Foreign Capital and Economic Growth in Developing Countries: Issues and Challenges

Eswar Prasad, Raghuram Rajan, and Arvind Subramanian

Outline

- World awash with capital. Should emerging markets attempt to attract more of it to grow faster?
- Traditional view
  - Poor countries are starved of capital
  - Marginal productivity of capital should be high
  - Opening up to foreign capital should increase investments and move poor countries faster to their steady state, thereby increasing their growth rates, at least temporarily.

Outline contd

- Implications
  - Capital should flow from rich to poor countries
  - Amongst poor countries, capital should flow to the most productive

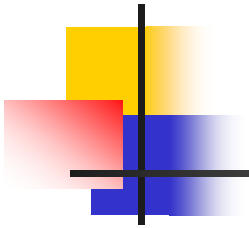
  Also, for poor countries

  - Capital inflow should be strongly positively correlated with growth (and investment)
- **Are these implications observed in the data? If not, why not?**

Facts

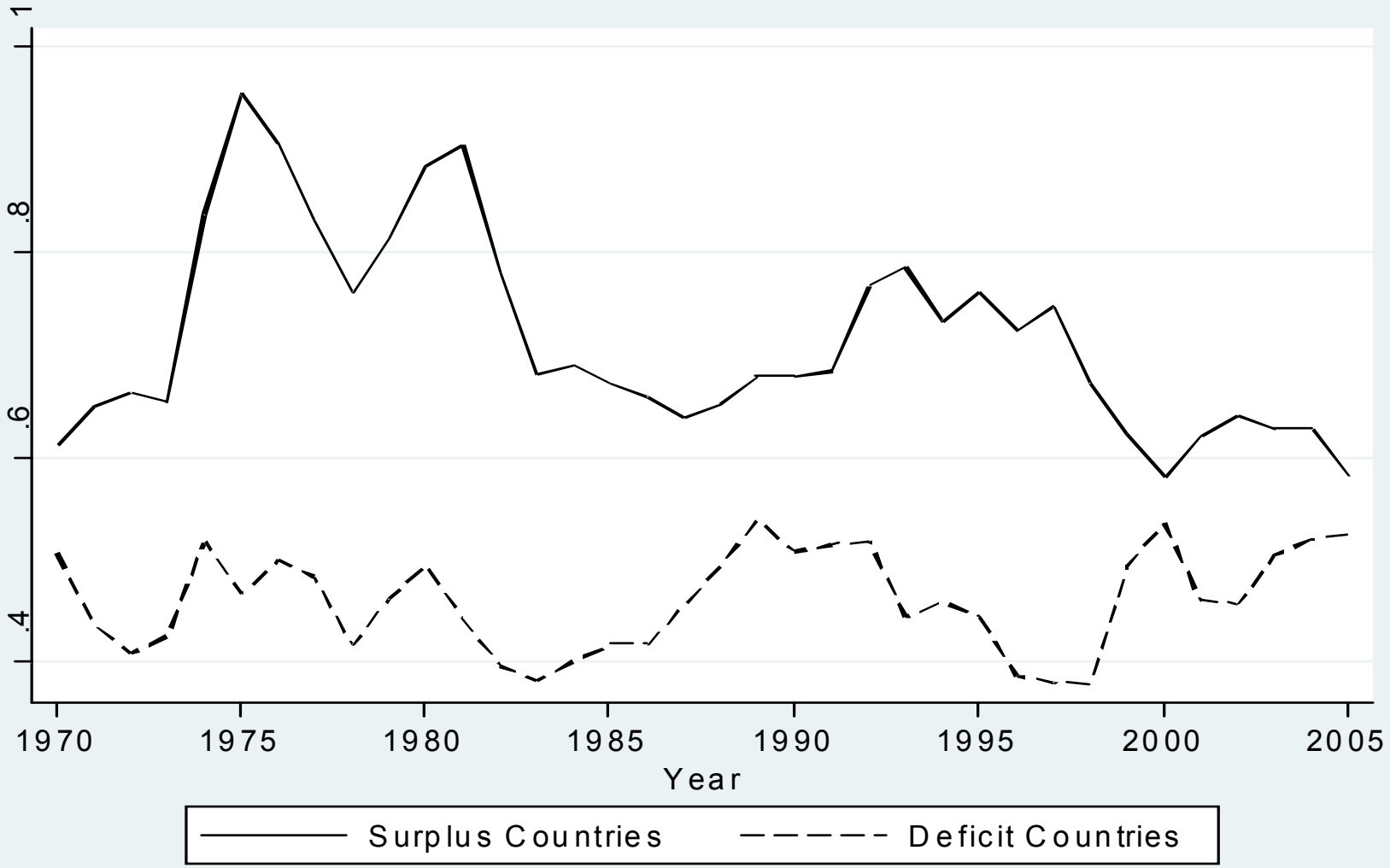
- Capital not flowing more to poor countries over time as they improve their financial systems.
- Flow reversing in recent times.

Relative Incomes of Capital-Exporting and Capital-Importing Countries



- Not just a US/China phenomenon!

