Development Policy

Financing Development: Foreign Savings

James Riedel

Foreign Savings and Growth

Big questions:

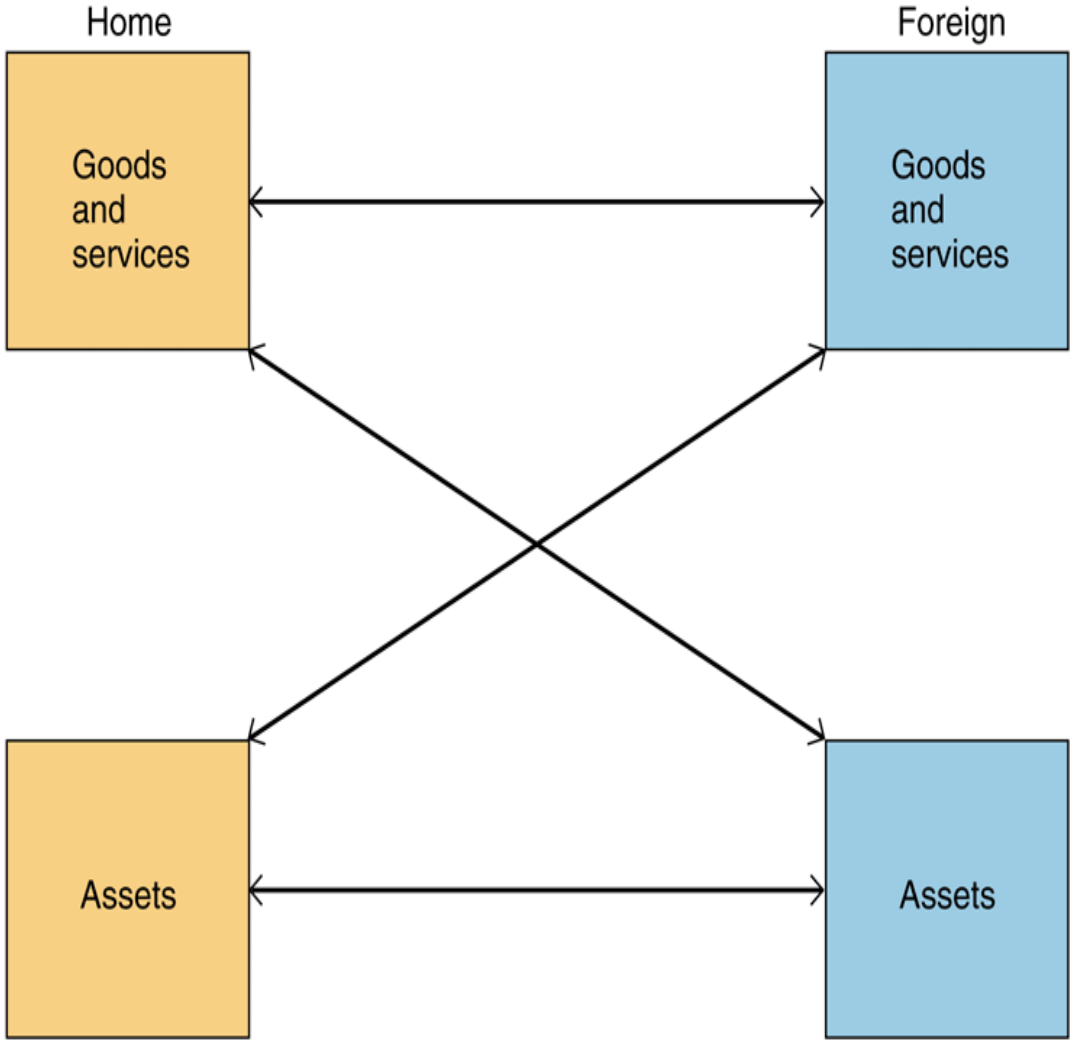
- How do foreign savings contribute to growth?
- How do the growth effects of foreign savings differ according to the type of foreign savings: ODA, FDI, indirect foreign investment (debt and equity inflows)?
- Is financial globalization beneficial to developing countries?
- If conditional, what are the conditions under which financial globalization is beneficial?

Foreign savings:

If $X - M + iNFA = CA = \Delta NFA + \Delta R > 0 \Rightarrow Domestic\ saving\ flows\ outward$

If $X - M + iNFA = CA = \Delta NFA + \Delta R < 0 \Rightarrow Foreign\ saving\ flows\ to\ inward$

What is Inter-temporal trade?

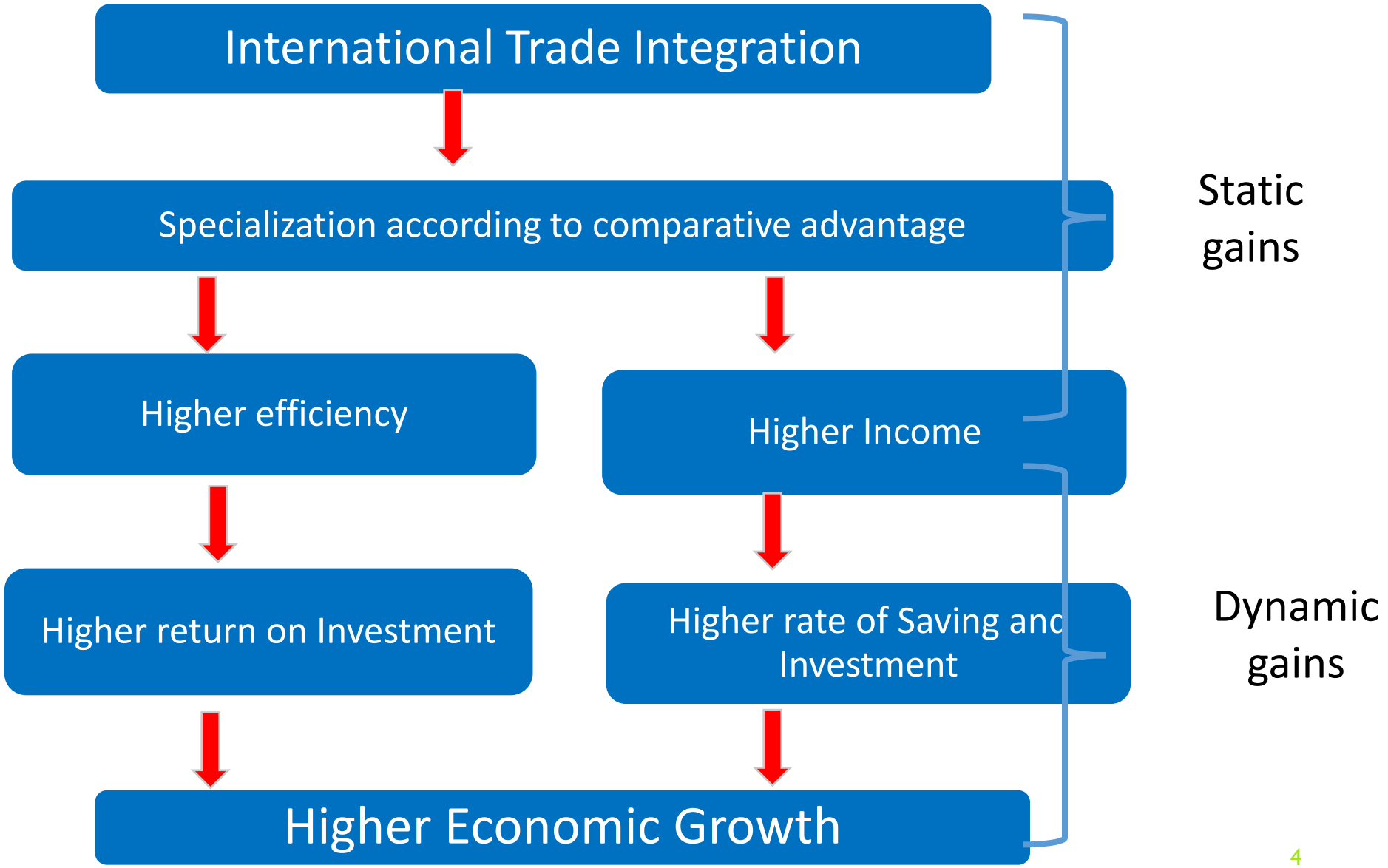


International Trade (goods for goods)
Intra-industry Trade (two-way trade in the same good)

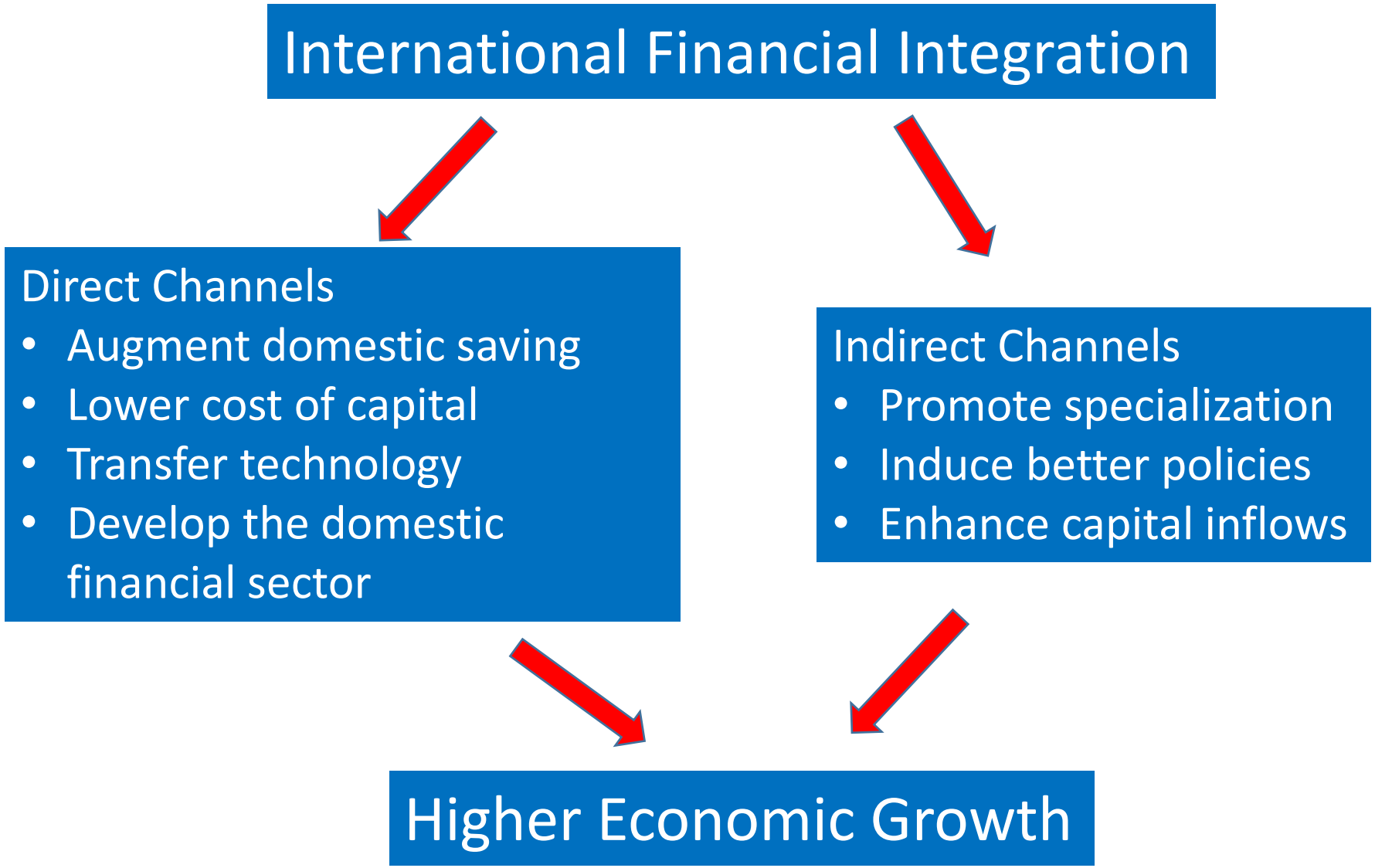
Inter-temporal trade (goods for assets)
Measured by current account balance

Intra-temporal trade (assets for assets)
Measured by gross capital flows

The Logic of International Trade

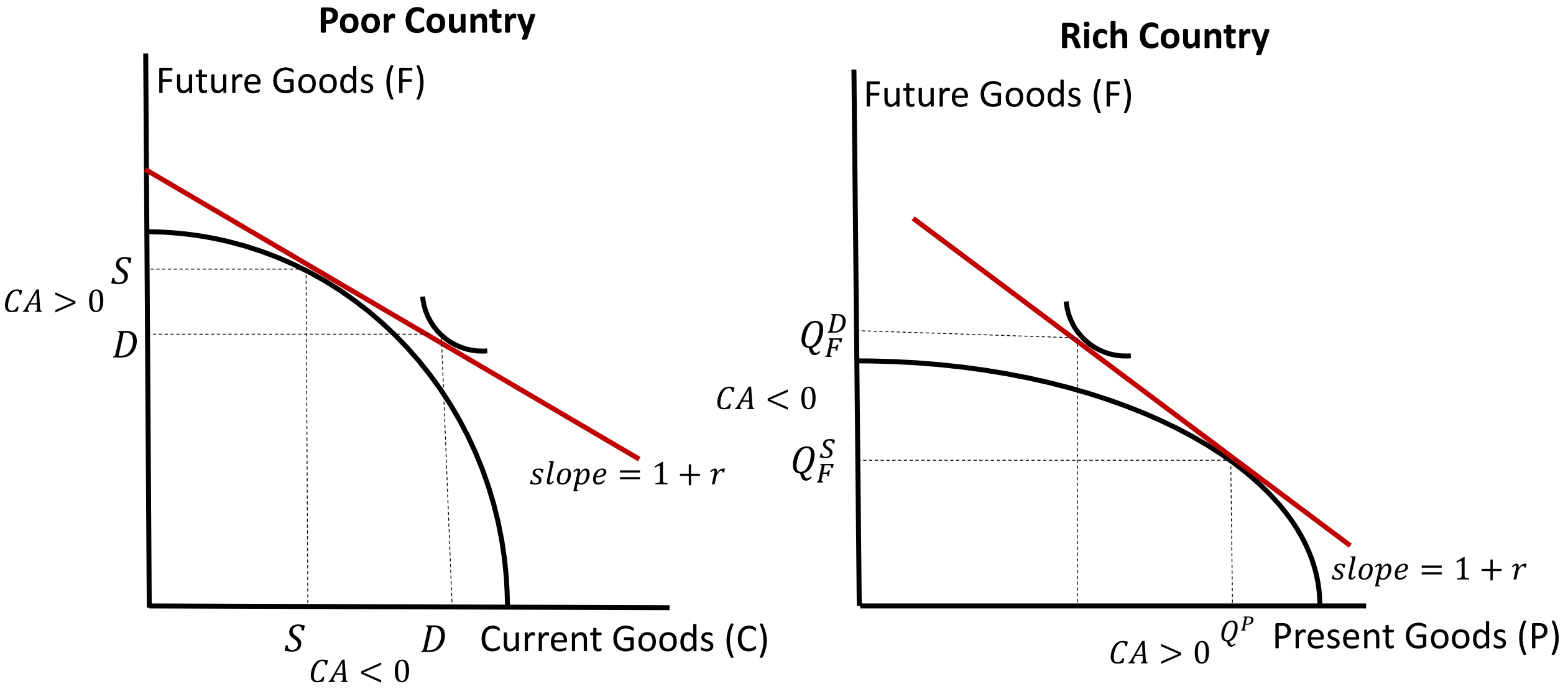


The logic of financial integration



Inter-temporal trade and Inter-temporal Comparative Advantage

The poor country expects higher growth in the future than the rich country, which means the poor country has a comparative advantage in the future, and the rich country in the present.



