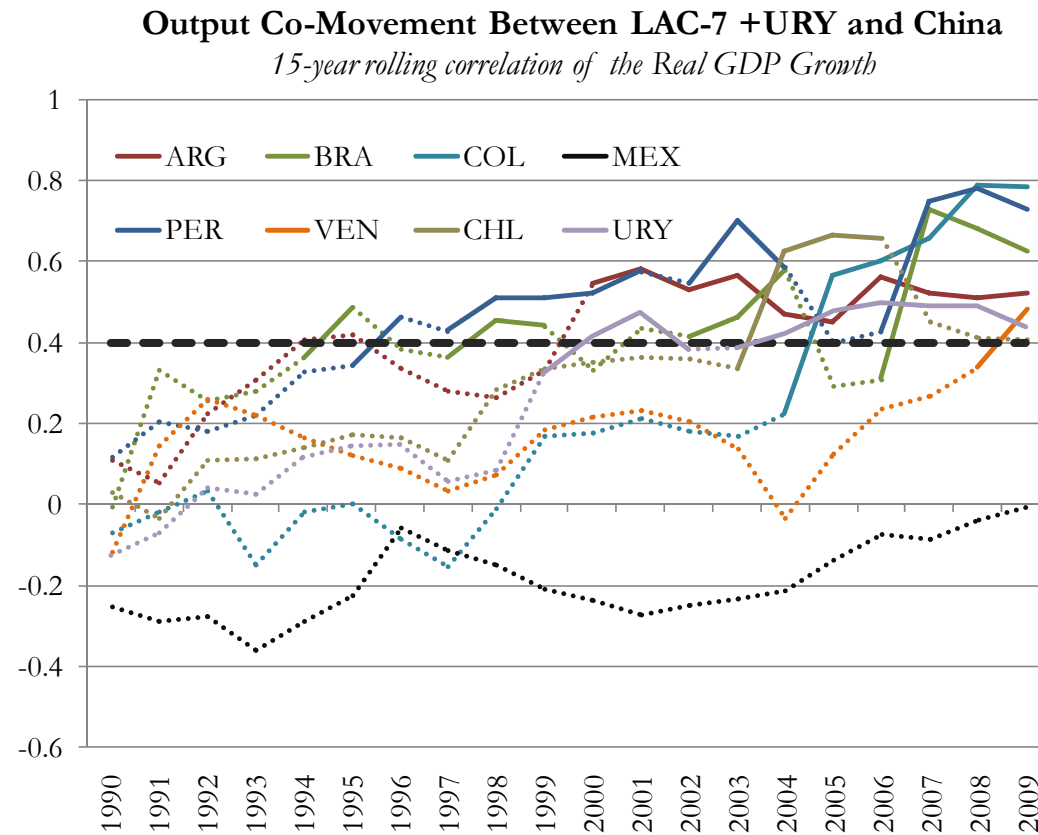
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During the 2000s, the China Connection developed Particularly, for a number of South American countries



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During the 2000s, the China Connection developed



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Channels of growth spillovers

- Very important so far have been (of relatively short-lived nature):
 - China's demand for LAC's exports
 - Indirectly, China's role in driving commodity prices up
- The intensification of trade and other economic linkages matter for sustainable (longer-term) growth to the extent that they translate into:
 - Factor accumulation (physical and human capital)
 - Productivity growth
- Can LAC leverage this connection further?

Channels of growth spillovers

Can LAC leverage this connection further?

- For long-term growth, technological diffusion and learning become key determinants of productivity improvements
 - *Directly*: Technology embodied in physical and human capital
 - *Indirectly*: Knowledge dissemination through
 - Trade flows:
 - Tech-content of imports
 - Feedback from importing nations
 - Capital flows
 - Migration flows: diffusion of tacit technological knowledge

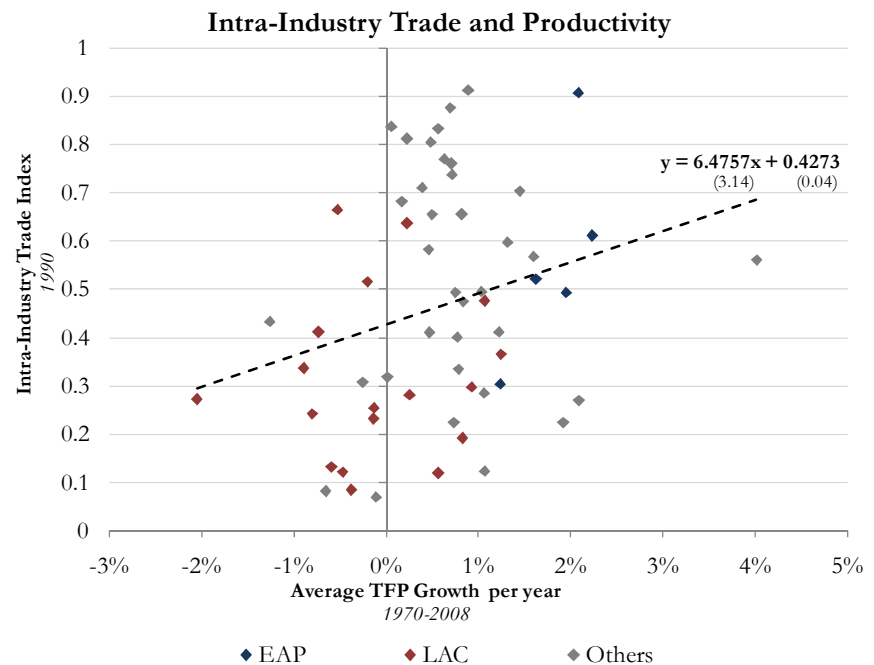
Diffusion of technology through the trade channel

The Degree of Intra-Industry Trade (IIT)

For long-term growth, not only about the degree of openness matter, but also the structure/dynamics of trade connections.