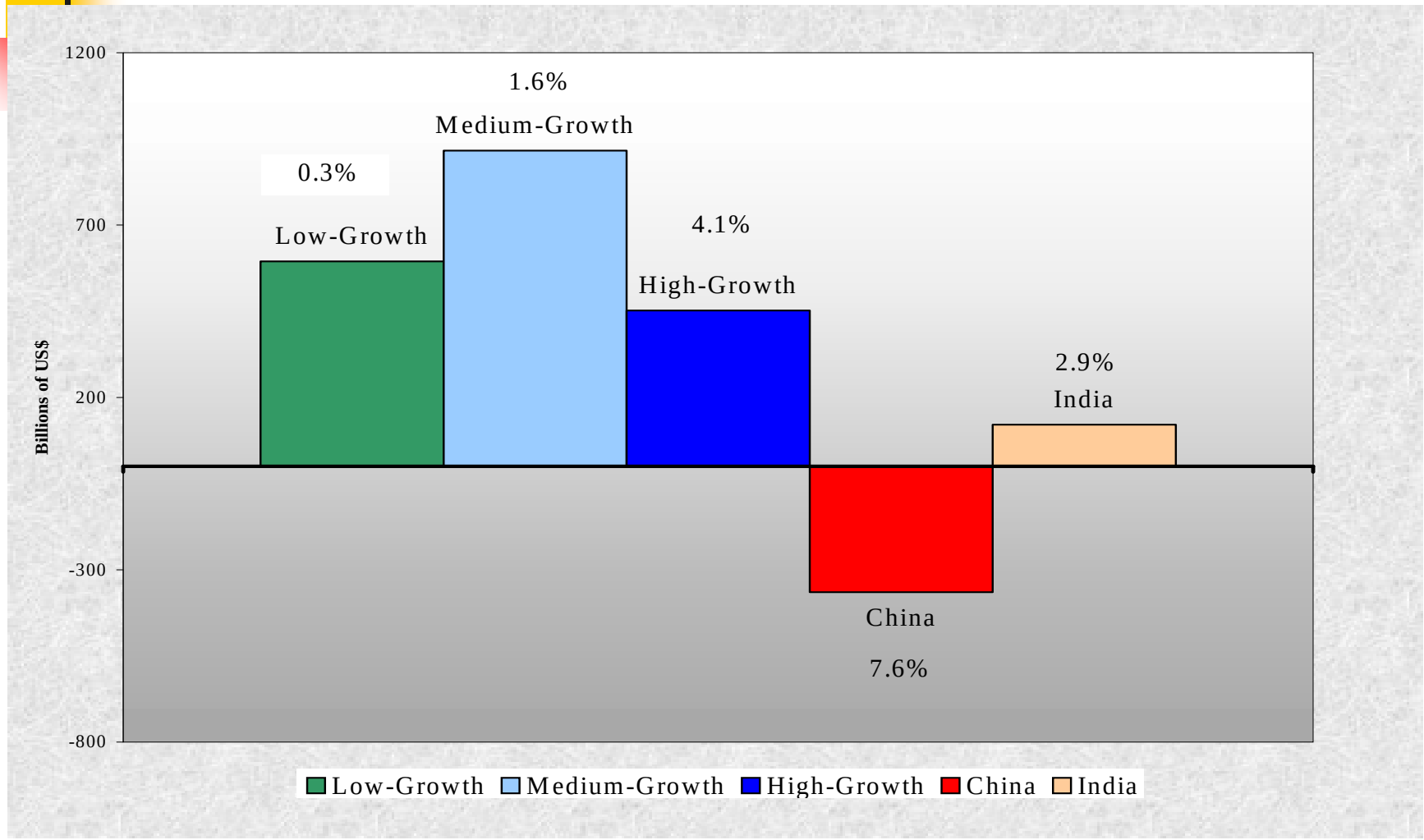
Relative Incomes of Capital-Exporting and Capital-Importing Countries: Leaving out the US and China



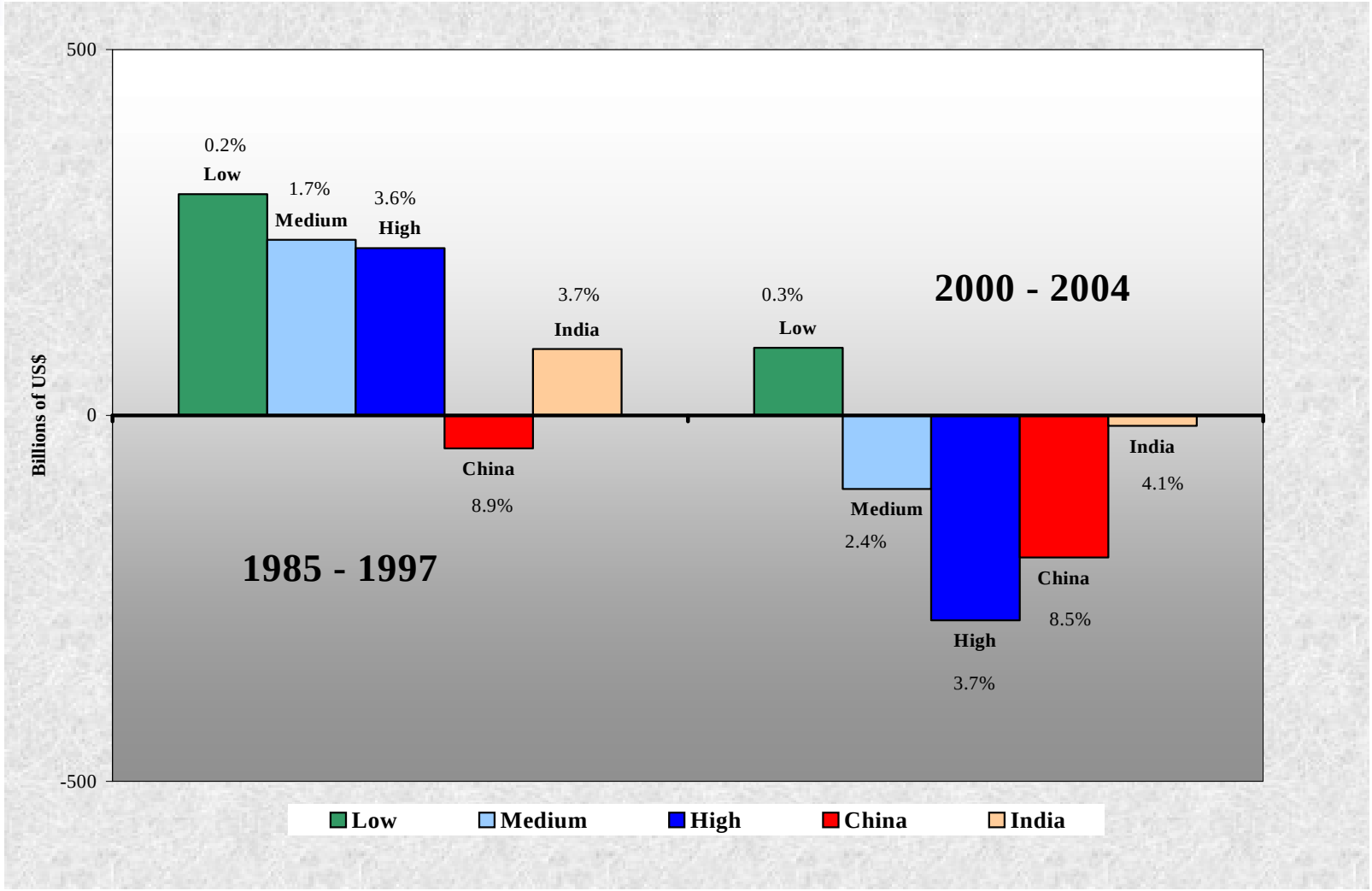
Facts contd.