Inter-temporal Trade is measured by the Current Account Balance

The theory predicts that Rich Countries will export current goods to Poor Countries in exchange for claims on future goods (i.e. financial assets). The counterpart of that financial flow is a real net resource flow from the Rich to the Poor. The net resource from one country to another is measured by the current account of the balance of payment.

The current account balance (CA) can be defined in several different ways, all of which add up to the same thing:

CA = Balance between goods and services sold to and bought from ROW

CA = Balance between a nation's income and expenditure

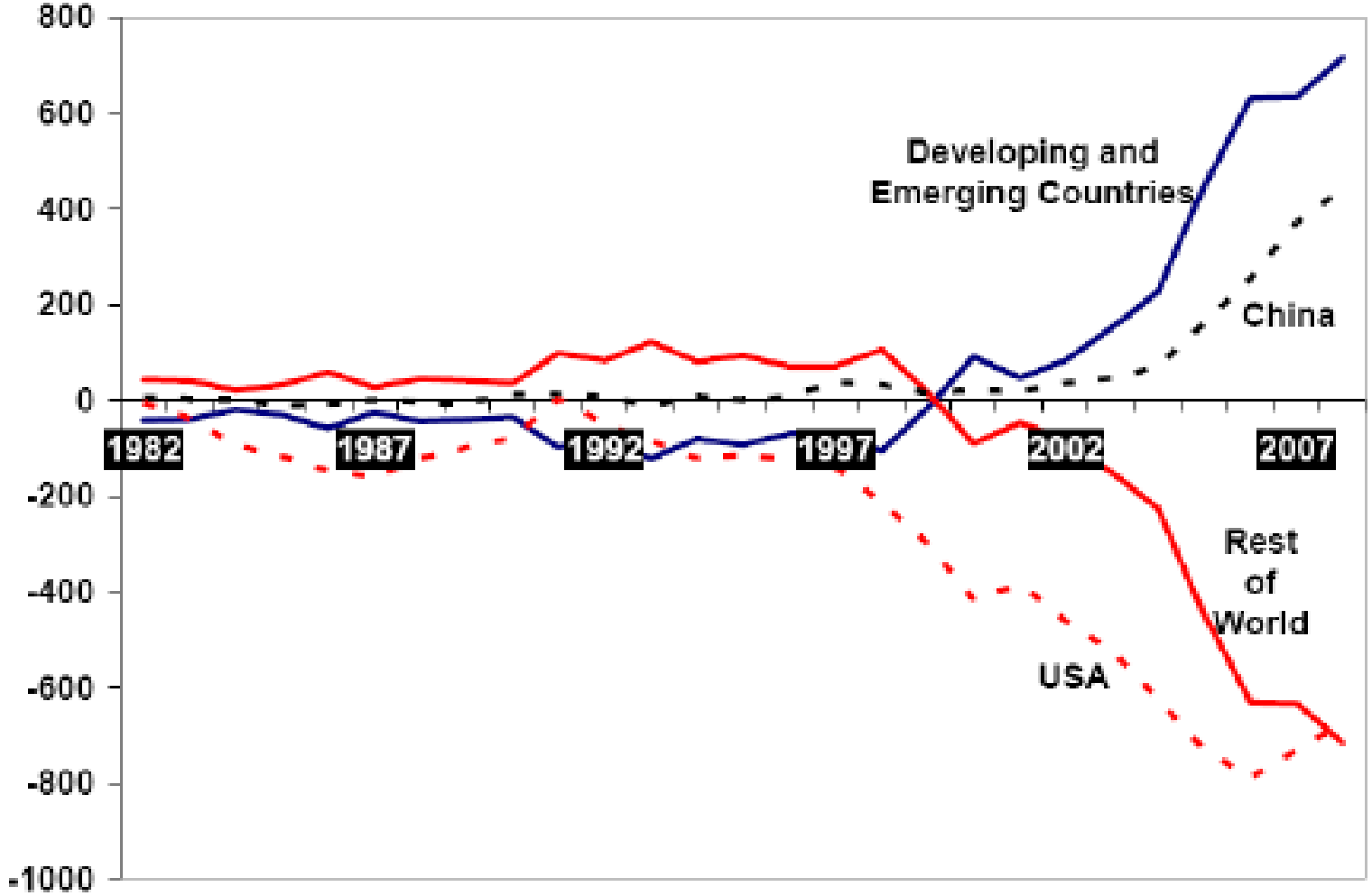
CA = Balance between domestic saving and investment

CA = Balance between loans to and borrowing from the ROW (i.e. ΔNFA)

In a world of n countries: $\sum_{i=1}^{n} CAB_i = 0$ $\sum_{i=1}^{n-1} CAB_i = (-)CAB_n$

INTER-TEMPORAL TRADE: Global Current Account Imbalance (USD billions)

The predicted pattern of resource flow held until about 2000, but the flows were smaller than theory would suggest they should be. Since 2000 capital has been anomalously flowing up hill, from the poor to the rich.



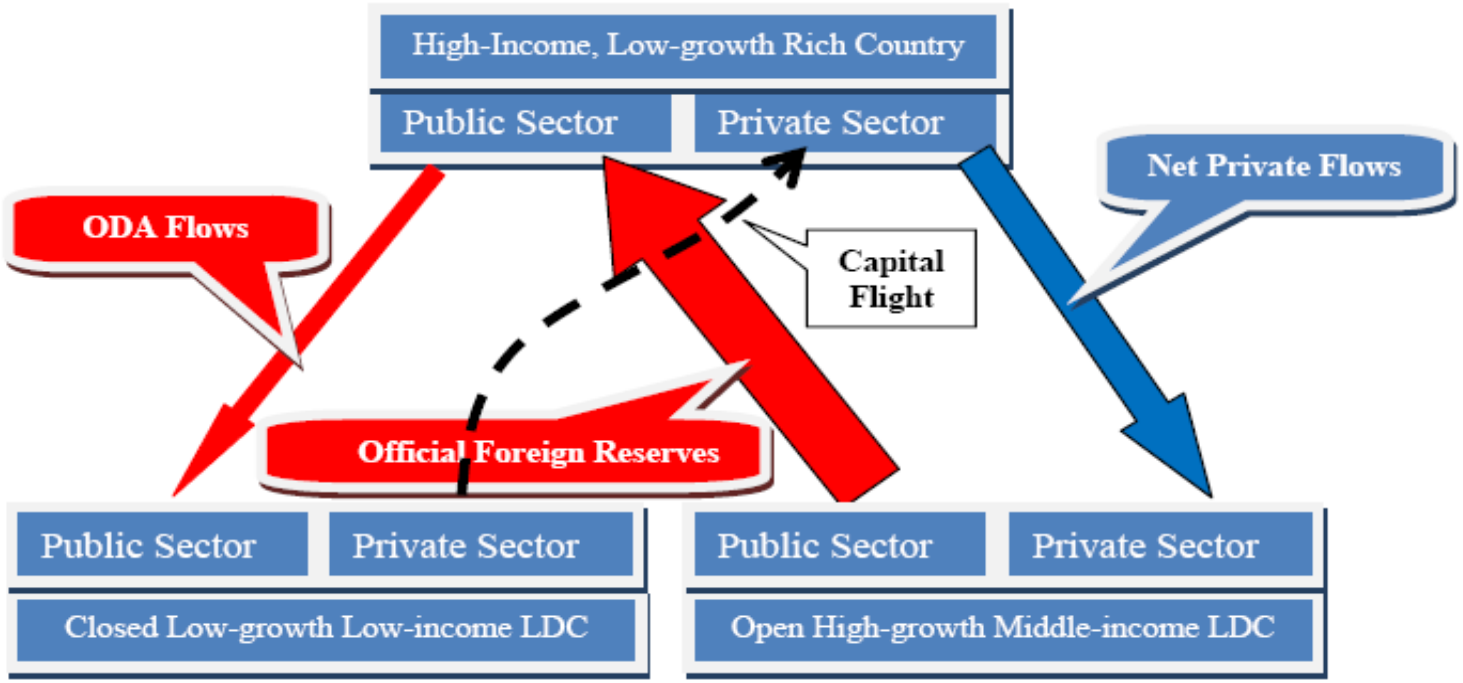
INTER-TEMPORAL TRADE: Explaining the Global "Imbalance

Two possible explanations for this anomaly:

(1) The assumption that investment returns are higher in poor countries is wrong

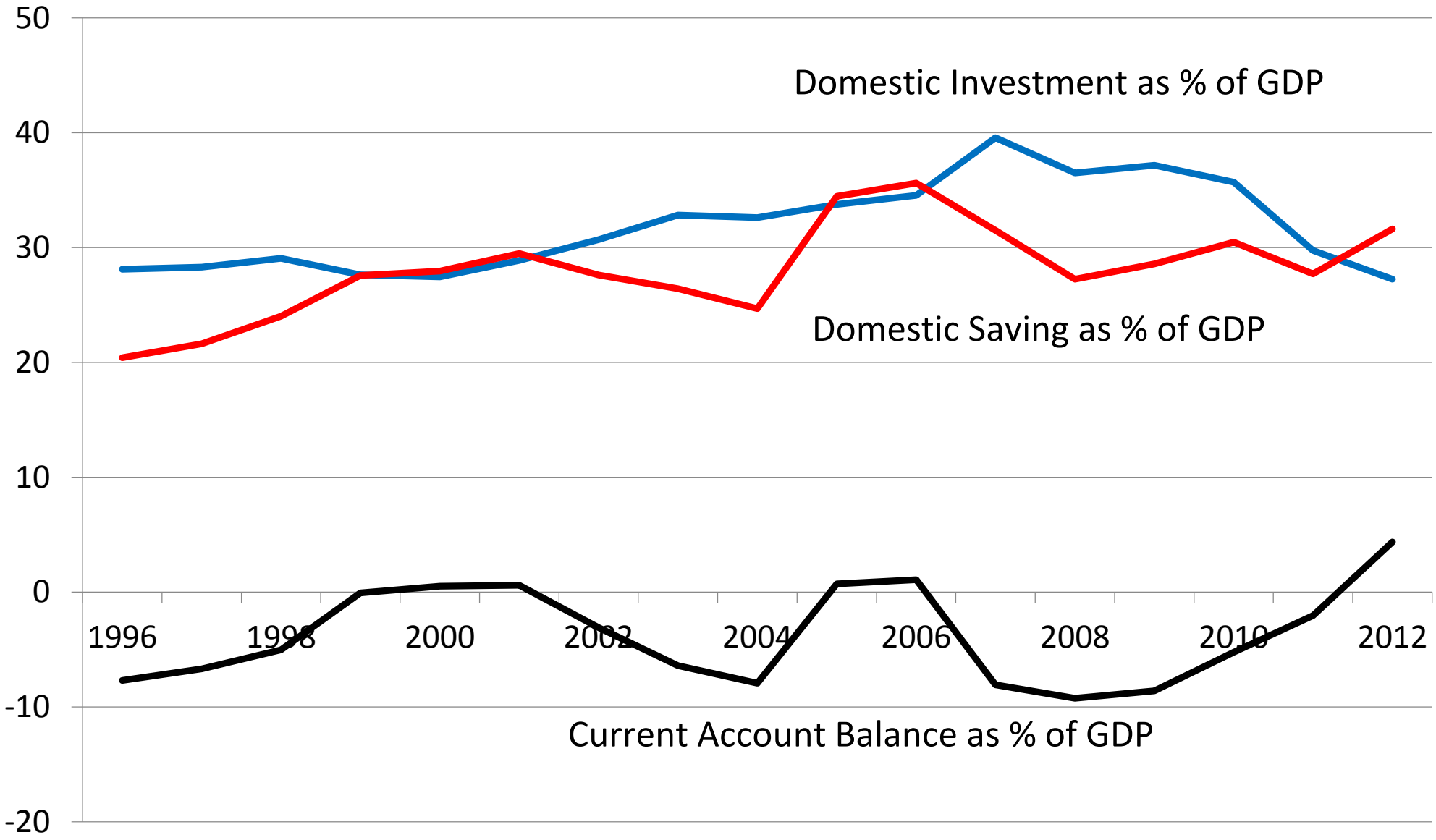
(2) Capital flows are determined by government policy not market forces

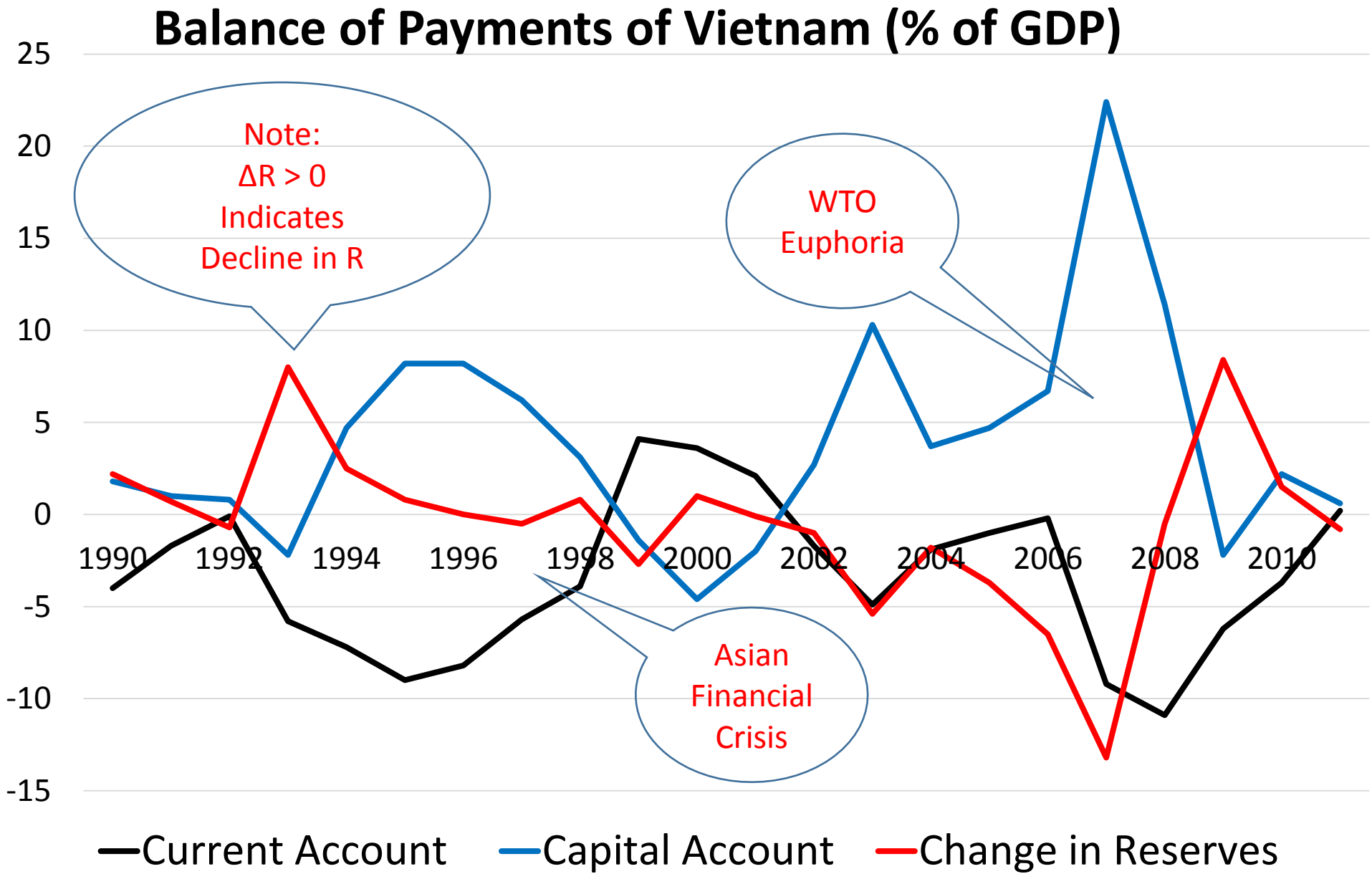
When we disaggregate, we find that both help explain the anomaly and that theory is essentially valid.



