# EE 459 :

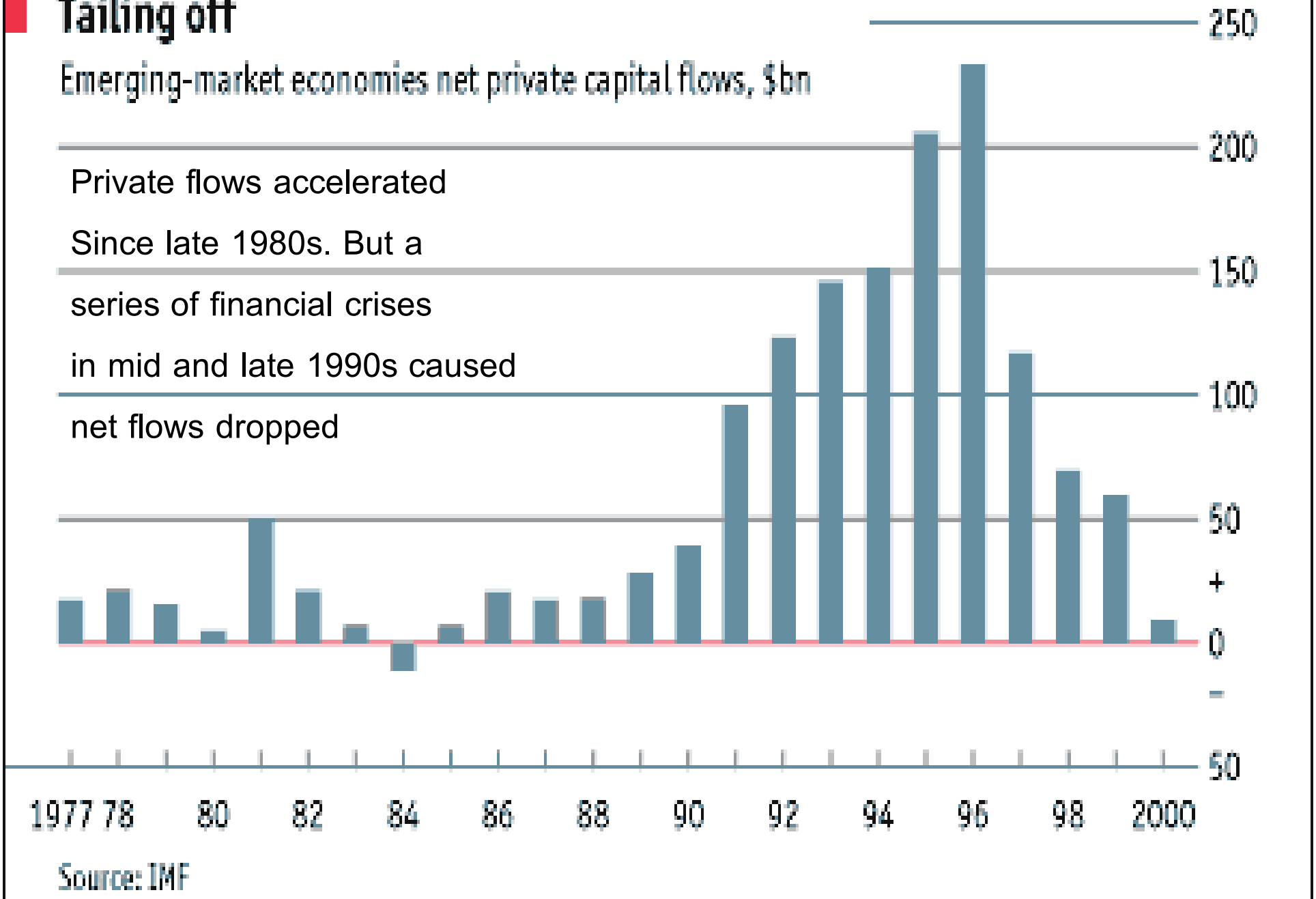
# Financial Liberalization and Capital Flow

1. Global Trend of Capital flows
2. Financial Sector Development, Capital Flows and Vulnerability
3. Growth Impact of Capital Flows
4. Determinants of Capital Flows