- Amongst the poor countries, capital has not flowed to the fastest growing amongst them ("Allocation paradox": Gourinchas and Jeanne, 2006).
- Capital inflow measured by CA deficit

The Allocation of Capital Flows to Non-Industrial Countries 1970-2004



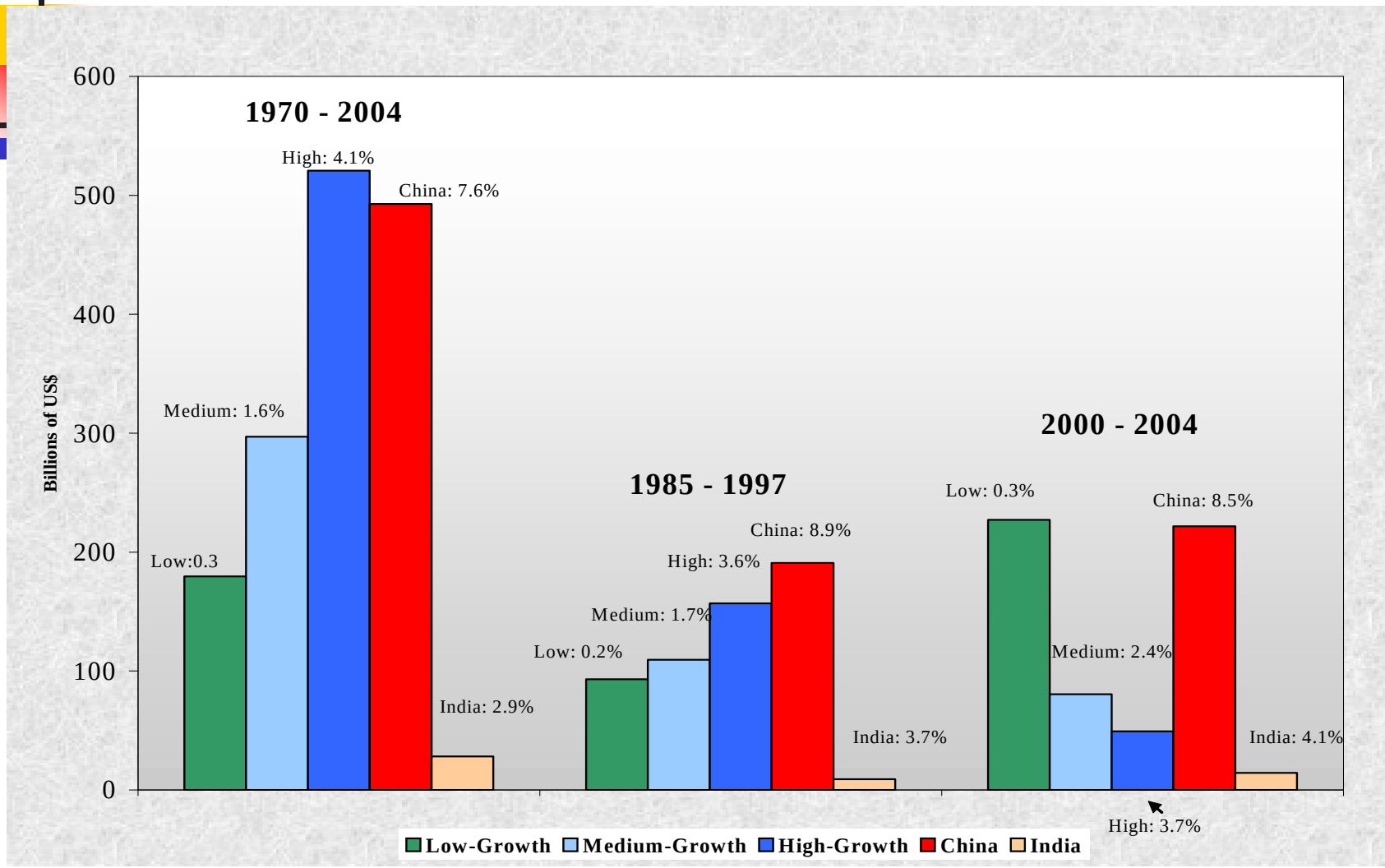
The Allocation of Capital Flows to Non-Industrial Countries 1985-1997 and 2000-2004



Not all capital flows have followed the same pattern

- FDI has behaved differently in the past, going to the fastest growing countries.
- Even this has reversed in recent years.