Note: the size of the arrows indicates the relative magnitude of the flows.

Inter-temporal Trade: Vietnam 1996-2012



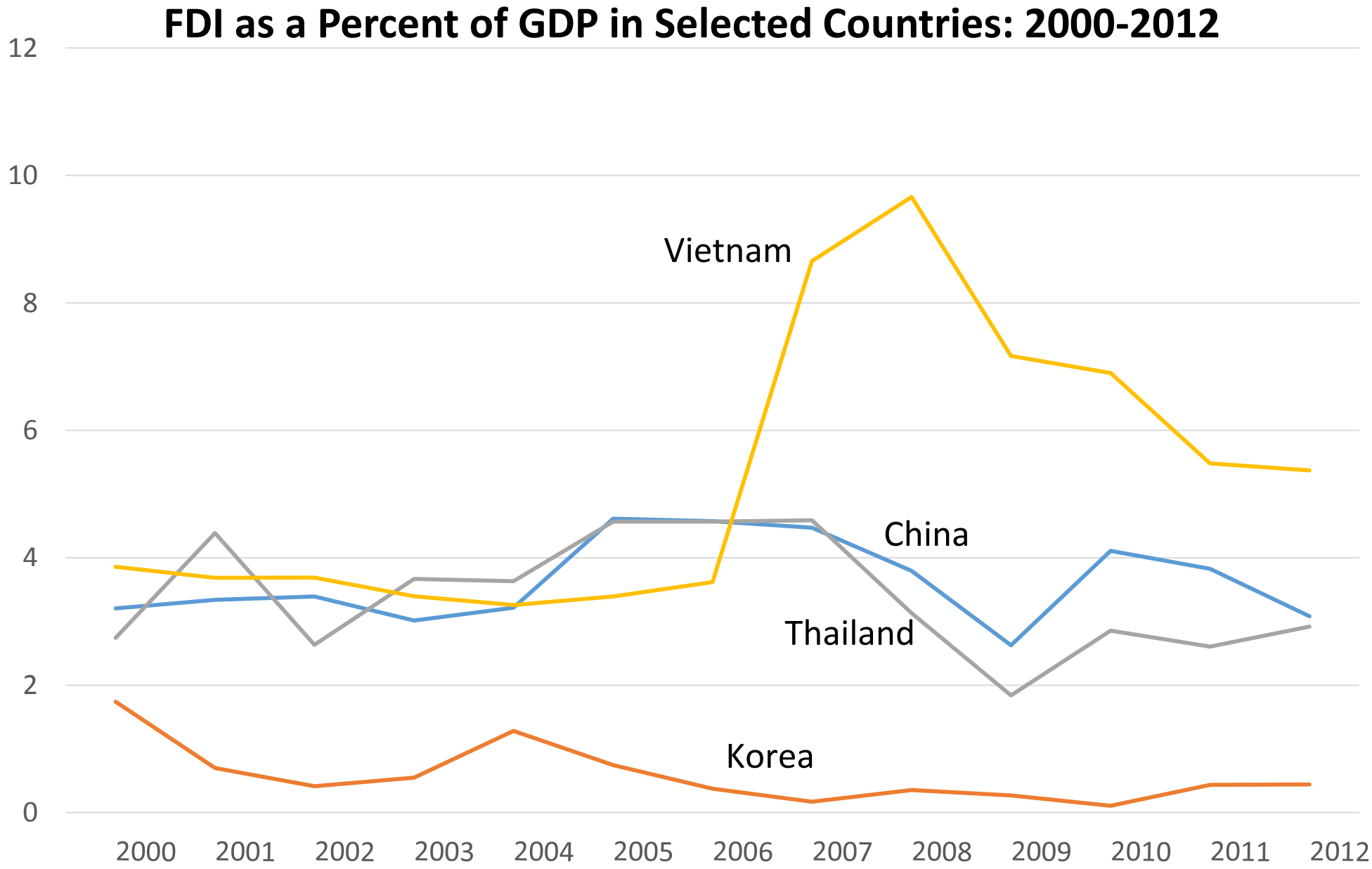

Balance of Payments of Vietnam (% of GDP)
25
20
15
10
5
0
-5
-10
-15
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
Note:
ΔR > 0
Indicates
Decline in R
WTO
Euphoria
Asian
Financial
Crisis
Current Account
Capital Account
Change in Reserves

The Different Types of Foreign Capital Flows

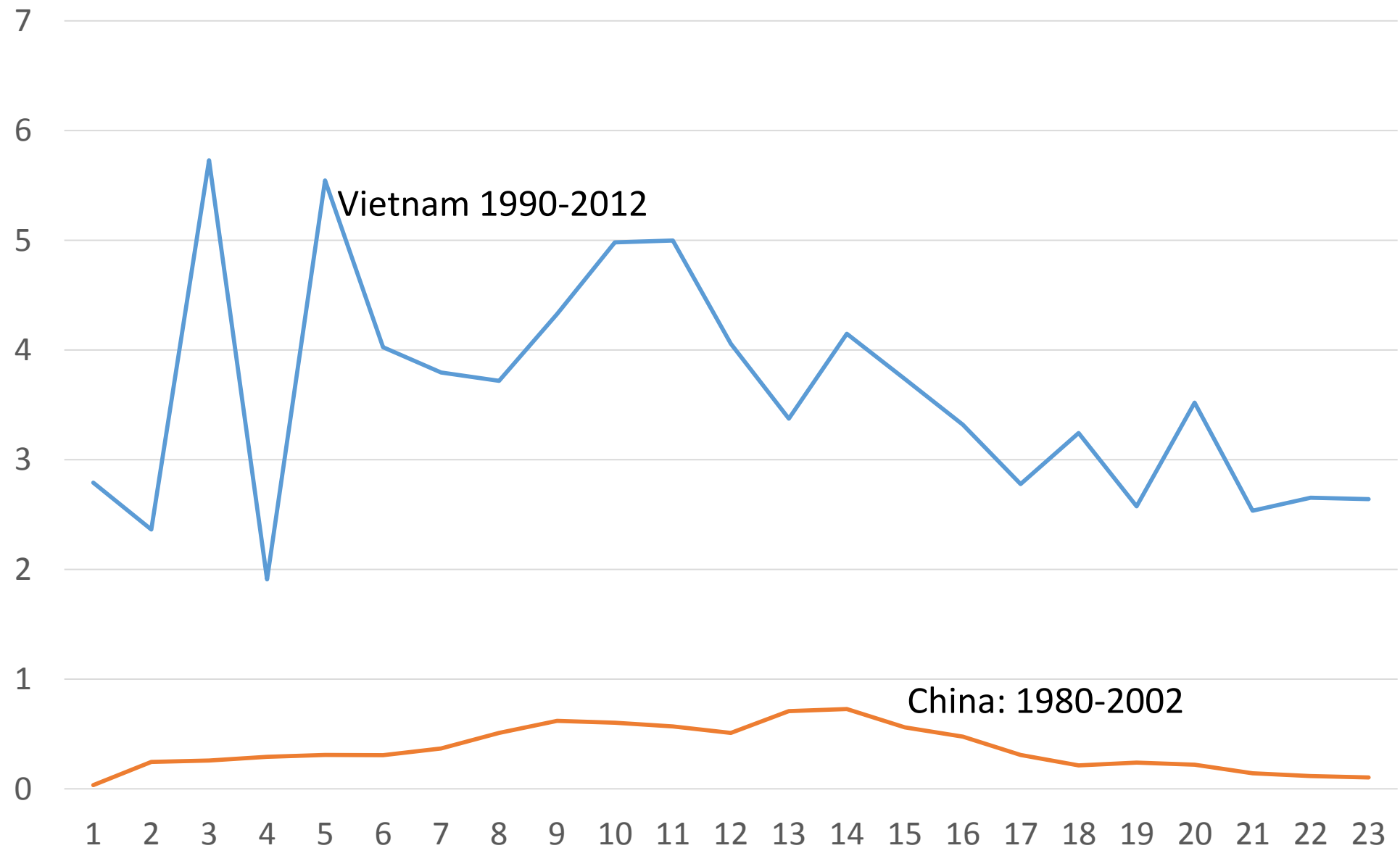
1. FDI
    - Natural resource extraction
    - Import-substituting
    - Export-oriented

2. Private Portfolio Flows
    - Equity (stock) markets
    - Bond markets

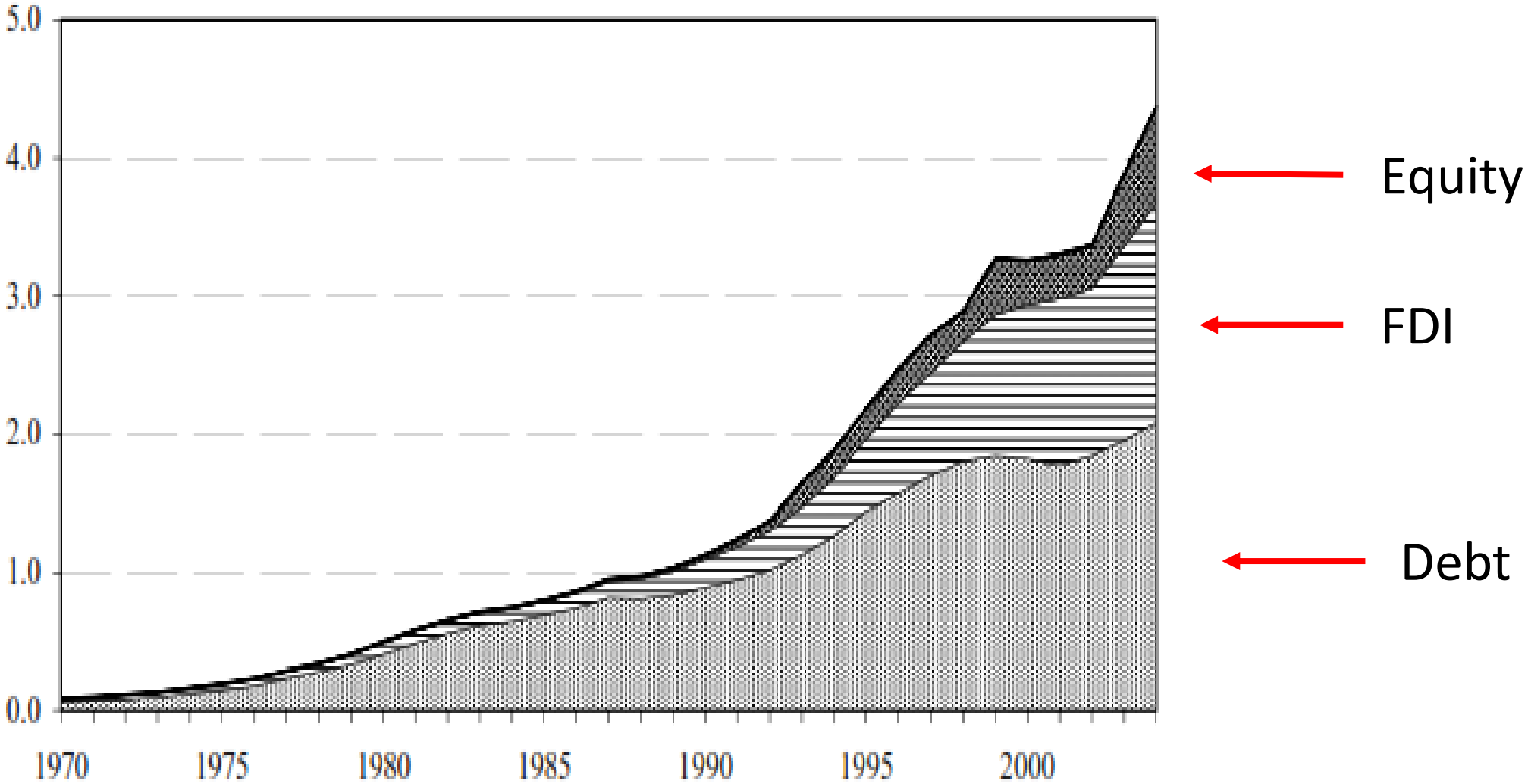
3. ODA
    - Multilateral
    - Bilateral
    - NGO


FDI as a Percent of GDP in Selected Countries: 2000-2012
12
10
8
6
4
2
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Vietnam
China
Thailand
Korea

ODA as % of GDP in China and Vietnam



The composition of Capital Flows to Emerging Markets



The composition of Capital Flows to Emerging Markets

Advanced Economies (bln. $)	6,100	13,492	23,969	42,052	69,432
Share of FDI	16.1	16.9	17.9	20.7	21.4
Share of Equity	5.5	8.1	9.9	16.5	16.5
Share of Debt	74.8	72.0	69.7	60.5	59.8
Share of Other	3.6	3.0	2.5	2.3	2.3
Emerging Markets (bln. $)	859	1,259	2,167	4,236	6,221
Share of FDI	12.0	13.3	17.6	23.2	26.6
Share of Equity	1.3	2.1	6.1	9.4	10.6
Share of Debt	77.9	76.6	64.6	54.4	46.6
Share of Other	8.8	8.0	11.7	13.0	16.2
Other Developing Economies (bln. $)	165	207	276	351	480
Share of FDI	16.0	14.0	14.4	18.7	22.7
Share of Equity	0.2	0.3	0.3	0.6	1.0
Share of Debt	73.8	79.9	78.5	71.3	58.3
Share of Other	10.0	5.7	6.8	9.4	18.0