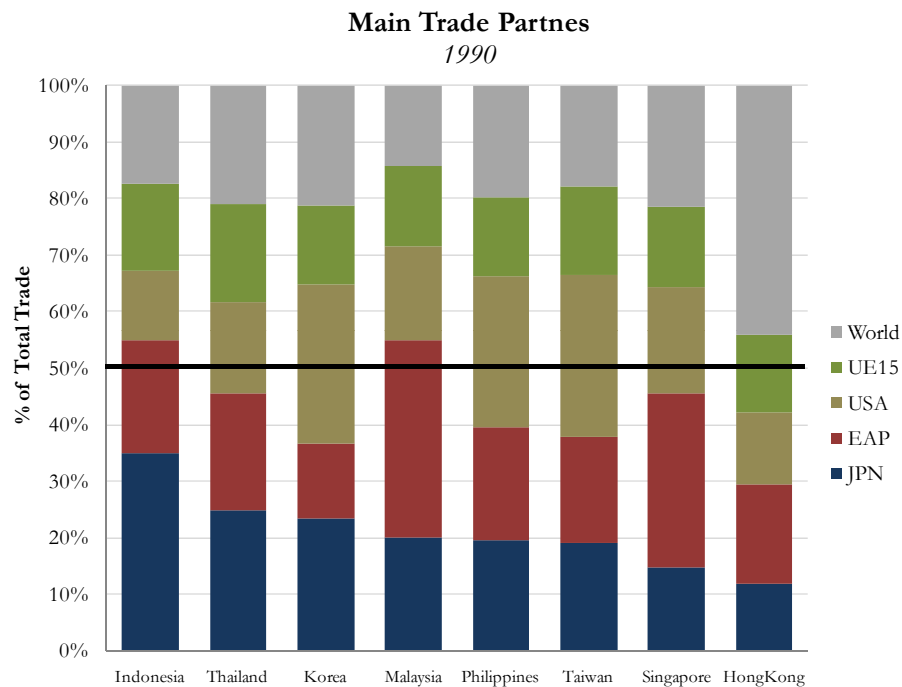
IIT can be a proxy for technology diffusion and knowledge spillovers:

1. *Vertical IIT*: trade involves products in the same sector but at different stages of the production process (e.g. imports of intermediate goods)
2. *Horizontal IIT*: trade of differentiated products might help firms keep up with the technology frontier of their competitors

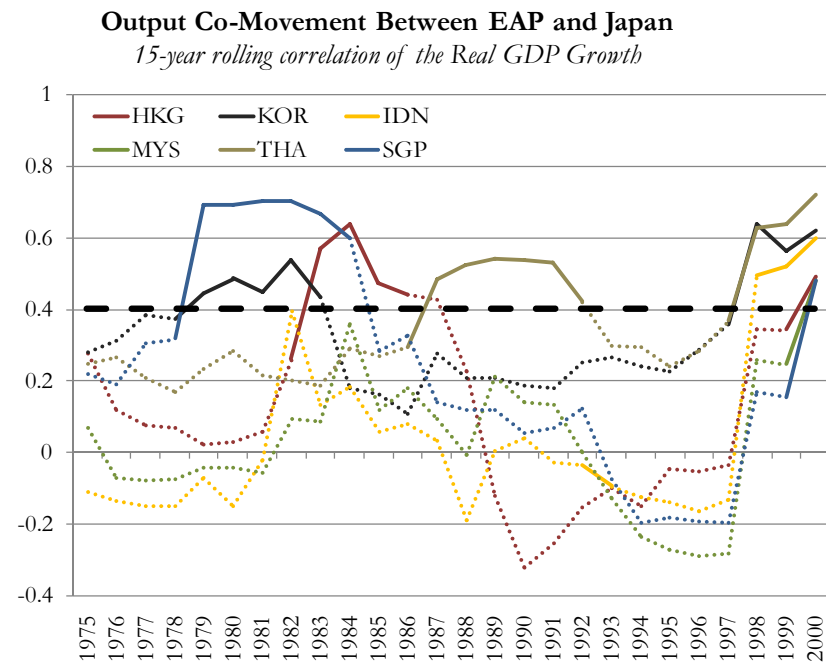


Notes: Fitted regression lines are added to these figures and the estimated equation is also reported. Standard deviations are shown in parenthesis. Sources: WITS and Penn World Tables.

A particularly telling connection for growth prospects East Asian Tigers and Japan



Japan was a fast-growing neighbor with impressive technological progress that acted as a growth pole for East Asian economies.