The Allocation of Net FDI Flows to Non-Industrial Countries

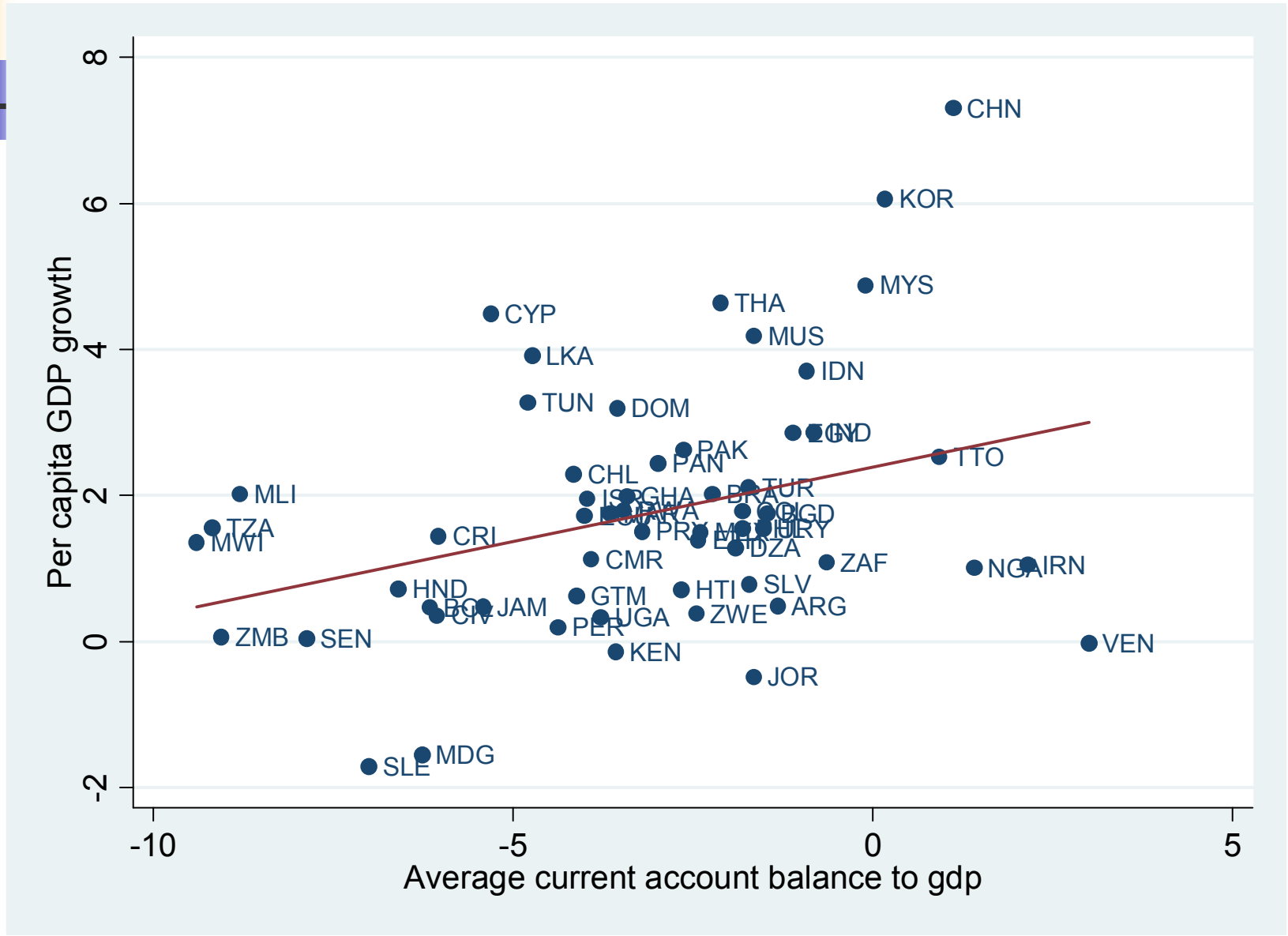


Facts contd.