Advanced Econ = 10 X Emerging Econ

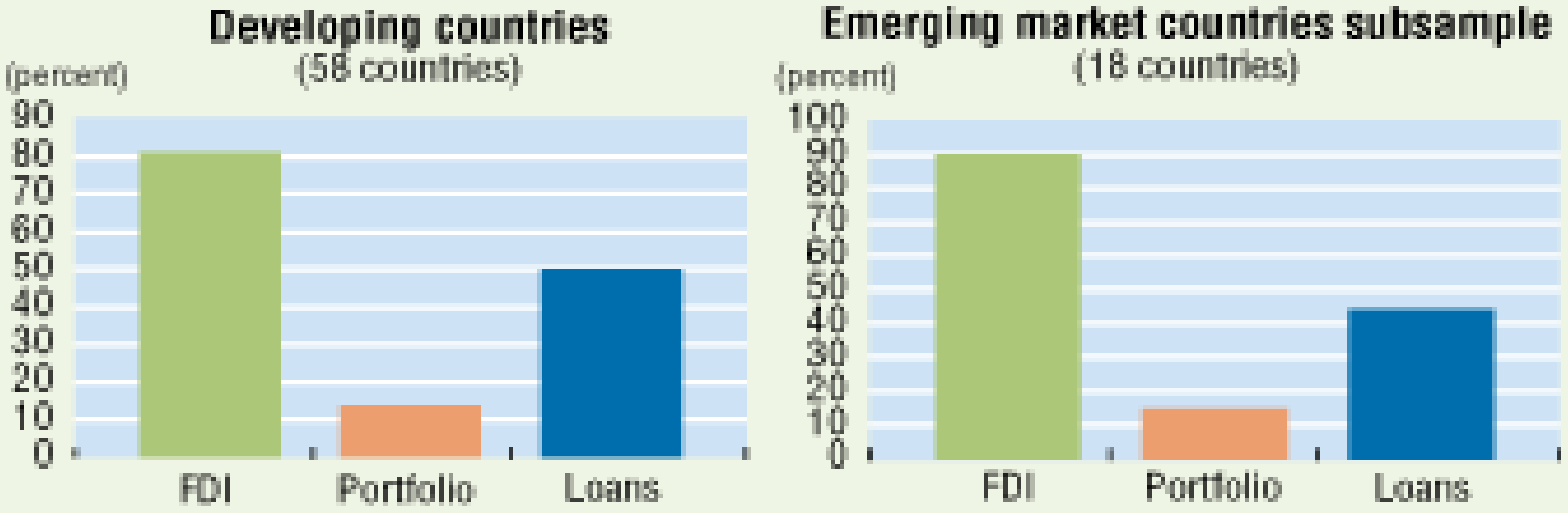
Emerging Econ > 10 X Developing Econ

Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Comparing Different Types of Capital Flows: Impact on Investment

Chart 2

FDI has a stronger impact on domestic investment than do loans or portfolio investment



Source: Based on Bosworth and Collins (1999).

Note: The height of each bar represents the estimated impact of the indicated capital flow on domestic investment. For example, in the left-hand panel covering developing countries, every dollar of FDI increases domestic investment by an average of 80 cents that is, by 80 percent of the amount of FDI.

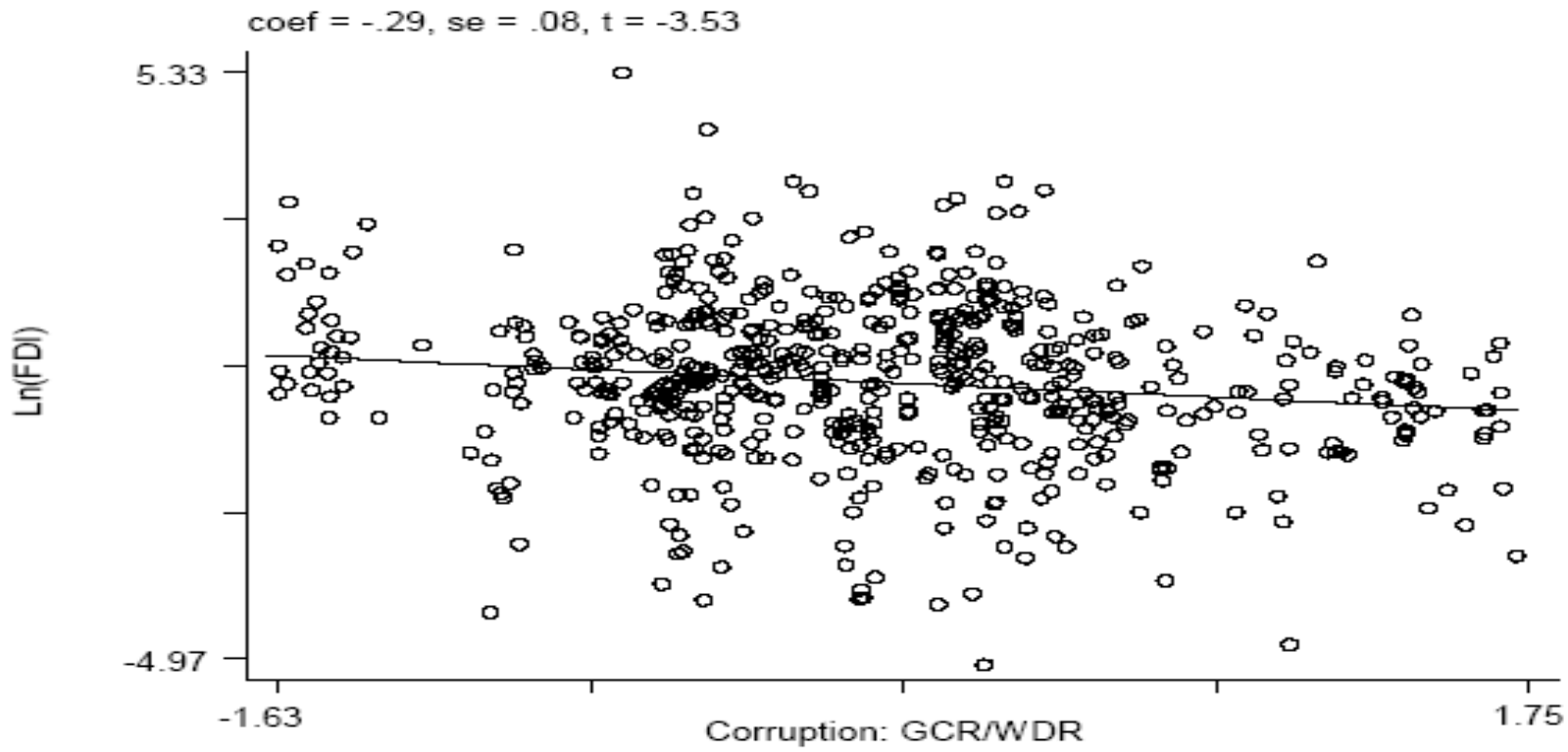
Comparing Different Types of Capital Flows: Volatility

	FDI / GDP	Equity / GDP	Debt / GDP	FDI+Equity / GDP
Standard Deviation				
Advanced Economies				
Mean	2.43	2.36	6.18	4.38
Median	1.66	0.87	4.84	2.57
Emerging Markets				
Mean	1.45	0.84	3.38	1.87
Median	1.31	0.69	2.57	1.83
Other Developing Economies				
Mean	1.76	0.11	3.36	1.76
Median	1.24	0.12	2.65	1.25
Coefficient of Variation				
Advanced Economies				
Mean	0.92	0.99	0.64	0.84
Median	0.87	0.98	0.64	0.77
Emerging Markets				
Mean	0.75	1.07	0.85	0.71
Median	0.76	1.00	0.67	0.66
Other Developing Economies				
Mean	0.89	0.65	0.80	0.87
Median	0.77	0.70	0.70	0.77

Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Comparing Different Types of Capital Flows: Corruption

FDI tends to be somewhat higher in countries where corruption is lower

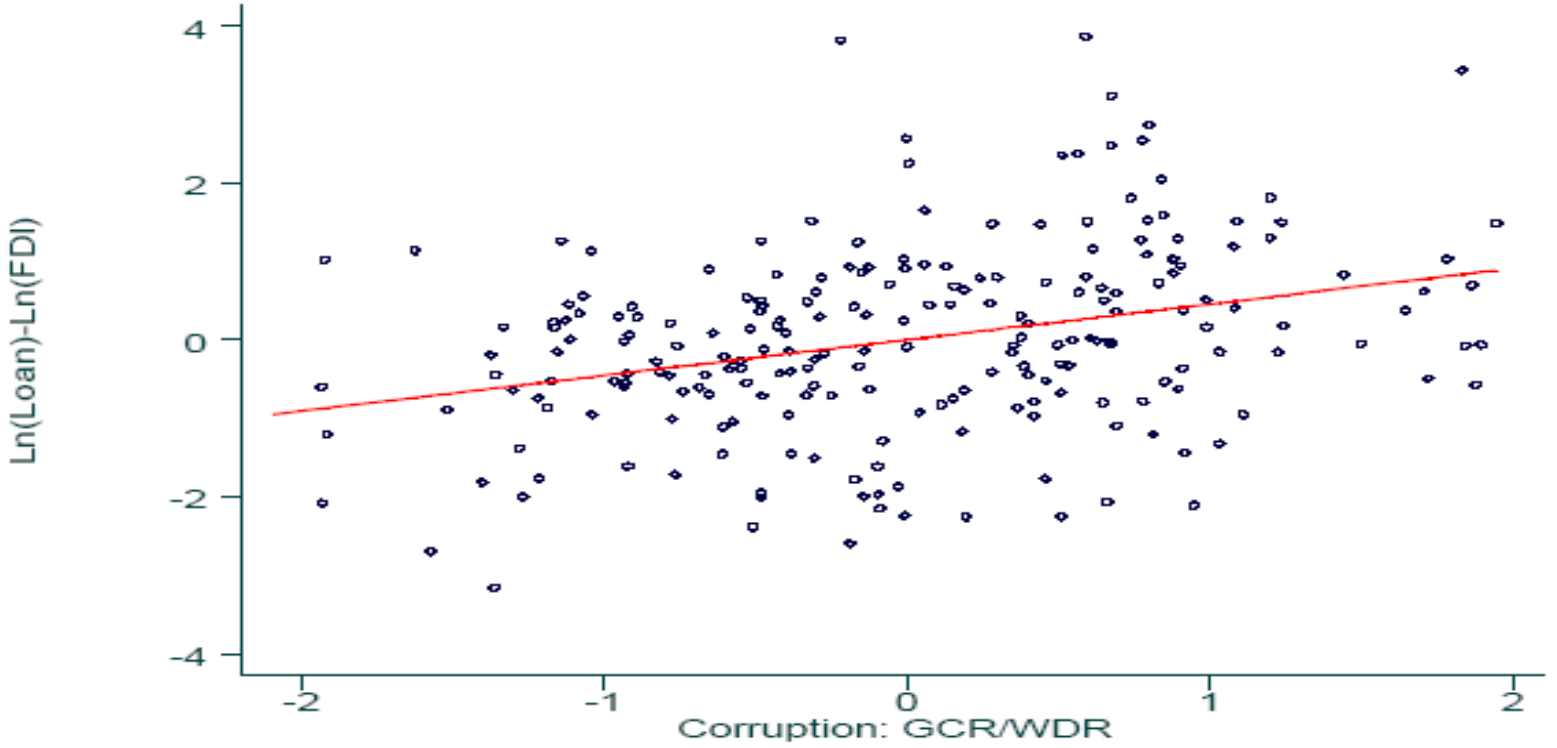


Note: Bilateral foreign direct investment from 14 major source countries to 41 host countries, averaged over 1996-1998. Index of host country corruption is derived by combining the measures from the Global Competitiveness Report (World Economic Forum and Harvard University, 1997) and World Development Report (World Bank 1997). More details can be found in Wei (2001).

Source: Staff's calculation based on Wei (2001), Table 2, Column 2.

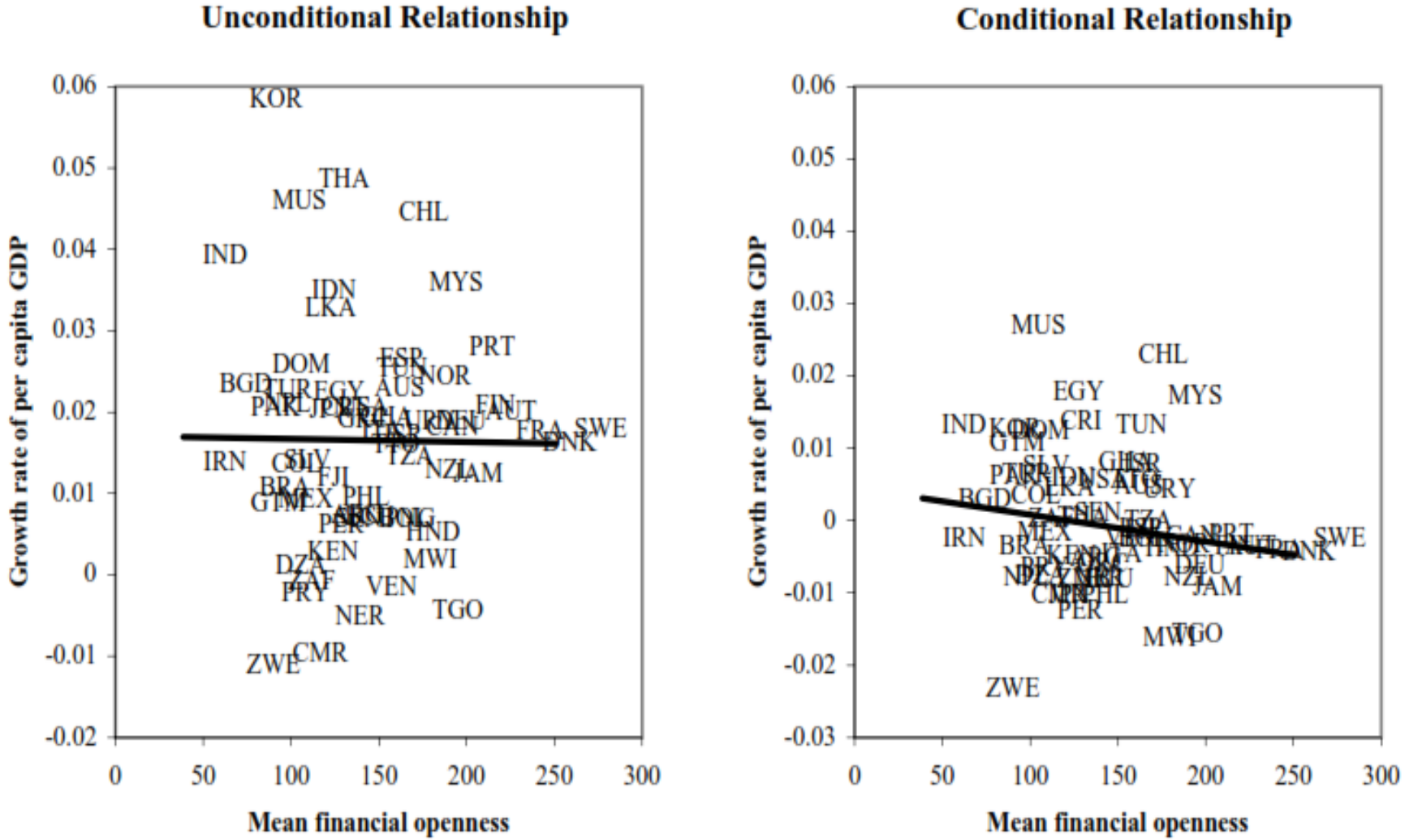
Comparing Different Types of Capital Flows: Corruption

The ratio of Loans to FDI is higher in countries where corruption higher. Corruption tilts the composition of capital flows towards borrowing from bank when controlling for the effects of size, level of development, policy incentives and restrictions on FDI, geography and linguistic connections.