# Global Trend of Capital Flows

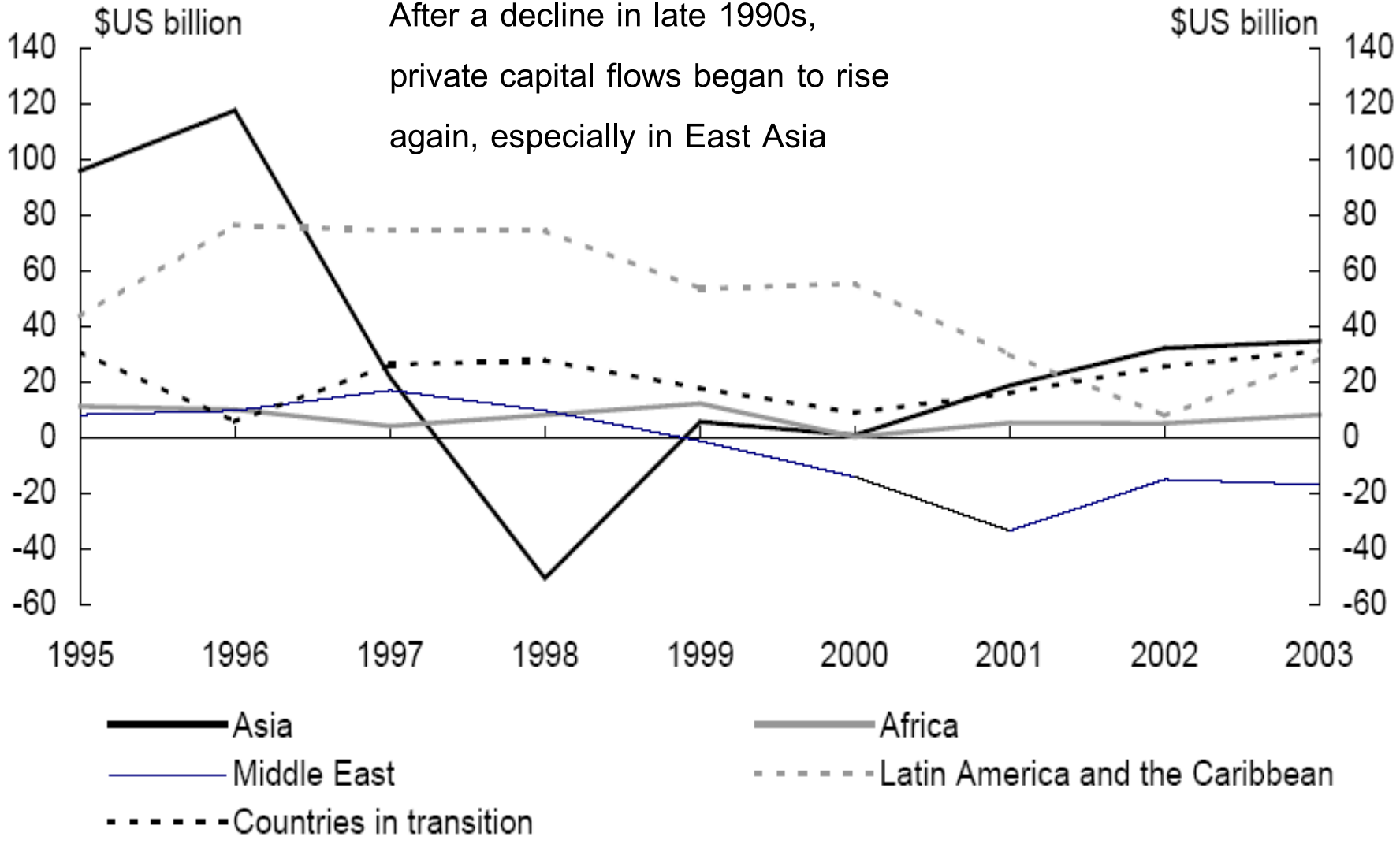
## Tailing off

Emerging-market economies net private capital flows, $bn




Source: IMF

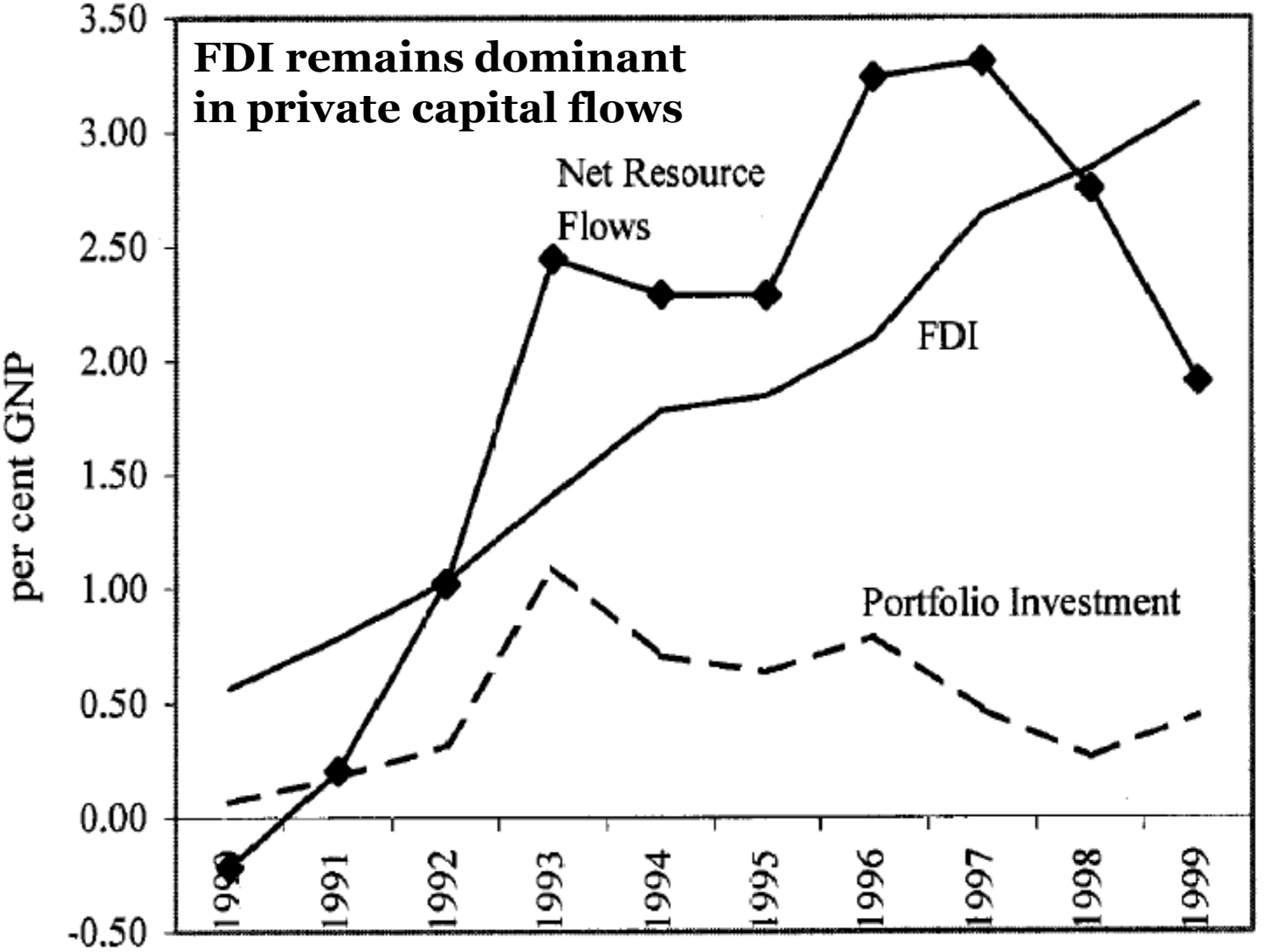
## Chart 1: Net private capital inflows[(a)]




(a) The definition of Asia used by the IMF for net capital flows includes developing Pacific Island economies, South Asian and Central Asian developing economies as well as the East Asian economies discussed in this paper.

Source: IMF World Economic Outlook, September 2003.