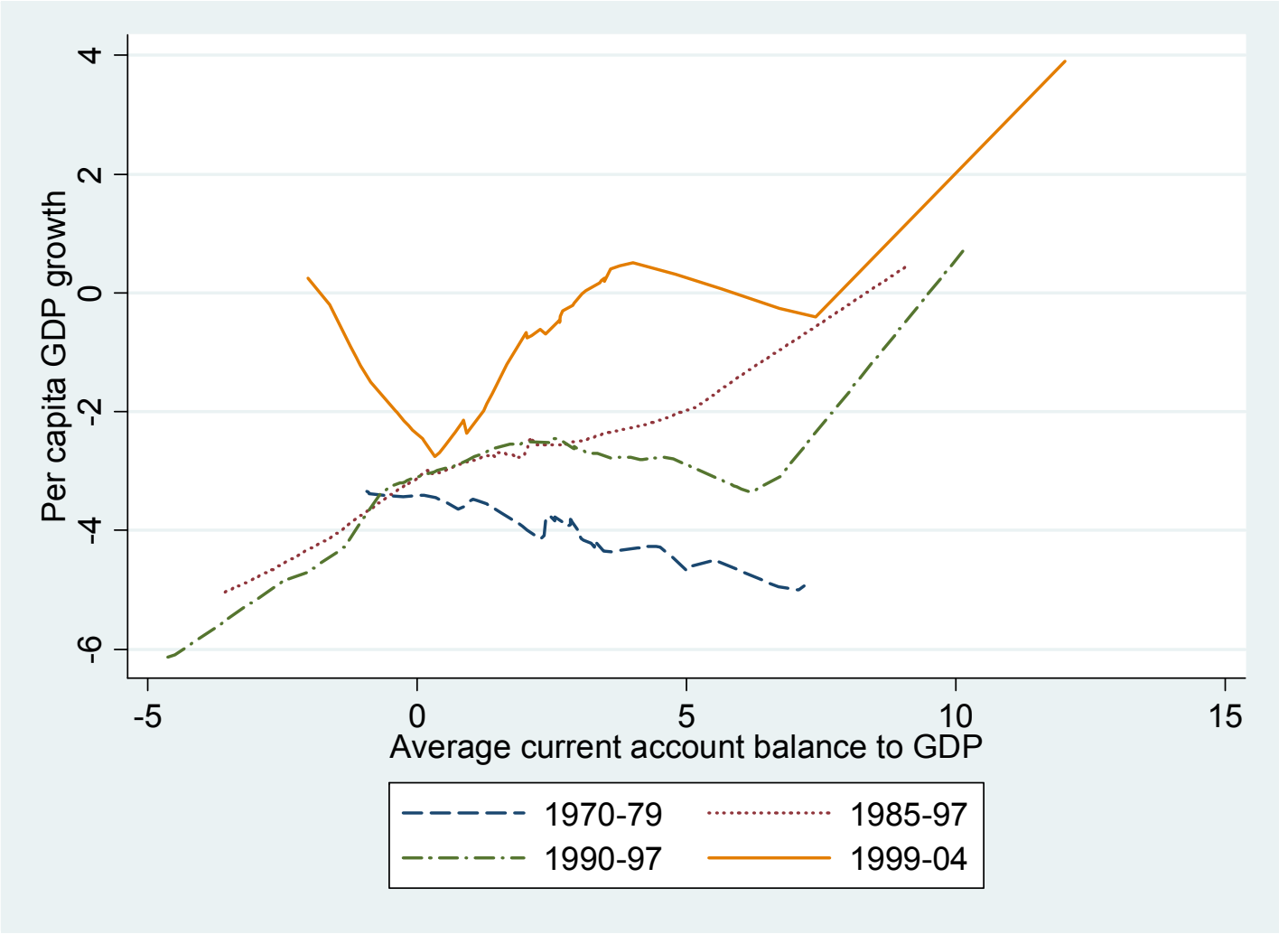
- Non-industrial countries that have utilized the most foreign capital have tended to grow more slowly.

- Not just a recent phenomenon.

Correlation Between average Growth and the average Current Account Balance, non-industrial countries, 1970-2004