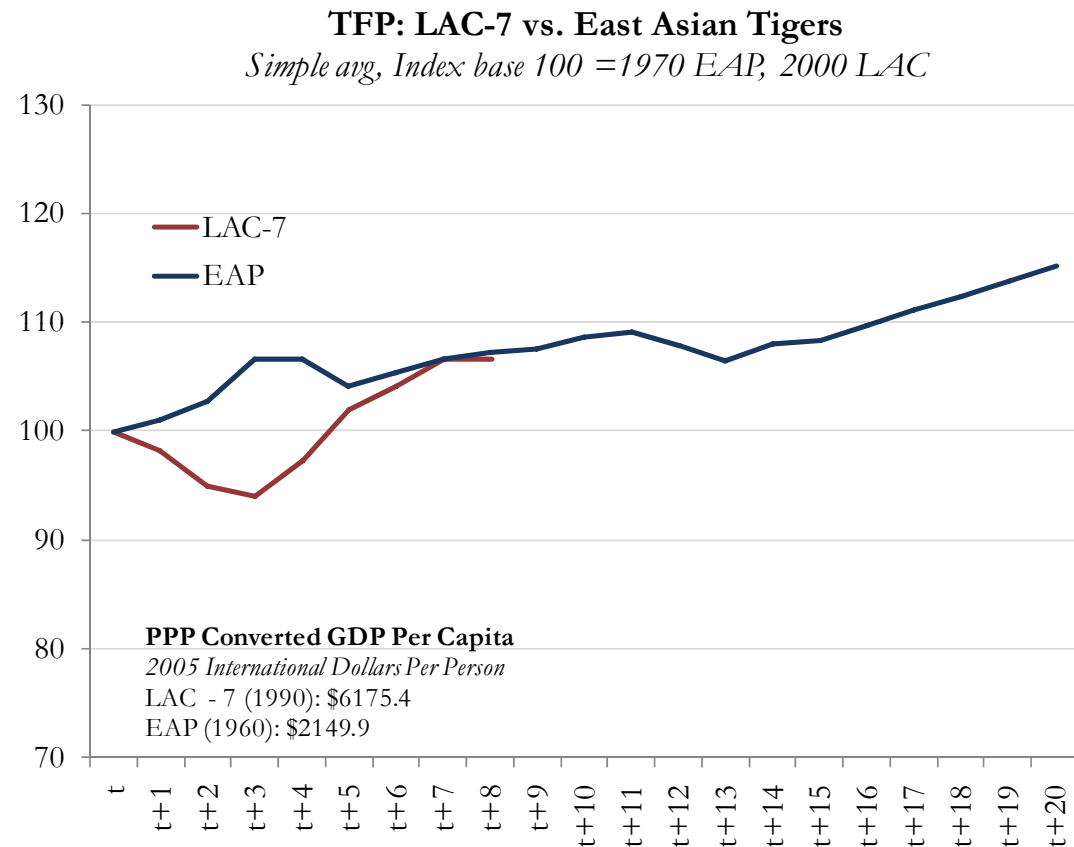
Notes: For Panel B, the sample of UE15 includes: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom; the sample of EAP countries includes Hong Kong, Indonesia, Korea Rep., Malaysia, Philippines, Singapore, Taiwan and Thailand. Sources: WITS and WDI.

An exploration of the nature of growth dynamics

Compare and contrast exercise of these two connections

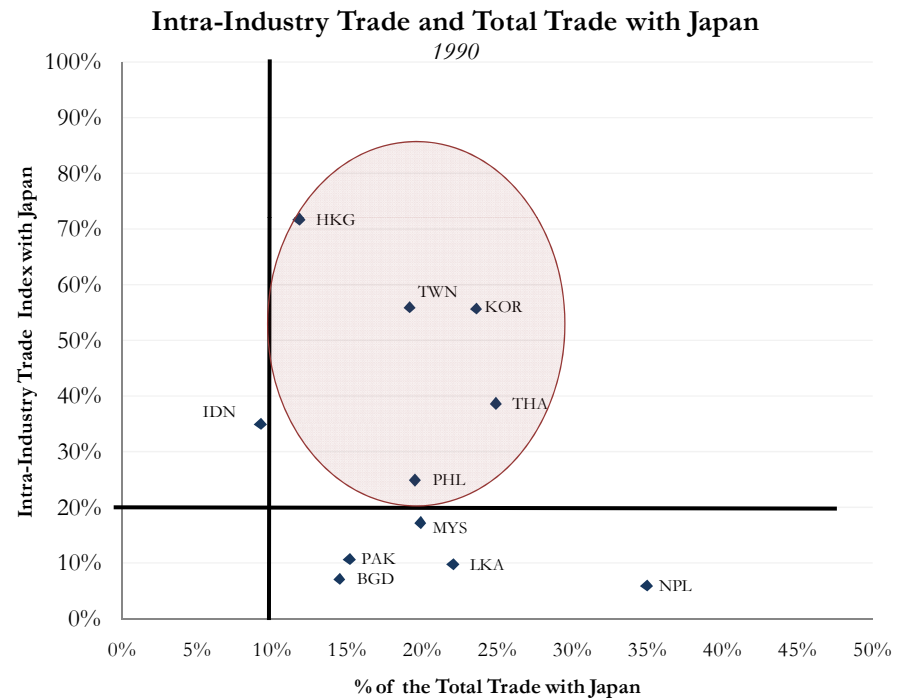
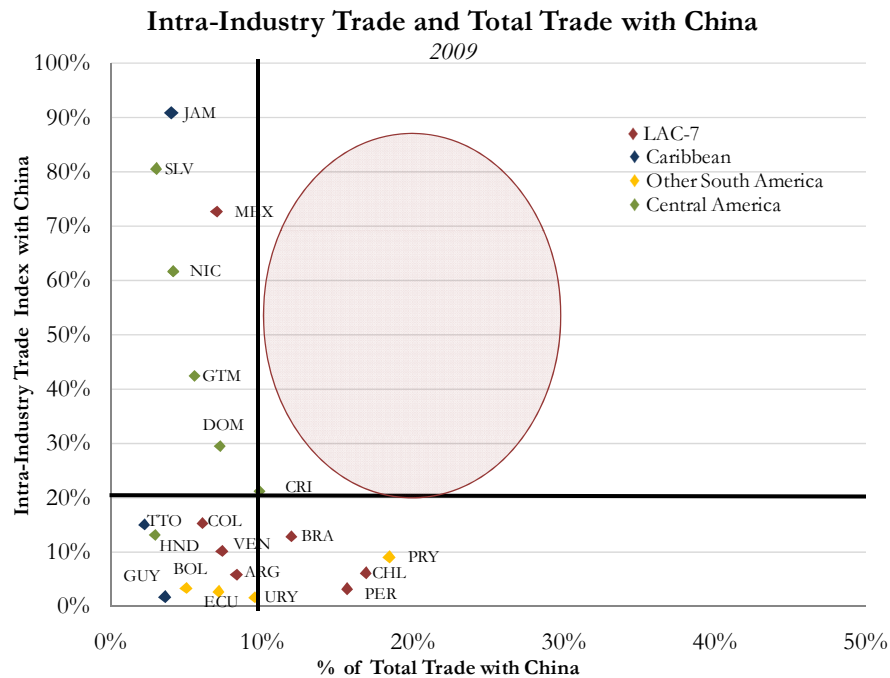
We focus on one source of long-term growth:
The connection to growth poles and the potential for/existence of spillover effects.