Financial Openness and growth

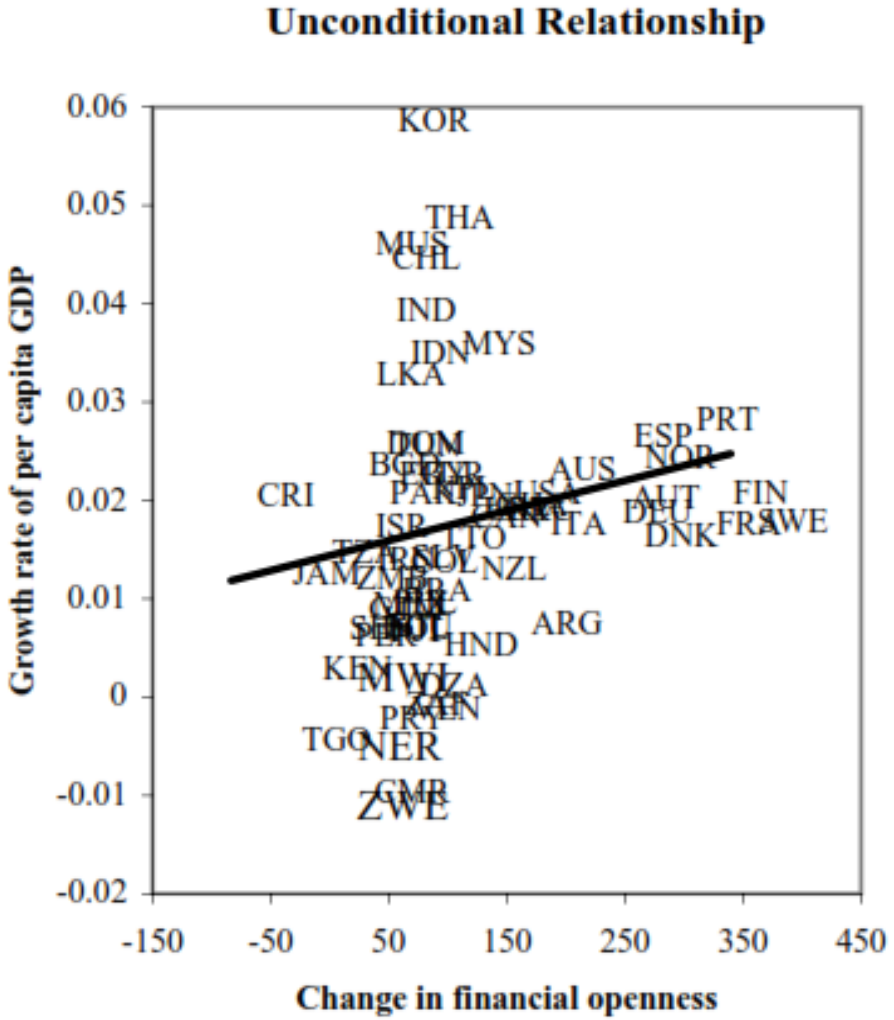
Financial openness and growth: Negative relationship when controlling for the standard growth determinants (initial level of income, investment rate, etc.

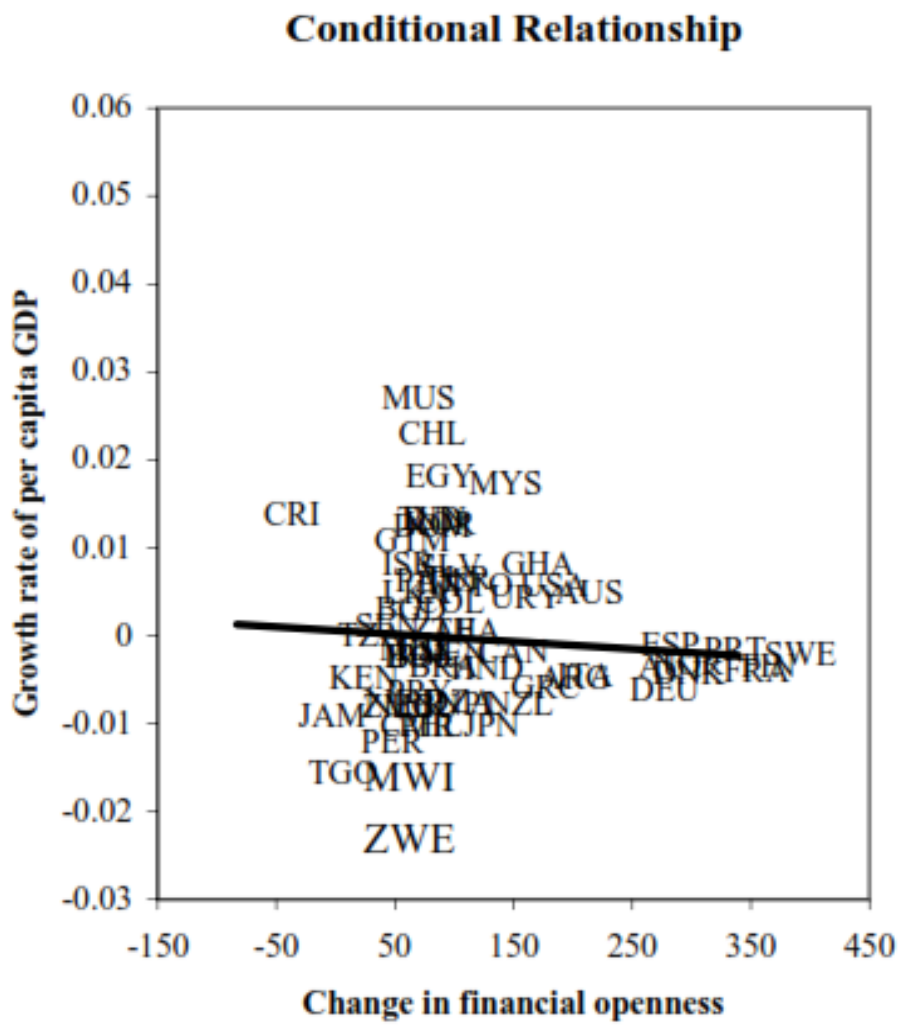


Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Change in Financial Openness and Growth

A negative relationship is observed when controlling for other growth determinants

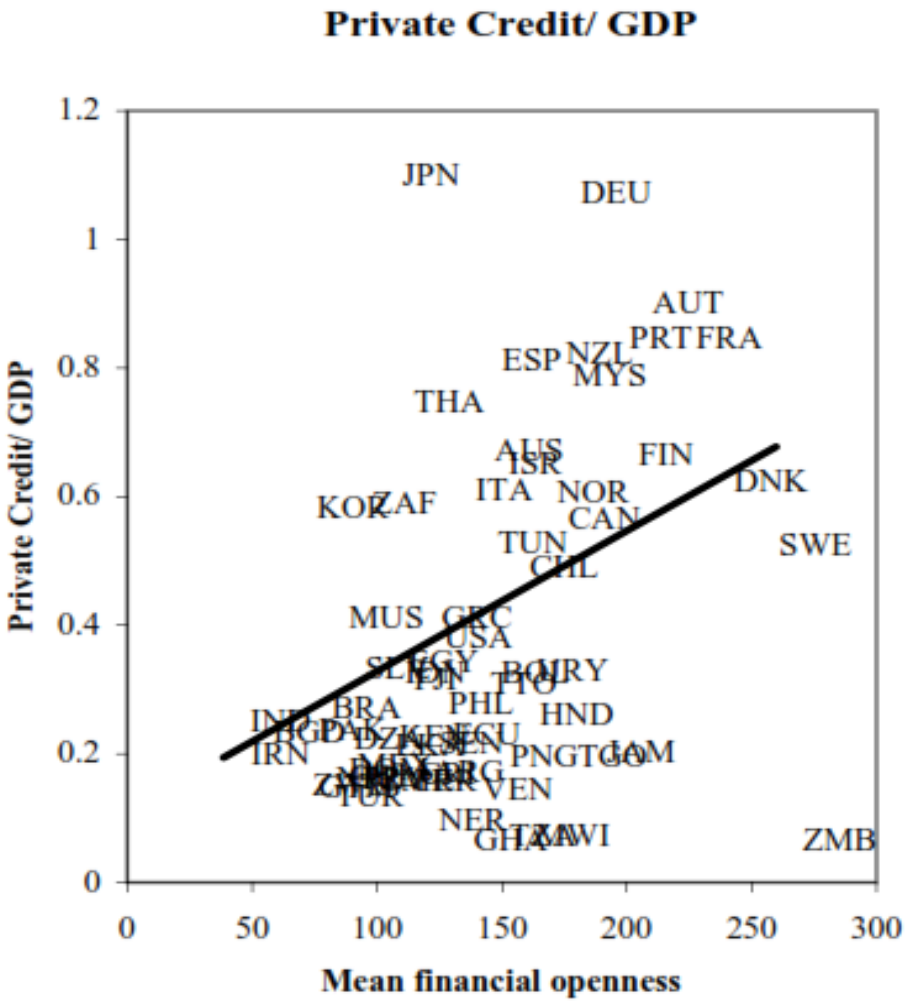


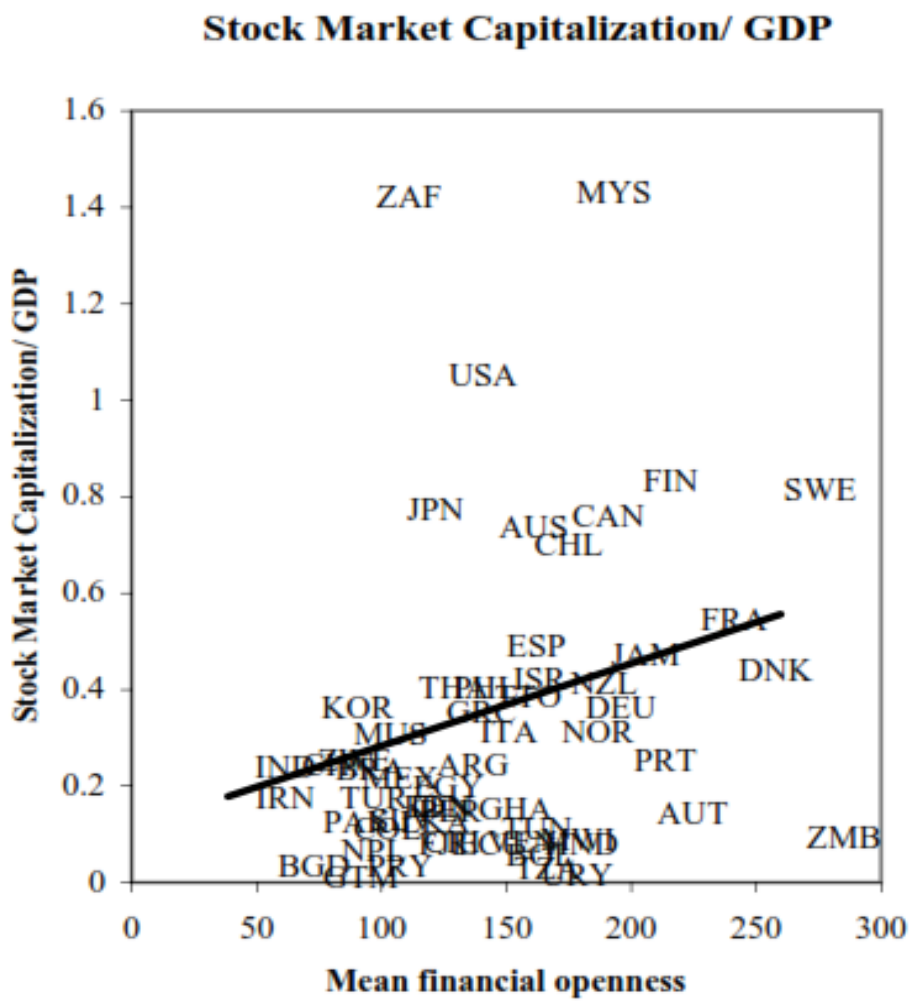


Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Financial Development and Financial Openness

Financial openness is higher in countries with higher levels of domestic financial development