Growth and the Current Account Balance over Time: Non-parametric Relationship

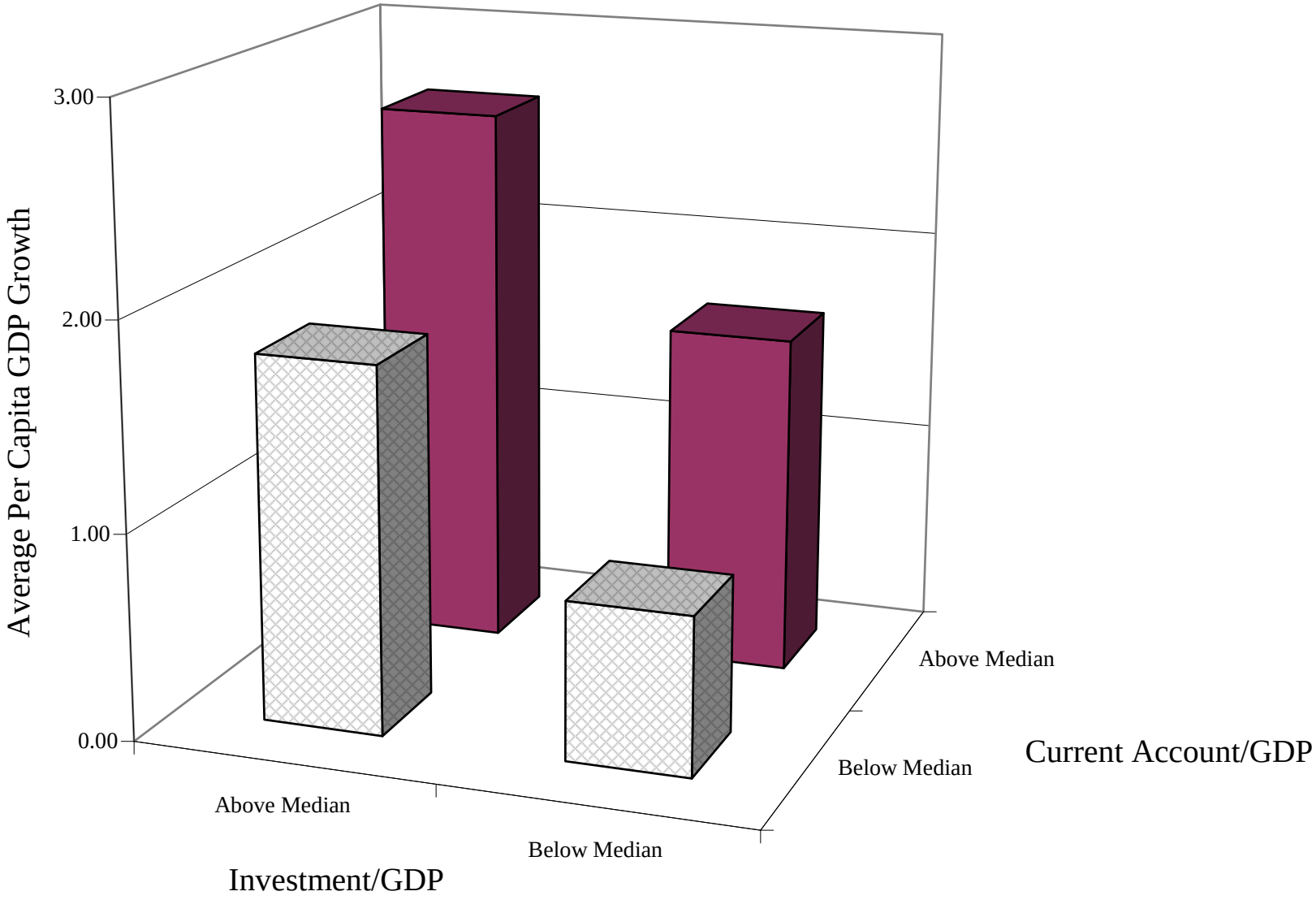


Facts contd.

- Traditional model: Given a level of investment, how it is financed – through domestic or foreign savings – should not matter for growth.

- Fact: For non-industrial countries, given a level of investment, the more it is financed through domestic savings, the higher the associated growth is.

Figure 6. Current Accounts, Investment and Growth in Developing Countries



Putting the central facts on a more formal footing.

- Include the current account deficit (i.e., reliance on foreign financing) in a standard cross-country growth regression.
- Growth negatively related to reliance on foreign financing.
- Not explained by high aid countries.

Foreign Capital and Growth in the Cross-Section, 1970-2004

CA to GDP	0.107		0.107	-0.041	0.069	0.105
	(0.056)*		(0.053)*	(0.085)	(0.055)	(0.051)**
Gross assets to GDP		0.013				
		(0.007)*				
Gross liabilities to GDP		-0.007				
		(0.005)				
Investment to GDP			0.074			
			(0.050)			
Domestic savings to GDP				0.108		
				(0.040)***		
Share of working age population					0.194	
					(0.072)***	
Industrial country indicator*CA to GDP						-0.202
						(0.063)***
Observations	56	55	56	56	56	78
R-squared	0.69	0.66	0.70	0.73	0.77	0.68

- Controls include: initial per capita GDP, fiscal balance to GDP, Sachs-Warner trade policy, institutional quality, life expectancy; oil exporter dummy; and sub-Saharan Africa dummy

Robustness

- The key findings are robust to a variety of alternative specifications
- Does the cross-sectional pattern averaged over many years obscure a more natural time pattern?
  - Non-industrial countries run current account deficits, grow rich, and run current account surpluses
  - Those who have become rich have lower deficits than those who stayed relatively poor.
- Panel regression – growth over shorter intervals.

Panel : Foreign Capital and Growth

CA to GDP	0.127	0.166	-0.001	-0.009	0.086
	(0.112)	(0.124)	(0.111)	(0.093)	(0.109)
Investment to GDP		0.288			
		(0.110)***			
Savings to GDP			0.167		
			(0.092)*		
Share of working age population				0.296	
				(0.158)*	
Industrial country indicator*CA to GDP					-0.292
					(0.126)**
Observations	320	311	294	320	462
Hansen test for OID restrictions (p-value	0.546	0.400	0.466	0.828	0.225
Arellano-Bond AR(2) test (p-value)	0.676	0.514	0.357	0.725	0.630

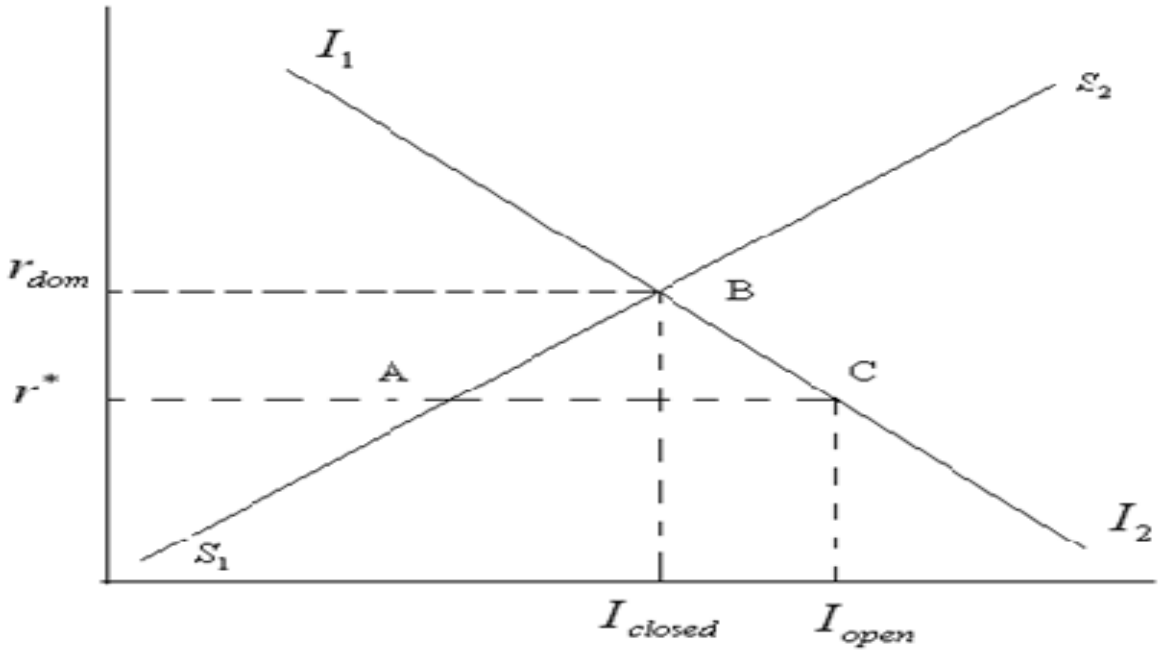
- Panel data are 5-year averages of annual data. Estimation uses system-GMM procedure due to Blundell and Blond (1998), with 3rd and 4th lags used as instruments; same controls as cross-section

Summarizing the facts

- Foreign capital usage negatively correlated with growth
- Seems to run through savings rather than investment
  - Countries more likely to grow if they consume less and save more during growth spurts
- Seems to be a phenomenon associated with non-industrial countries.