And the role that factor accumulation and domestic policies can play at fostering spillover effects from this connection.



Growth poles and technology diffusion

The degree of intra-industry trade with growth poles

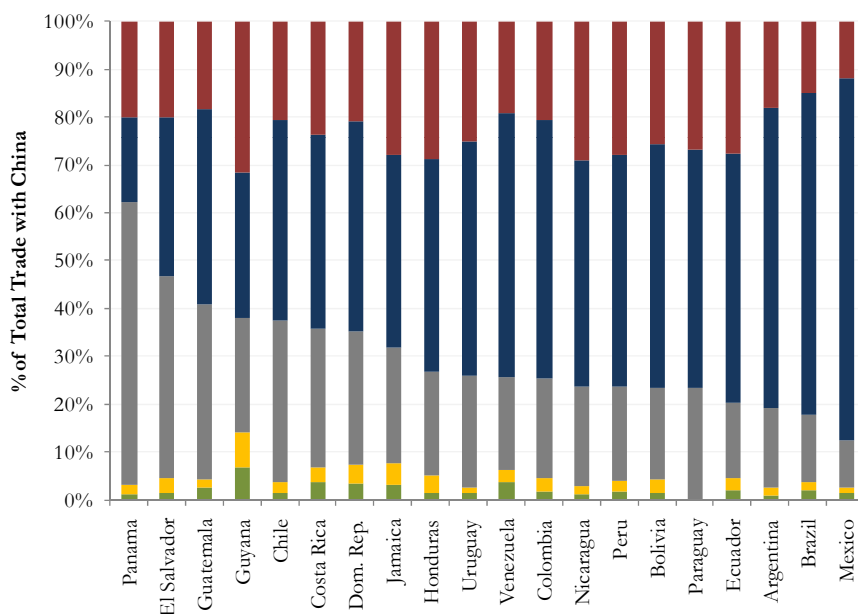


Growth poles and technology diffusion

Composition of imports from growth poles

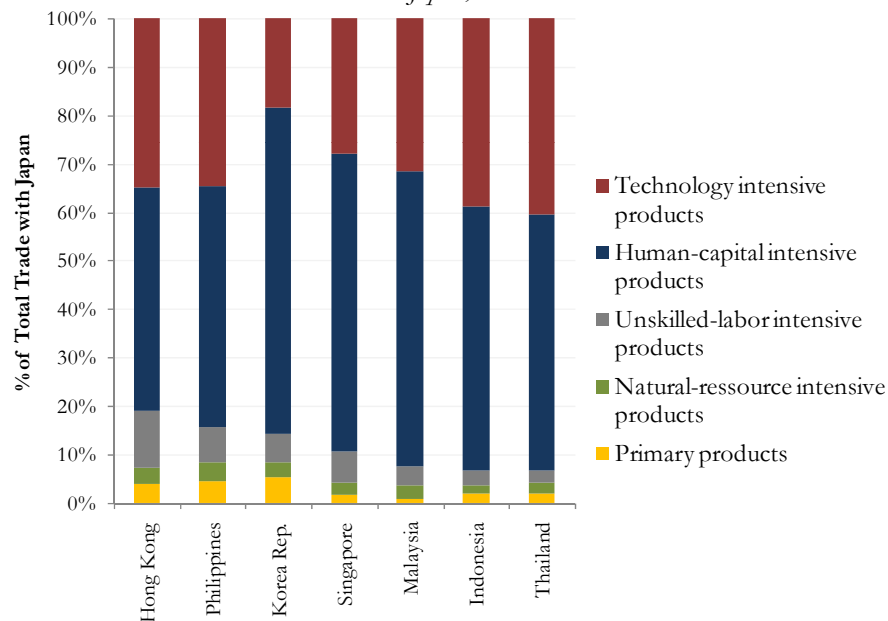
Share of Factor Intensity Categories in Imports