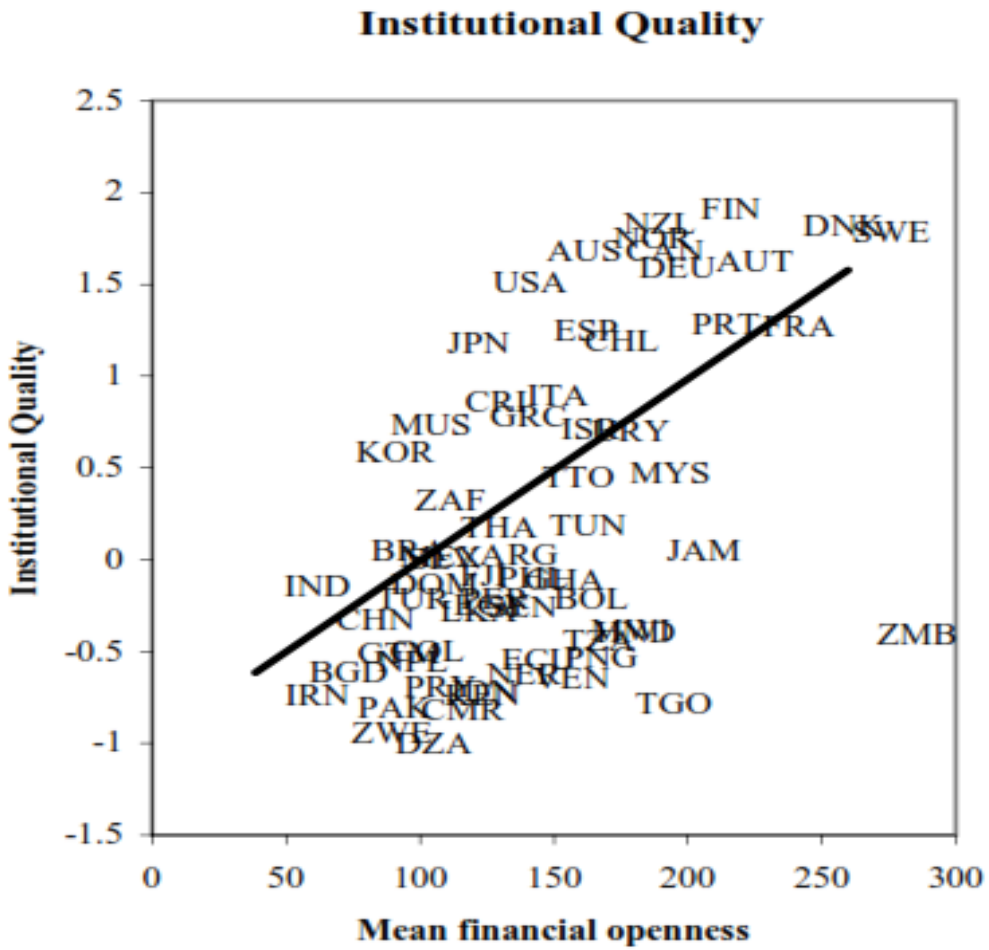


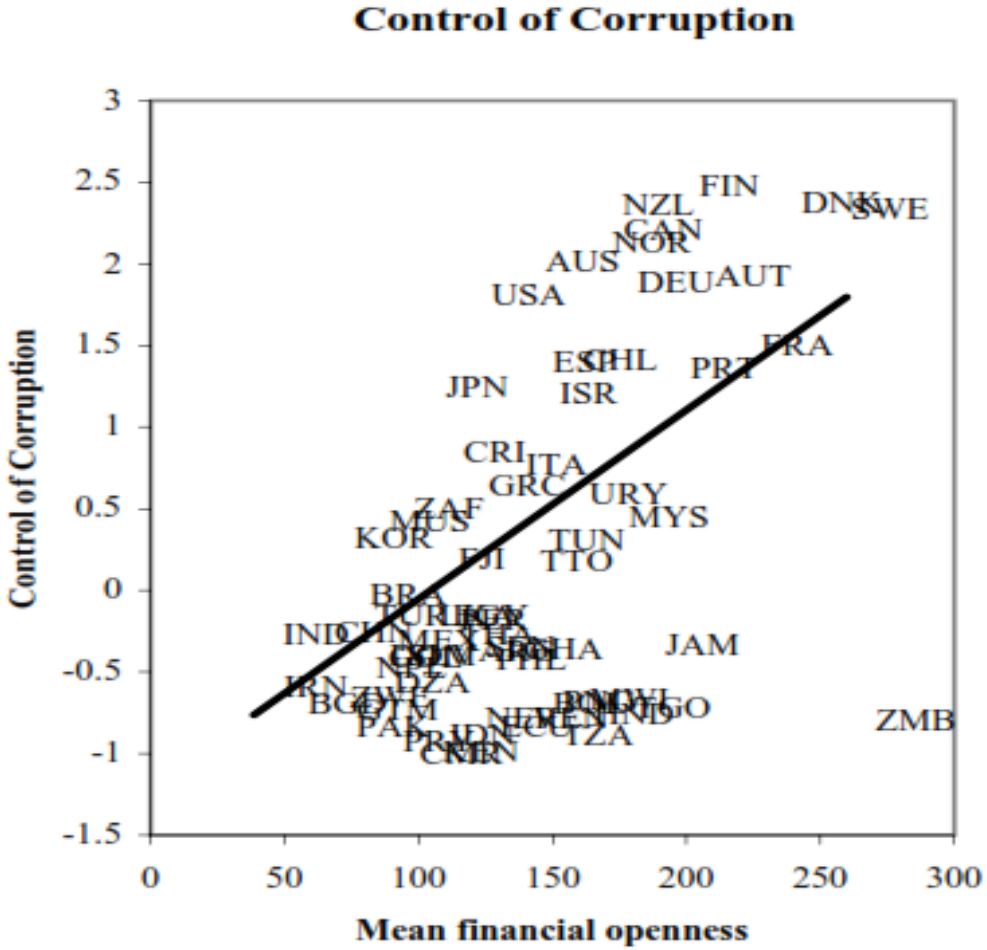


Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Institutional Development and Financial Openness

Financial openness is higher in countries with good institutions

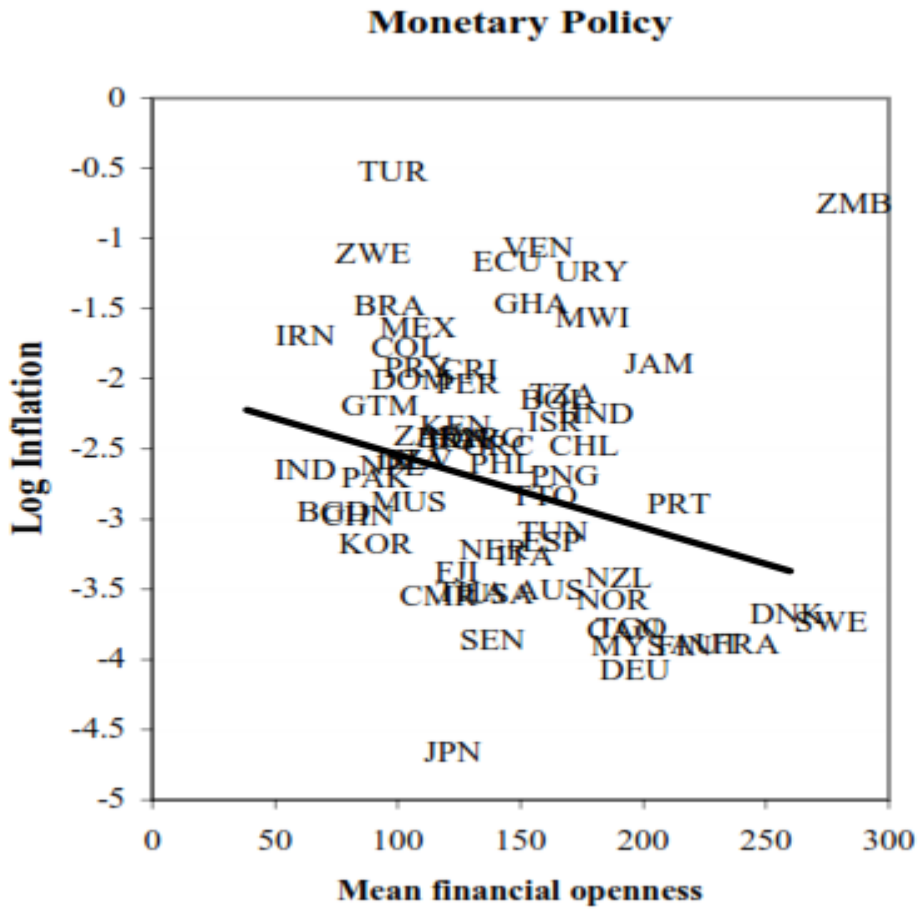


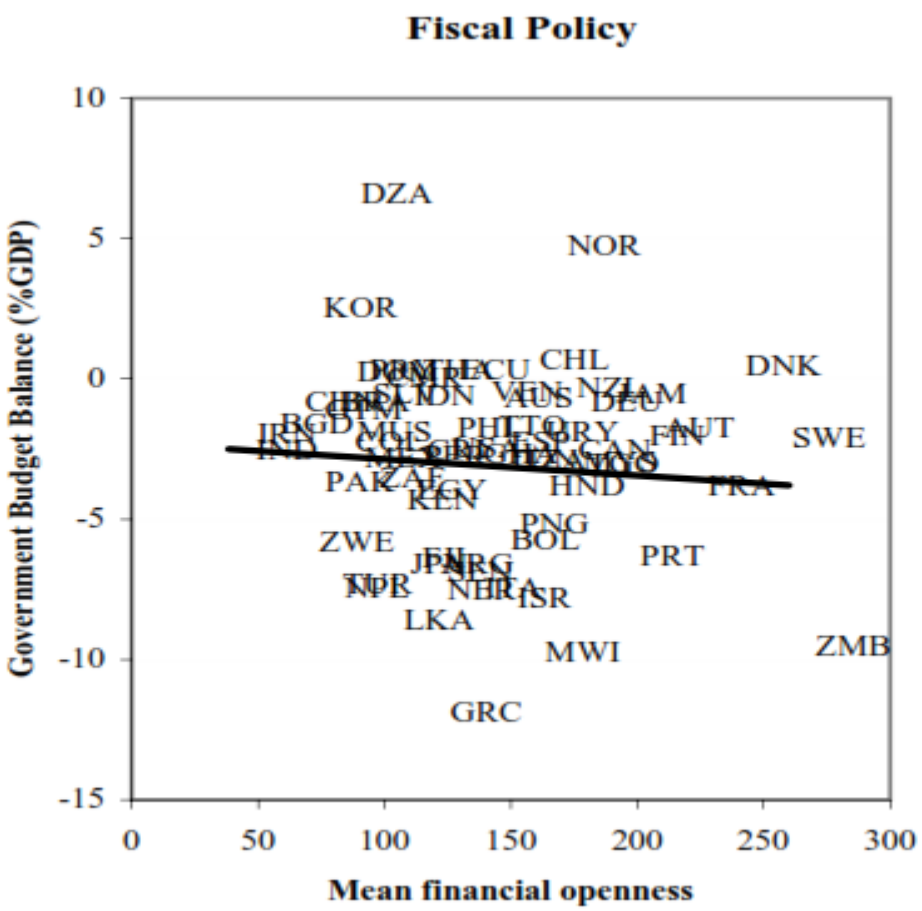


Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

Macroeconomic Stability and Financial Openness

Financial openness is higher in countries with macroeconomic stability (low inflation and relatively low fiscal deficits





Source: Kose, Prasad, Rogoff and Wei, “Financial Globalization: A Reappraisal,” 2006

The Relationship between Financial Globalization, Growth and Stability

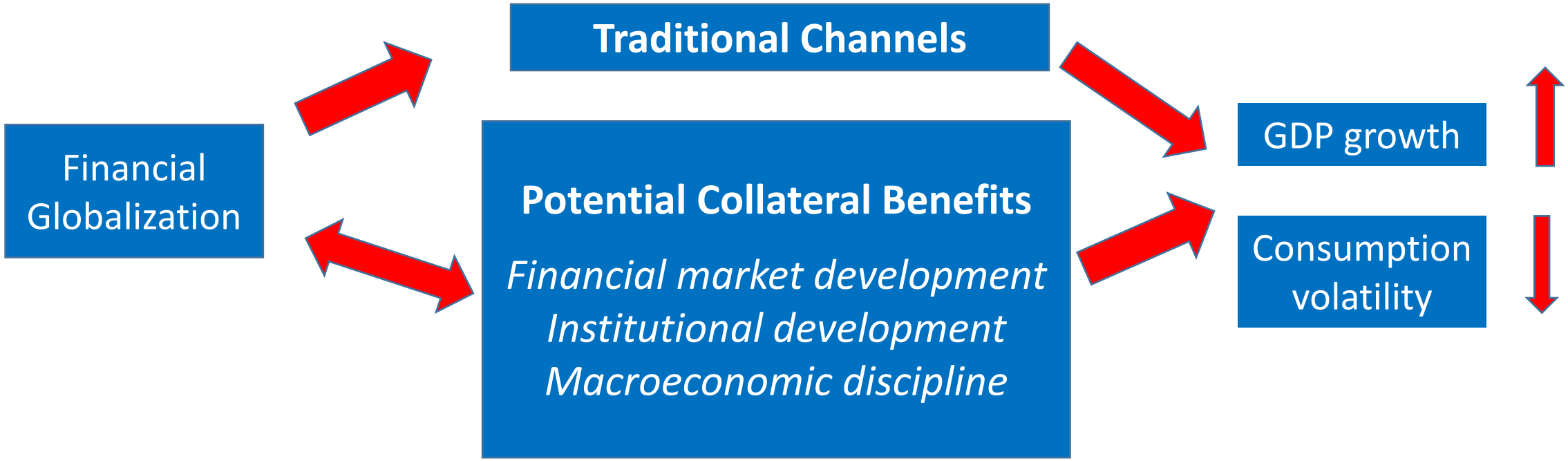
The Traditional View

The traditional view focuses on the importance of channels through which capital flows could directly increase GDP growth and reduce consumption volatility.

Source: Kose, Prasad, Rogoff and Wei, "Financial Globalization: A Reappraisal," 2006

The Relationship between Financial Globalization, Growth and Stability

The New IMF Perspective

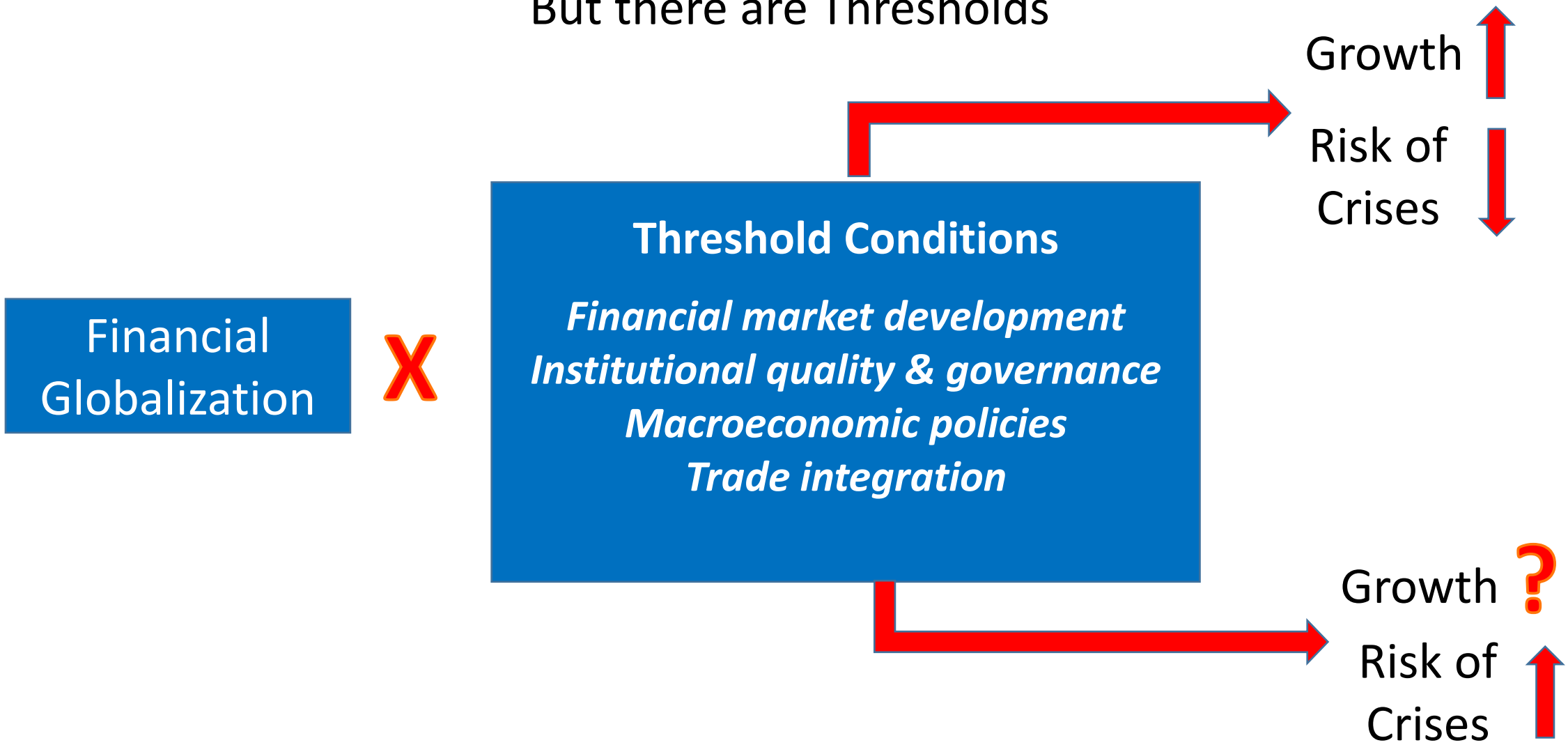


The new IMF perspective acknowledges the relevance of the traditional channels, but argues that the role of financial globalization as a catalyst for certain collateral benefits may be more important in raising growth and reducing consumption volatility

Source: Kose, Prasad, Rogoff and Wei, "Financial Globalization: A Reappraisal," 2006

The Relationship between Financial Globalization, Growth and Stability

But there are Thresholds



Financial globalization leads to good outcomes when threshold conditions are met.