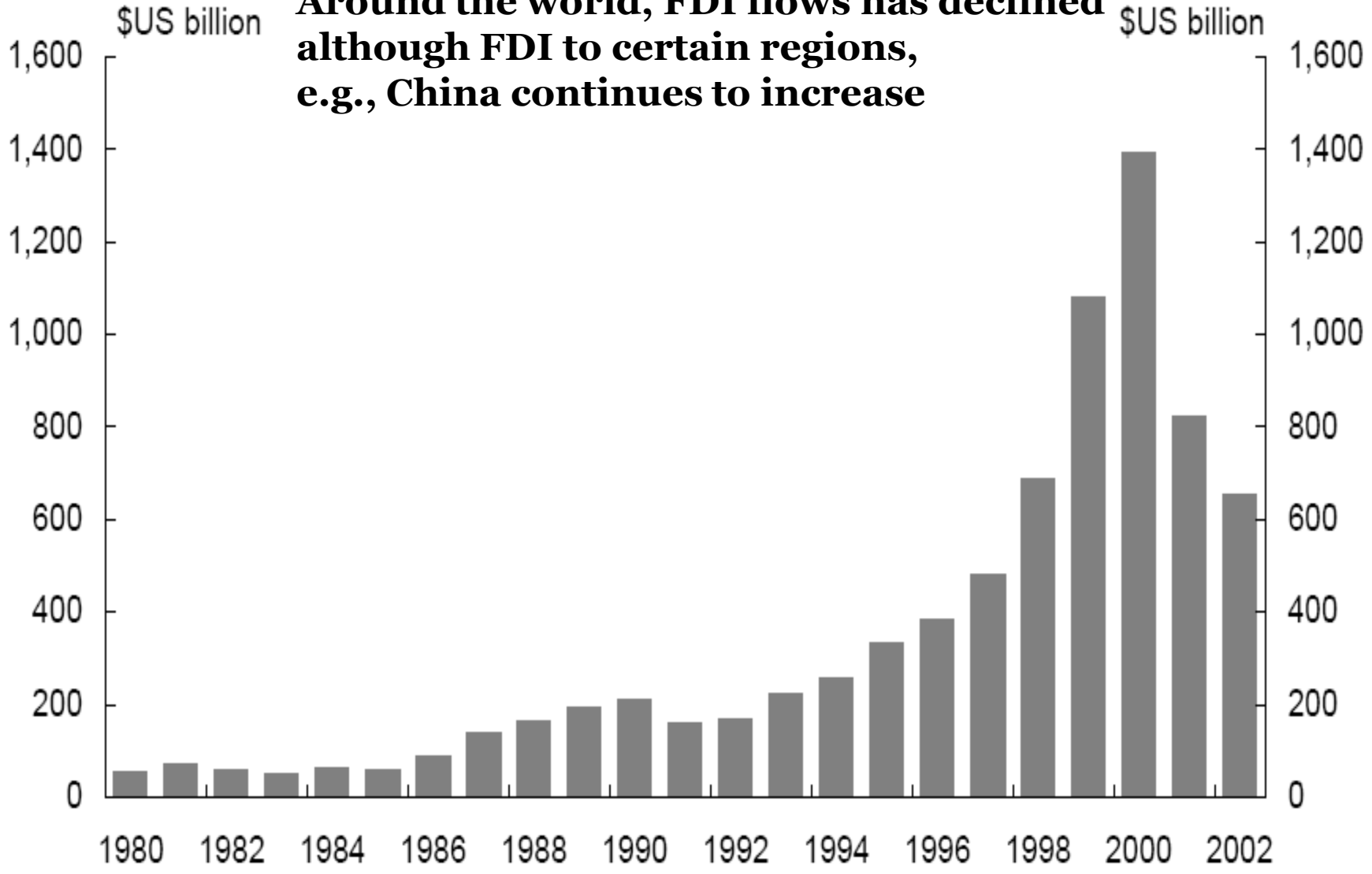
Fig. 2. Private Net Resource Flows to All Developing Countries, 1990-99




Source: *Global Development Finance*, Country Tables, Various Issues.

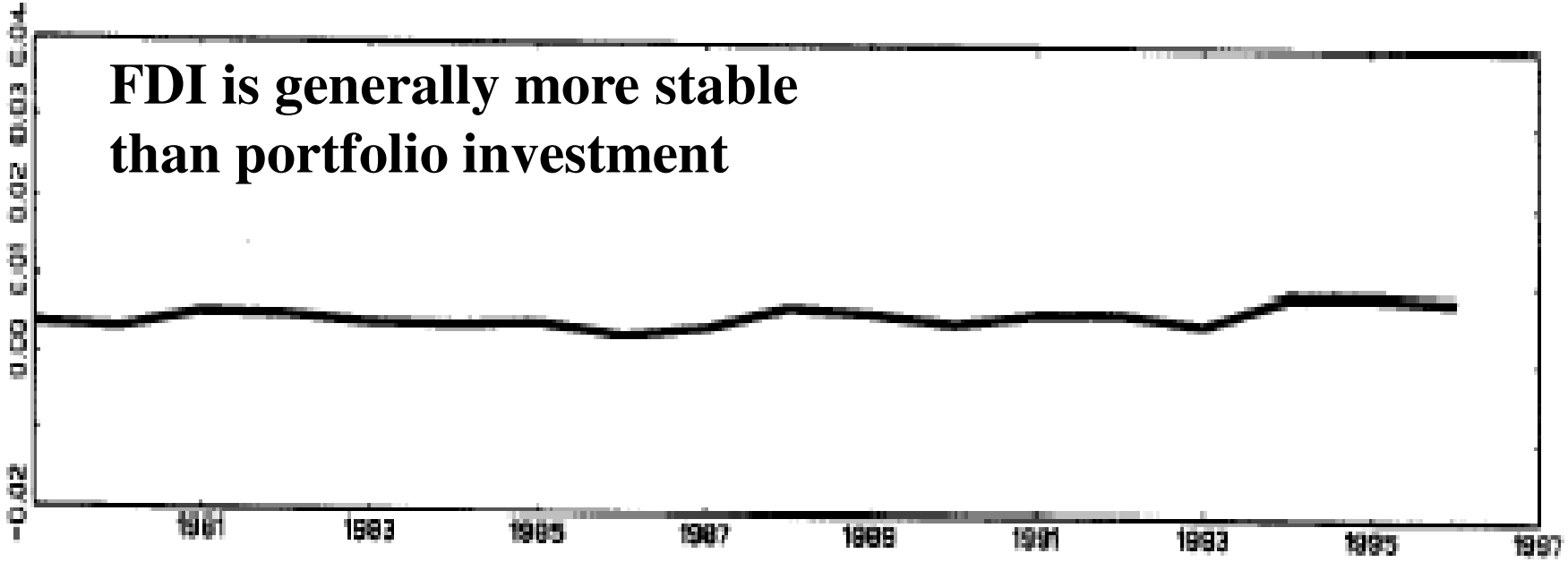
## Chart 2: Global net inflows of foreign direct investment