LAC and China, 2009



Share of Factor Intensity Categories in Imports

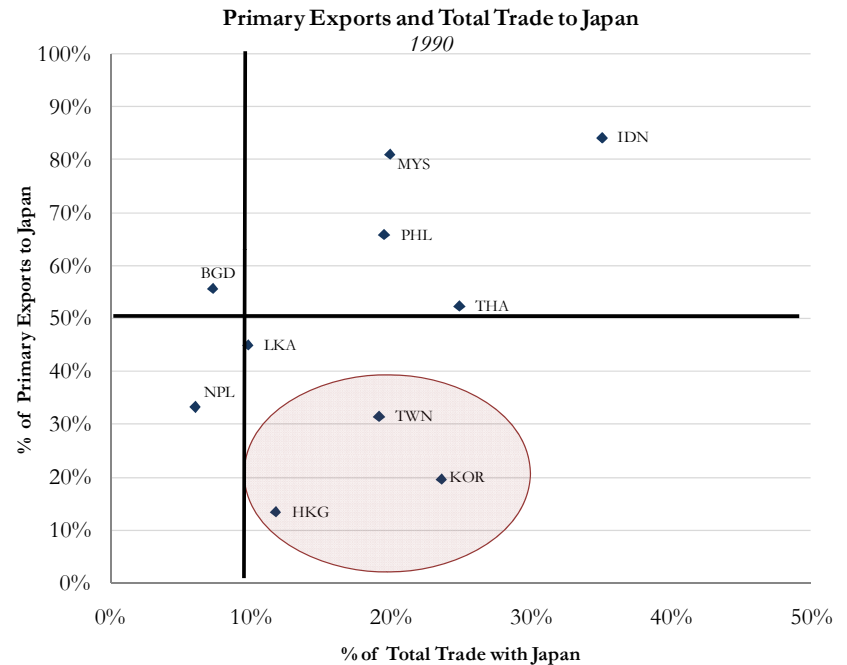
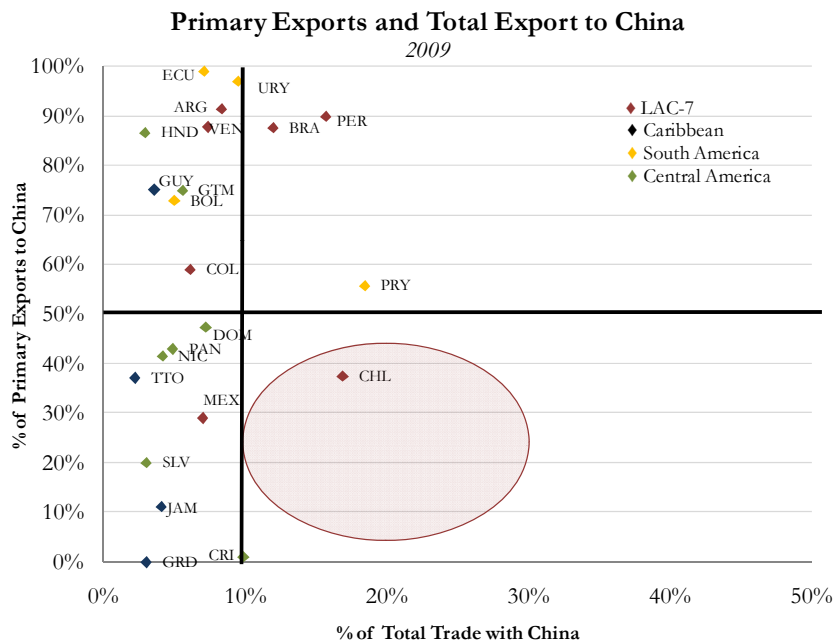
EAP and Japan, 1990



Notes: Only countries with more than 5% of total trade with China are reported. The factor intensity classification of product of Hinloopen and Van Marrewijk is used. Source: WITS.