These facts are inconsistent with the textbook model

The Textbook model



- Opening leads to higher investment, current account (CA) deficit, and greater growth: i.e., negative relation between CA balance and growth

So what explains the facts?

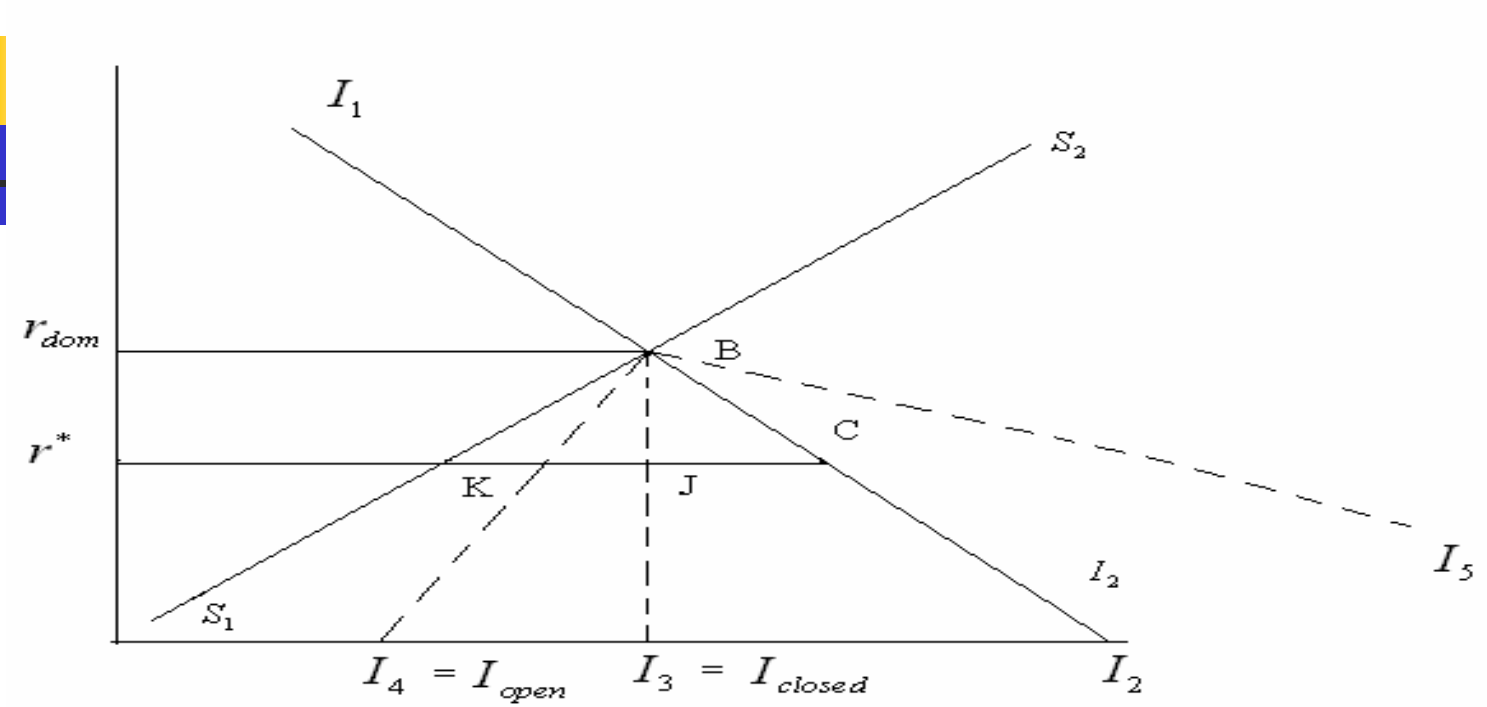
1. Financial system cannot effectively intermediate foreign capital
   - Investment not helped by foreign resources
   - Foreign capital does not help growth, but does not hurt either

2. Excessive domestic consumption and reliance on foreign capital leads to overvaluation, and hence lower exports, returns to investment, and overall growth
   - Greater reliance on foreign capital instead of domestic savings could hurt growth.

Explanations not mutually exclusive

- With an underdeveloped financial sector, foreign capital may gravitate towards the collateralizable non-traded sector (e.g., real estate), thus leading to greater real exchange rate overvaluation

Adapting the text-book model



- Correlation in the data can be generated if foreign savings reduce the marginal return to investment for example through real appreciation: capital inflow will lead to less investment and growth

Testing Explanation 1: The Financial Development Channel

- If foreign capital works by providing additional resources for investment, then:

In countries that receive more foreign capital,

  - Sectors that have a greater dependence on external finance should grow more;

  - And this effect of foreign capital on growth will be diluted or eliminated in countries with poor domestic financial development.

- Evidence is consistent with the explanation.