Source: Kose, Prasad, Rogoff and Wei, "Financial Globalization: A Reappraisal," 2006

Aid and Growth: Empirical methodology

The relationship between AID and growth has been the subject of controversy for 60 years, ever since Rostow's book, ***Stages of Economic Growth, A Non-communist Manifesto*** (1960), in which it was argued that foreign aid would serve to launch a growth take-off and prevent developing countries from joining the communist camp. A similar argument was put forward by Jeffrey Sachs in ***The End of Poverty: Economic Possibilities for Our Time*** (2005), in which he argued that more aid to Sub-Saharan Africa would ignite growth and destroy the breeding ground of international terrorism.

Most empirical analyses suggest the effects off aid on growth is either zero or negative. The relationship by estimating a pooled cross-country, over-time regression of the form:

$$\Delta \ln\left(Y_{c,t+1}\right) = \beta_0 + \beta_1 \ln\left(Y_{c,t}\right) + \beta_2 \frac{I_{c,t}}{Y_{c,t}} + \beta_3 H_{c,t} + \beta_4 Z_{c,t} + \theta A_{c,t} + u_{c,t}$$

Δln(Y) is the rate of growth of per capita GDP, I is investment, H is a measure of human capital and A, the variable of interest, is aid as a share of GDP. Z is whatever other variable are included. The index c is country and t is time.

This method entails a serious "endogeneity" problem!

Aid and Growth: Burnside and Dollar (2000)

Principal Findings:

1. No positive statistical relation between aid and growth, except in a sub-sample of countries with “good policies.” In other words, aid works only in countries that do not need it.

2. No positive statistical relation between aid and policy. In other words, the premise of the World Bank’s “structural adjustment lending programs” (money for reform) is false.

3. No statistical evidence that aid flows systematically to countries with “good policies” where it might promote growth. Instead, aid is allocated mainly by politics in donor countries.

Aid and Growth: Rajan and Subramanian (2005)

Using instrumental variable to try to eliminate simultaneity bias, Rajan and Subramanian (2005) find that aid does not promote growth even in countries with good policies and good geography

Table 4A: Impact of Total Aid on Growth, IV Estimations

(Dependent variable is average annual growth of per capita GDP)

	(1) 1960_00	(2) 1970_00	(3) 1980_00	(4) 1990_00
Aid/GDP	0.063	0.096	-0.004	-0.389
	(0.061)	(0.070)	(0.095)	(0.194)**
Initial per cap. GDP	-1.175	-1.409	-1.454	-2.193
	(0.387)***	(0.435)***	(0.446)***	(0.692)***
Initial level of policy (Sachs-Warner)	1.620	2.139	2.332	-0.065
	(0.666)**	(0.619)***	(0.835)***	(0.726)
Initial level of life expectancy	0.059	0.076	0.102	0.047
	(0.028)**	(0.039)*	(0.050)**	(0.089)
Geography	0.526	0.606	0.605	0.211
	(0.187)***	(0.259)**	(0.255)**	(0.421)
Institutional quality	4.558	4.077	0.843	6.437
	(1.698)***	(2.328)*	(2.484)	(3.588)*
Initial Inflation	-0.003	-0.005	-0.002	-0.001
	(0.004)	(0.005)	(0.003)	(0.001)*
Initial M2/GDP	0.017	0.010	-0.011	-0.003
	(0.012)	(0.020)	(0.025)	(0.014)
Initial Budget Balance/GDP	0.016	0.016	0.011	0.195
	(0.029)	(0.036)	(0.042)	(0.093)**
Revolutions	-1.144	-1.406	-0.719	-0.350
	(0.618)*	(0.656)**	(0.670)	(0.778)
Ethnic Fractionalization	0.712	0.788	0.818	-0.092
	(0.609)	(0.851)	(1.055)	(1.414)
Observations	74	78	75	70
R-squared	0.66	0.59	0.61	0.37

aid

convergence

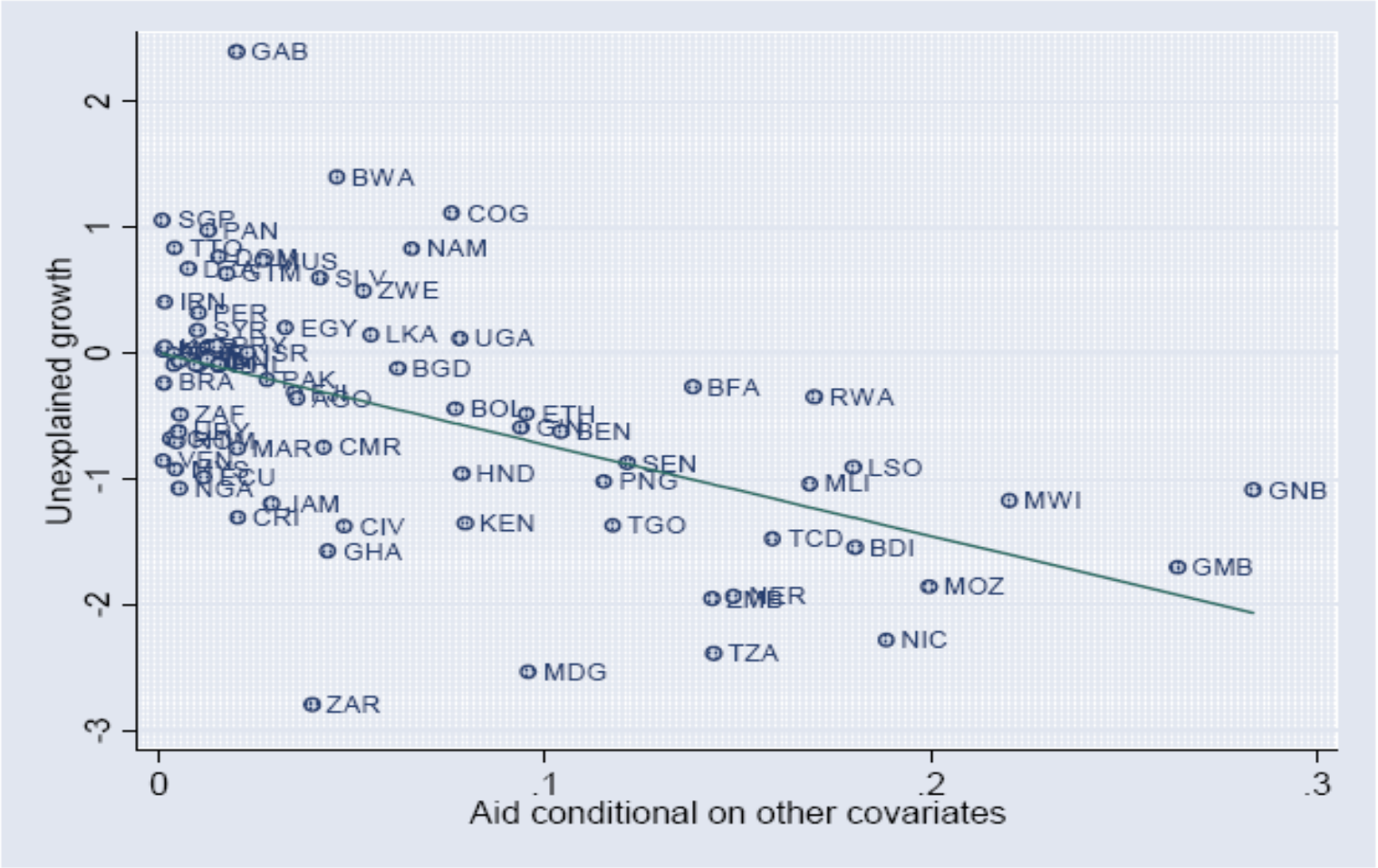
policy

institutions

Aid and Growth: Rajan and Subramanian (2005)

Chart 2: Conditional Correlation between Growth and Total Aid, 1960-00

(OLS estimation)



Coefficient=-7.28; t-statistic=2.79

The chart plots the relationship between growth and actual aid, conditional on all the covariates. The slope of the line is the coefficient on aid in the OLS regression in column 1 of Table 2.

Aid and Growth: Rajan and Subramanian (2008)

Aid has detrimental effect on growth in the long-run because of the deleterious effects of **aid dependency**:

1. Aid induces laxity in taxation and encourages government consumption

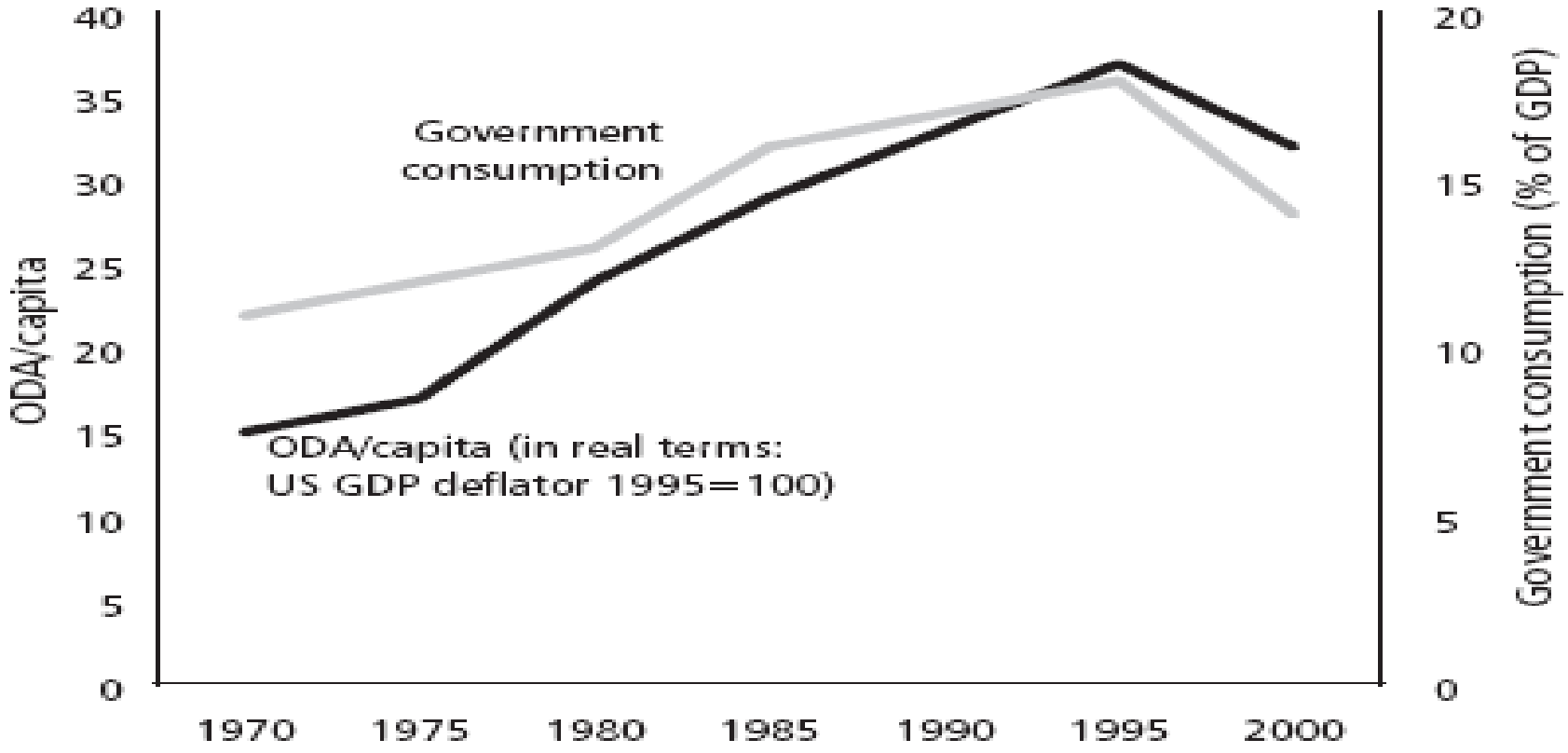
2. Aid allows governments to avoid accountability to the public, which has a corrupting influence

3. Aid leads governments to give priority to aid-financed projects and to avoid those they would have to finance themselves

4. Aid leads to losses in international competitiveness due to real appreciation of the exchange rate, hurting the export sector

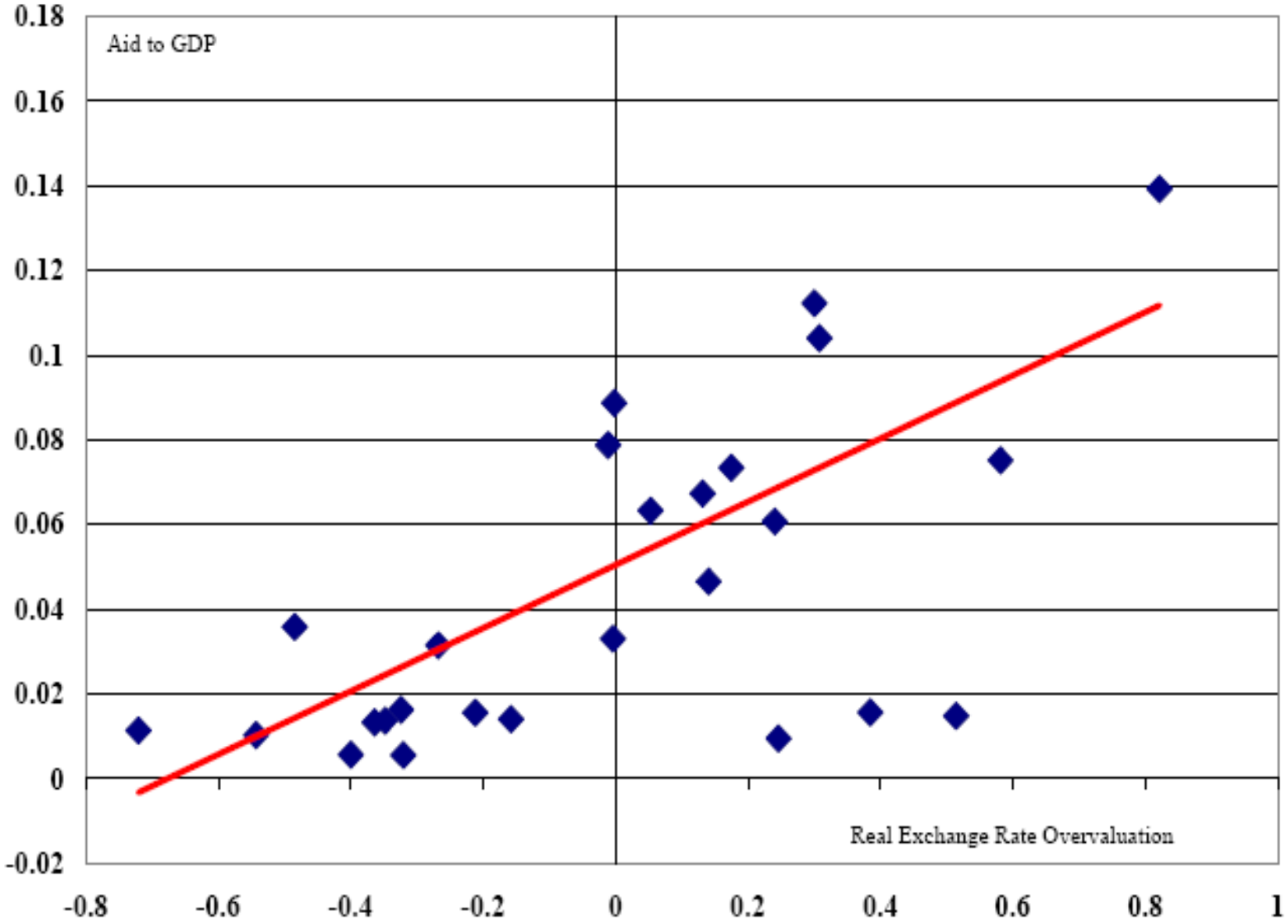
Effects of Aid Dependency

Figure 5 **Aid and government consumption in sub-Saharan Africa (10-year moving average)**