Growth poles and technology diffusion

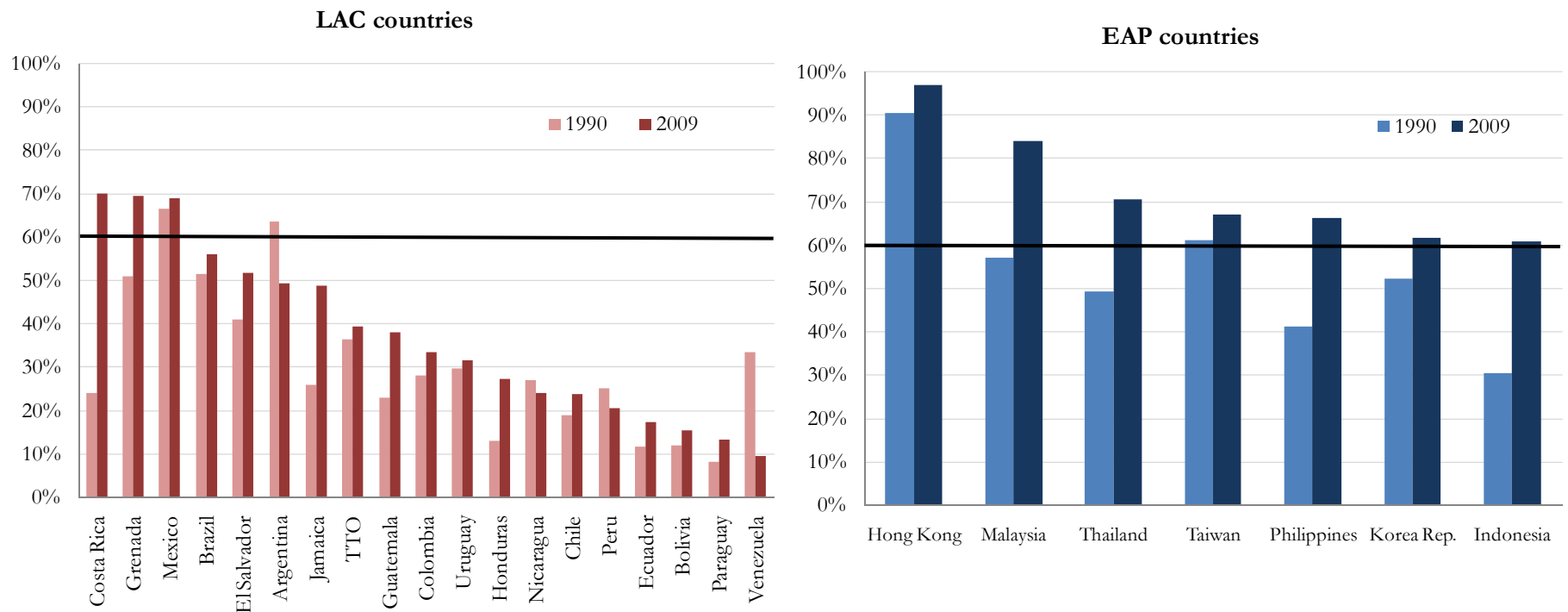
Composition of exports to growth poles



The overall degree of intra-industry trade

There is little evidence of technology diffusion through trade in the connection to LAC-China, which seems to rely extensively on comparative advantage forces...

... this is a broader pattern characterizing trade dynamics of many LAC countries.



Growth poles and technology diffusion

The FDI channel playing an even more limited role...

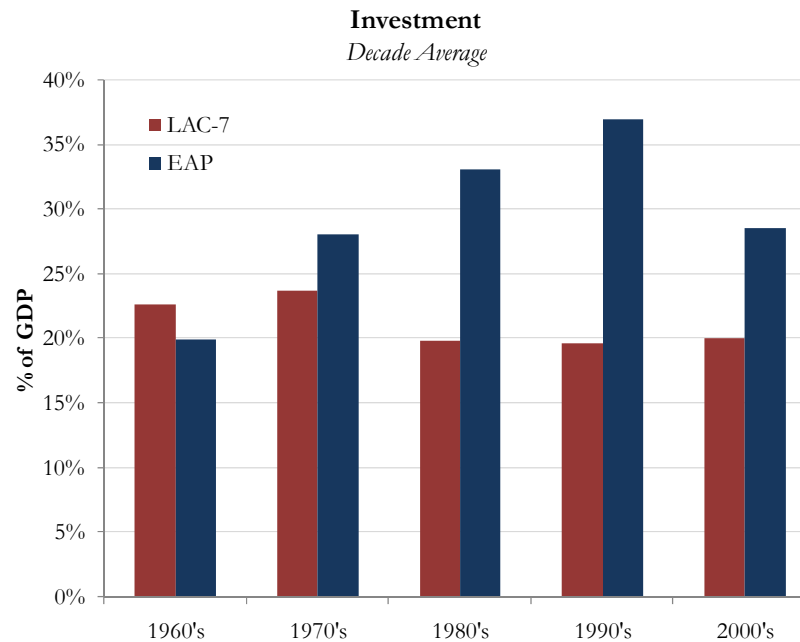
- The Japan-Tigers connection
 - Large FDI flows driven by pull and push factors
 - Flows over time shifted to labor-intensive to capital- and technology-intensive industries
 - FDI flows reinforced trade connections with the development of value chains
 - Growing connections among Tigers
- The LAC-China connection
 - Very limited flows and mostly concentrated on resource-intensive sectors
 - Recently: small investments appeared in manufacturing and transport
 - Few connections developing among LAC countries that export to China
- Overall, little evidence that China is fostering productivity growth in the LAC region as Japan did for the East Asian Tigers.
- Some have argued that this is due to an excessive commodity-dependence (“curse”)...

But there are some hopeful signs in LAC

- Commodity production per se is not “inferior” to others...
- ...there is some spotty but robust evidence of some bright spots in LAC: some commodity sectors are benefiting from technological innovation, generating cross-sectoral linkages, value upgrading, and employment.
 - Biotechnological revolution and connectivity in Argentina, Brazil, and Uruguay
 - Climbing the quality ladder in metal production in the region
 - Clusters of activity (employment, SMEs) around copper production and salmon farming in Chile
- The central point is that it is not necessarily what you produce and trade but how it is being produced and whether it is generating positive spillovers to the rest of the economy.