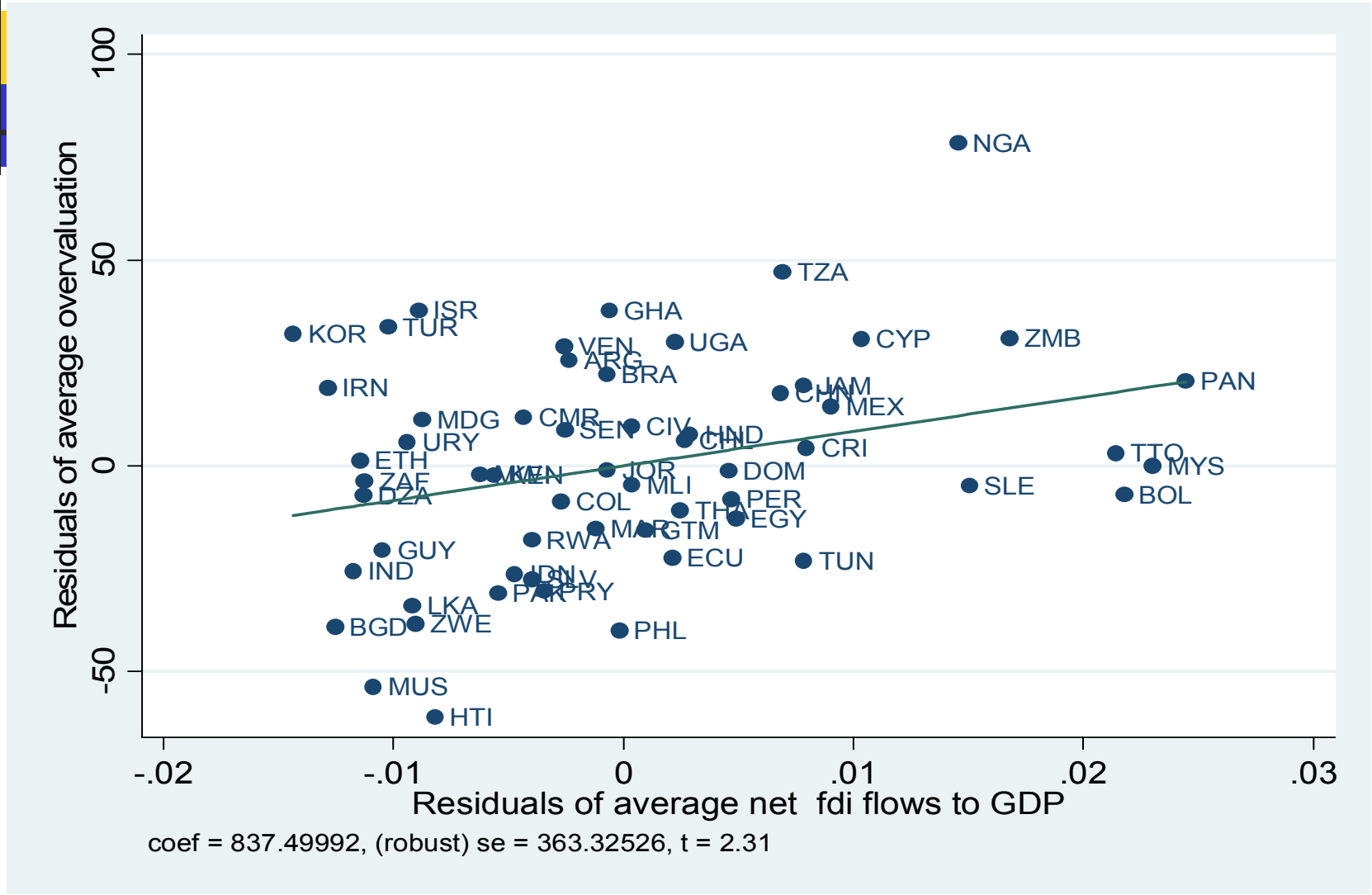
Explanation 2: Foreign Capital, Overvaluation and Growth

- Too much domestic consumption leads to excessive reliance on foreign capital inflows, in order to finance investment.
- This leads to overvaluation and slower growth.

Three pieces of evidence:

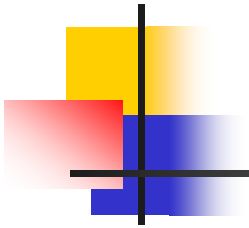
- Reliance on foreign capital→Overvaluation
- Overvaluation→Lower overall growth
- Possible channel from overvaluation to overall growth is manufacturing exports
  - Export intensive industries tend to grow slower in countries with overvalued exchange rates.

1: Foreign capital and Overvaluation, 1970-2004



Conclusions

- Foreign capital, *as a form of net financing*, does not play much of a role in the growth of non-industrial countries, while it does play a role in industrial countries
- Our explanation: Non-industrial countries may have limited ability to absorb it
  - Financial sector may not be able to allocate arm's length capital.
  - Countries may be more prone to exchange rate overvaluation.



- This does not necessarily mean countries should close themselves to capital flows – foreign capital could play a role in enhancing absorptive capacity.
  - Collateral benefits
- It does suggest, though, a greater focus on enhancing absorptive capacity.
  - Enhancing the capacity of the domestic financial system.
  - Enhancing other forms of domestic capacity – e.g., domestic savings and domestic human capital

Methodology, Data and Sample

- Methodology: Key correlations established in the cross-section. But for robustness and channels:
  - Within country across time
  - Within country across sectors
  - Within country, within sectors across time

- Cross-Section: Bosworth and Collins (2003) sample and data updated:
  - 59 non-industrial and 22 industrial countries (plus 7 transition countries)
  - Penn World tables v6.2 for growth and overvaluation
  - Current account, S and I from WDI
  - Our preferred measure of foreign capital is the current account balance (inverse of foreign savings)

- Industry-Level: UNIDO (2005) data for 20 industrial and 30 developing countries; and 28 3-digit sectors and 10 4-digit sectors