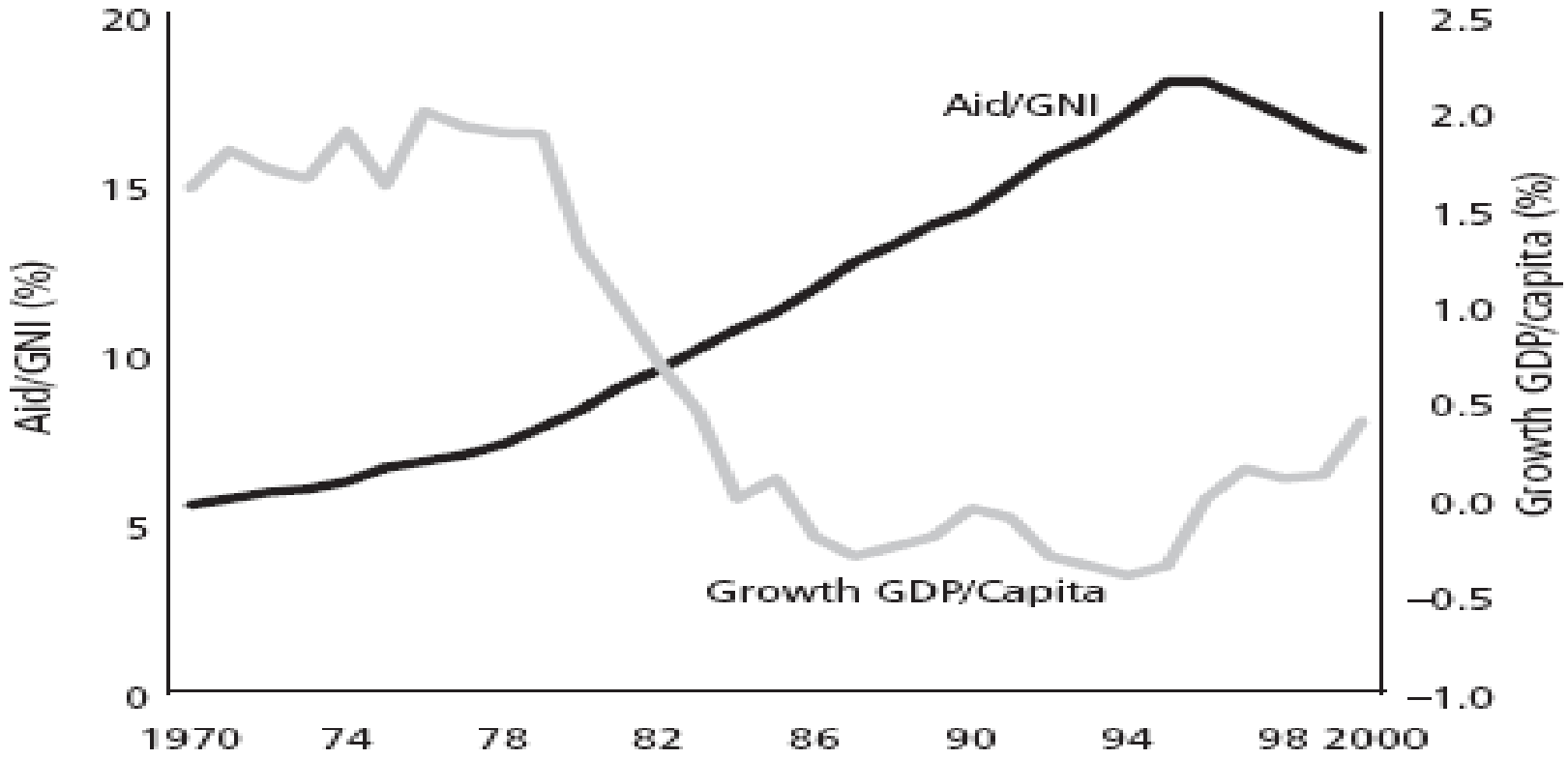
Source: World Development Indicators Online

Effects of Aid Dependency



The aid growth relationship: Africa

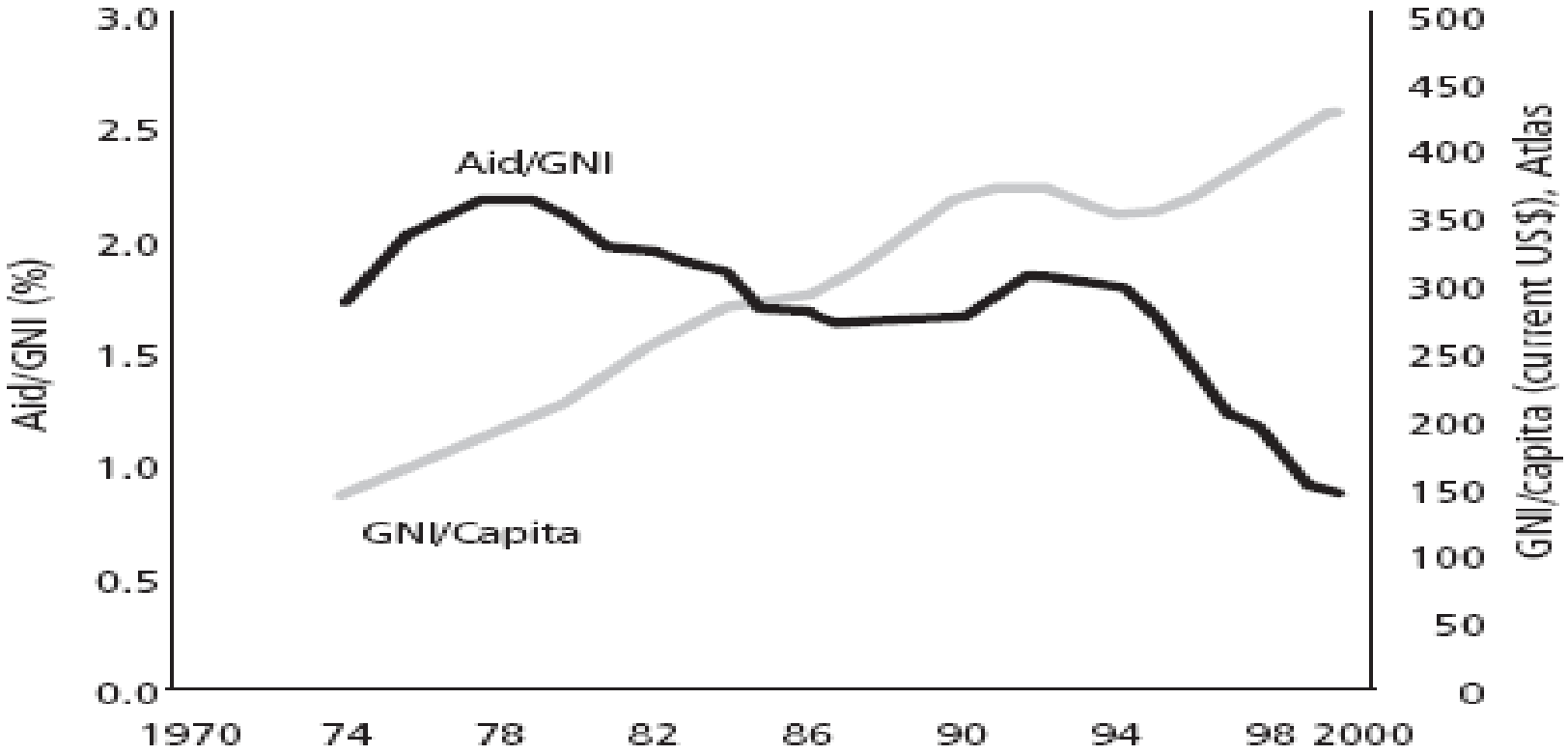
Figure 1 **Aid and growth in Africa (10-year moving average)**



Source: World Development Indicators Online

The aid growth relationship: South Asia

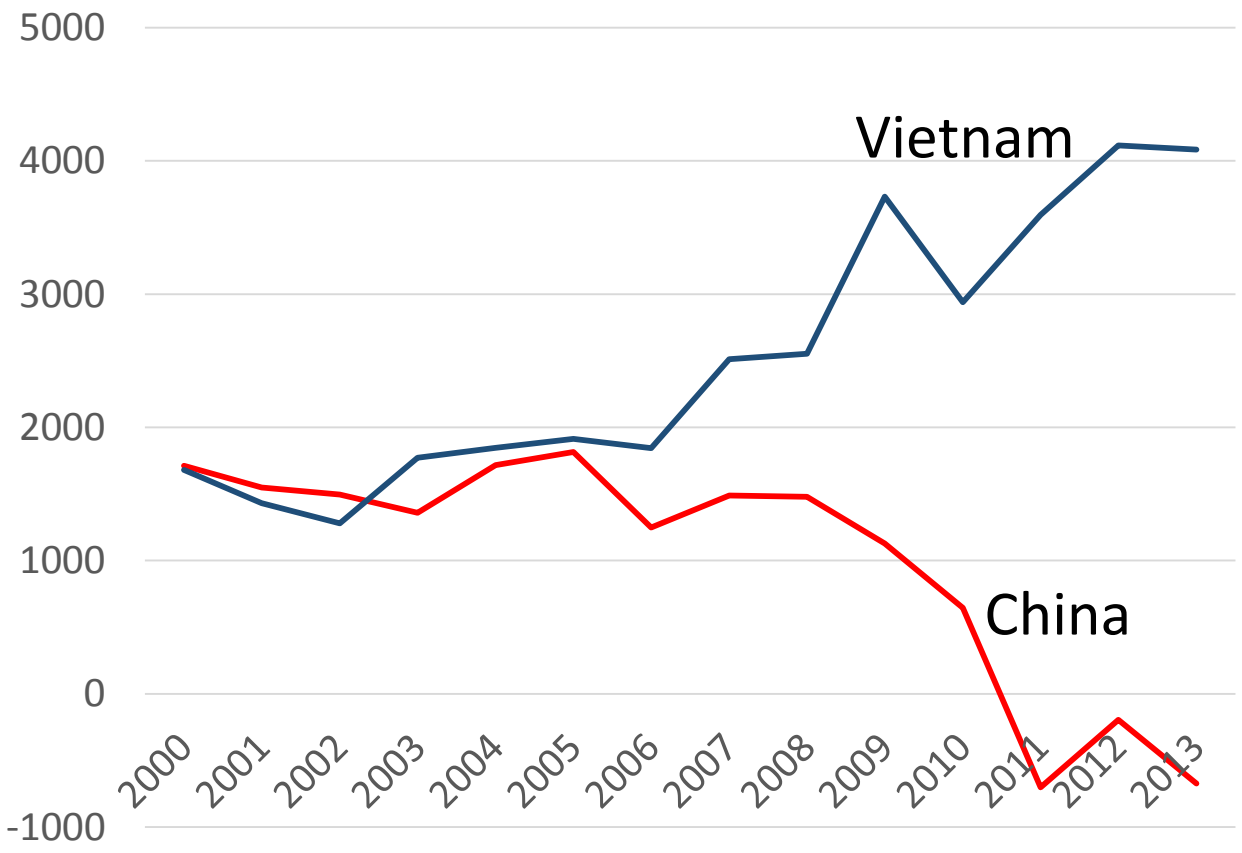
Figure 2 **Aid and GNI/capita in South Asia (5-year moving average)**



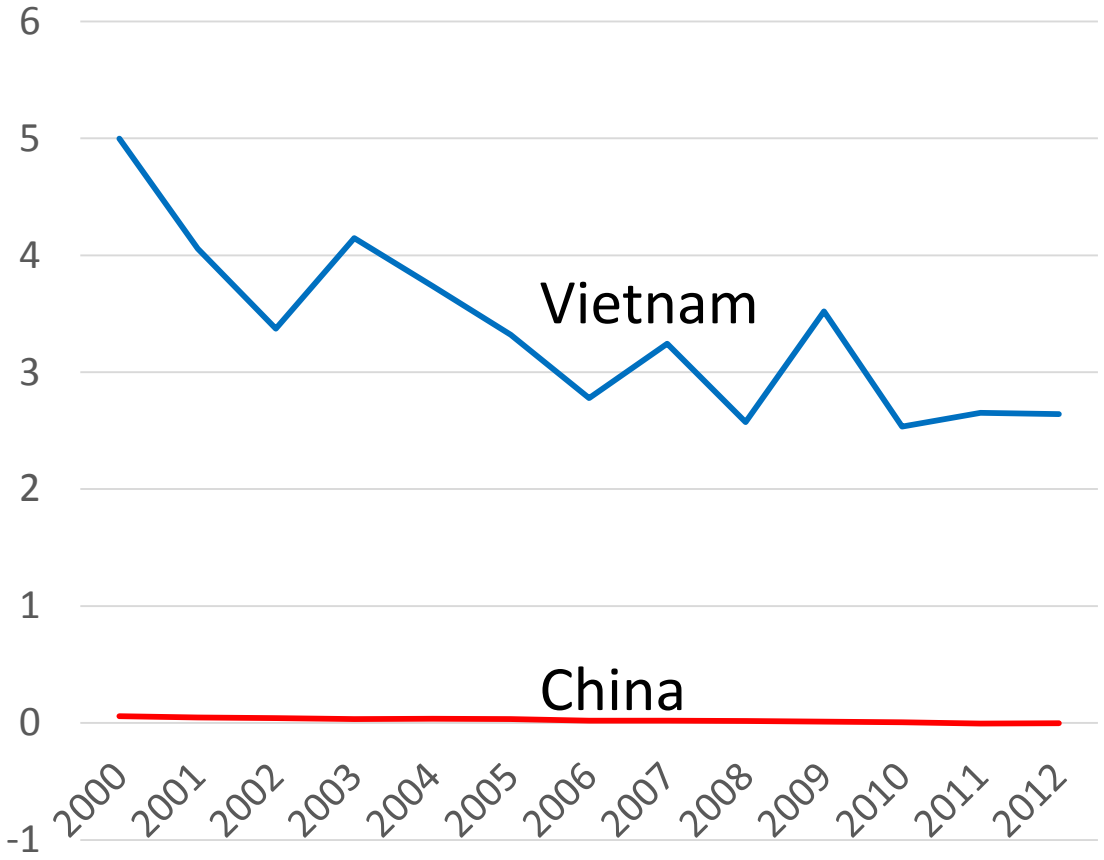
Source: World Development Indicators Online

Aid and Growth in Vietnam?

ODA in USD Millions



ODA as a Percent of GDP



Foreign Capital