Overall, trade and financial connections are unlikely to spur growth if not accompanied by:

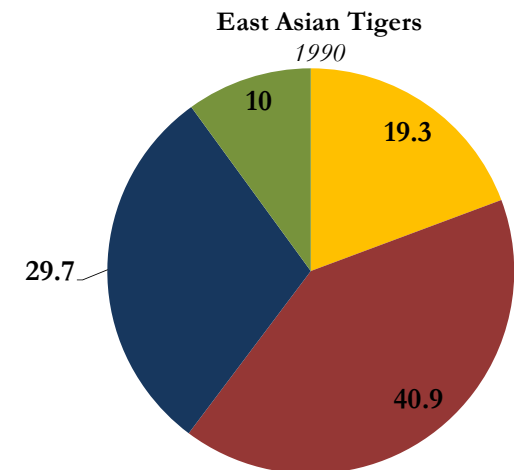
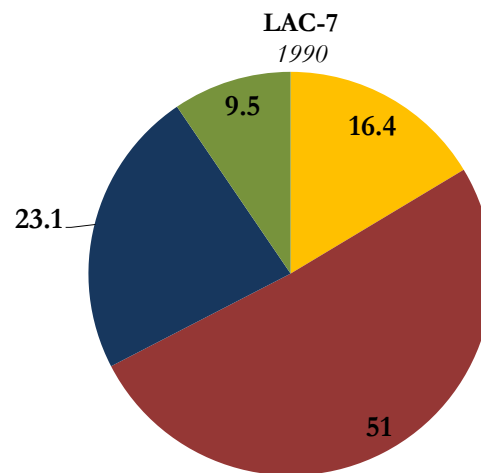
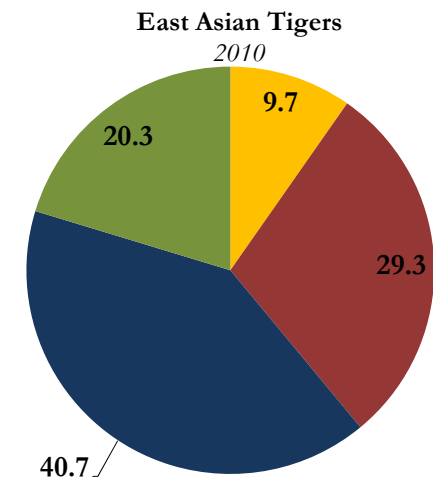
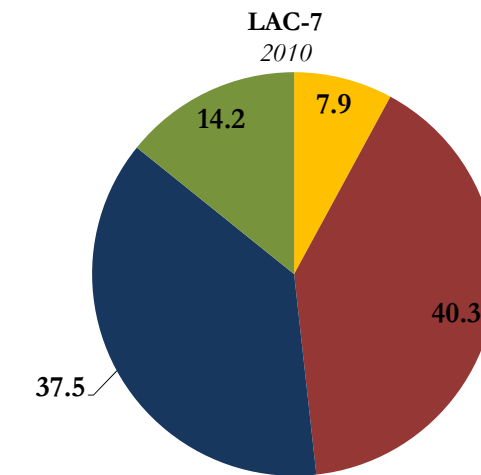
- Investments
- Human capital formation
- Innovation capacity
- Appropriate institutional and policy environment



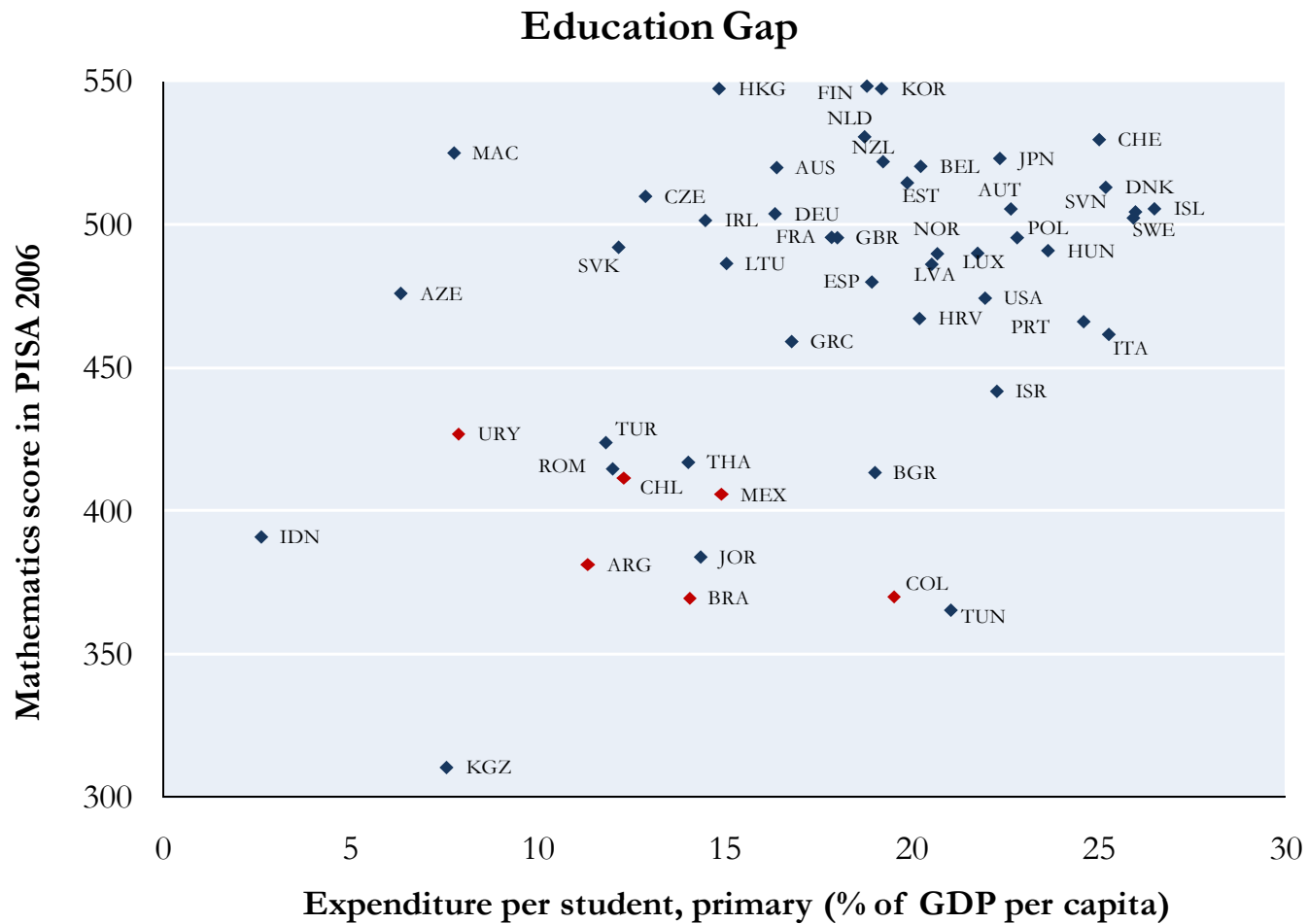
Notes: In Panel A, EAP includes Hong Kong, Indonesia, Korea Rep., Malaysia, Singapore, and Thailand. In Panel B, EAP includes Hong Kong, Indonesia, Korea Rep., Malaysia, Singapore, Taiwan, and Thailand. Both in Panel A and B, LAC-7 includes Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. Sources: WDI, Penn World Tables, and The International Energy Agency (IEA).

Human capital plays an important role in explaining the (low) degree of positive spillovers

- The existence of skilled labor with high educational and technical capabilities (e.g. well-trained engineers and skilled managers) is key for knowledge spillovers (Schiff and Yang 2010).
- Borensztein, de Gregorio, and Lee (1998) finds that positive growth effects from FDI requires a minimum threshold of human capital in the host country.



Quality of education: Investment per student in LAC yields less learning

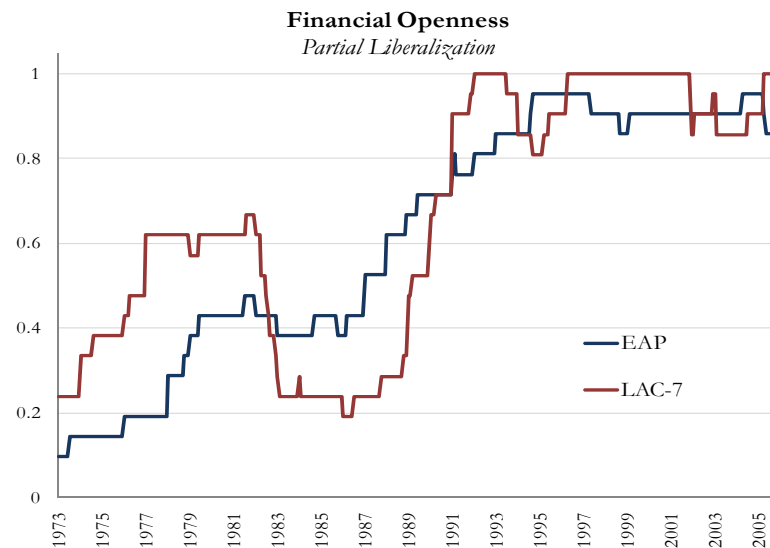


Domestic policies can also play an important role in fostering spillover effects....

- East Asian Tigers put in place a wide set of policies to actively seek for foreign technology [World Bank (1993)]:
 - Fostering imports of capital goods
 - Incentives to foreign training
 - Incentives to FDI inflows
- In addition, East Asian Tigers followed an exchange rate policy geared at fostering export competitiveness:
 - Feasible with relatively closed capital accounts (*impossible trinity* concerns)

Domestic policies can also play an important role in fostering spillover effects....

- The asymmetries in the degree of trade and financial openness give rise to additional constraints for policies LAC.
- The region needs to make a larger productivity-enhancing policy effort to compensate for structural impediments (low domestic savings and high degree of financial globalization) to a competitive exchange rate.



Notes: In Panel A, EAP countries are Hong Kong, Indonesia, Korea Rep., Malaysia, Philippines, Taiwan, and Thailand. Sources: Kaminsky and Schmukler (2002) and Lane and Milesi-Ferretti (2007).

Main messages and results

- Comparing the LAC-China and Tigers-Japan connections lead to a mixed evaluation
- So far, China has not been a conduit for technological diffusion and knowledge spillovers
 - There is no meaningful intra-industry trade between LAC and China
 - Exports are concentrated in natural resources
 - Imports from China are concentrated on unskilled-labor intensive goods

Main messages and results

- There are some bright spots in several LAC countries/sectors: mode of production of commodities is escaping the enclave syndrome
- LAC needs a larger productivity-oriented policy effort to compensate for structural impediments to competitive exchange rate
 - The Tigers followed a different model: high domestic savings and limited integration into non-FDI international markets
- Could the region turn natural resource abundance and the China Connection into a blessing?
 - Diversification – avoiding the “enclave” syndrome
 - Institutions – avoiding corrosive effects of rent-seeking

Thank you