**Around the world, FDI flows has declined although FDI to certain regions, e.g., China continues to increase**



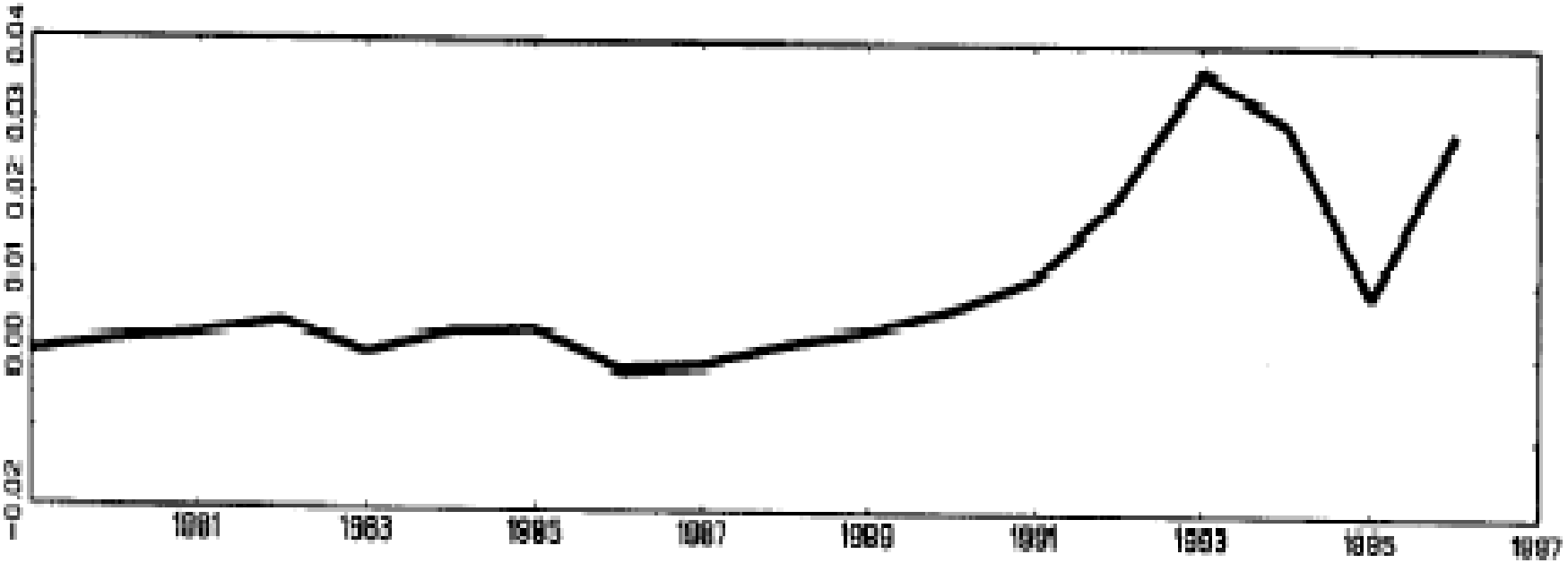

Source: United Nations Conference on Trade and Development, World Investment Report 2003.

Figure 2a Net Foreign Direct Investment/GDP of 17 emerging markets




**FDI is generally more stable than portfolio investment**

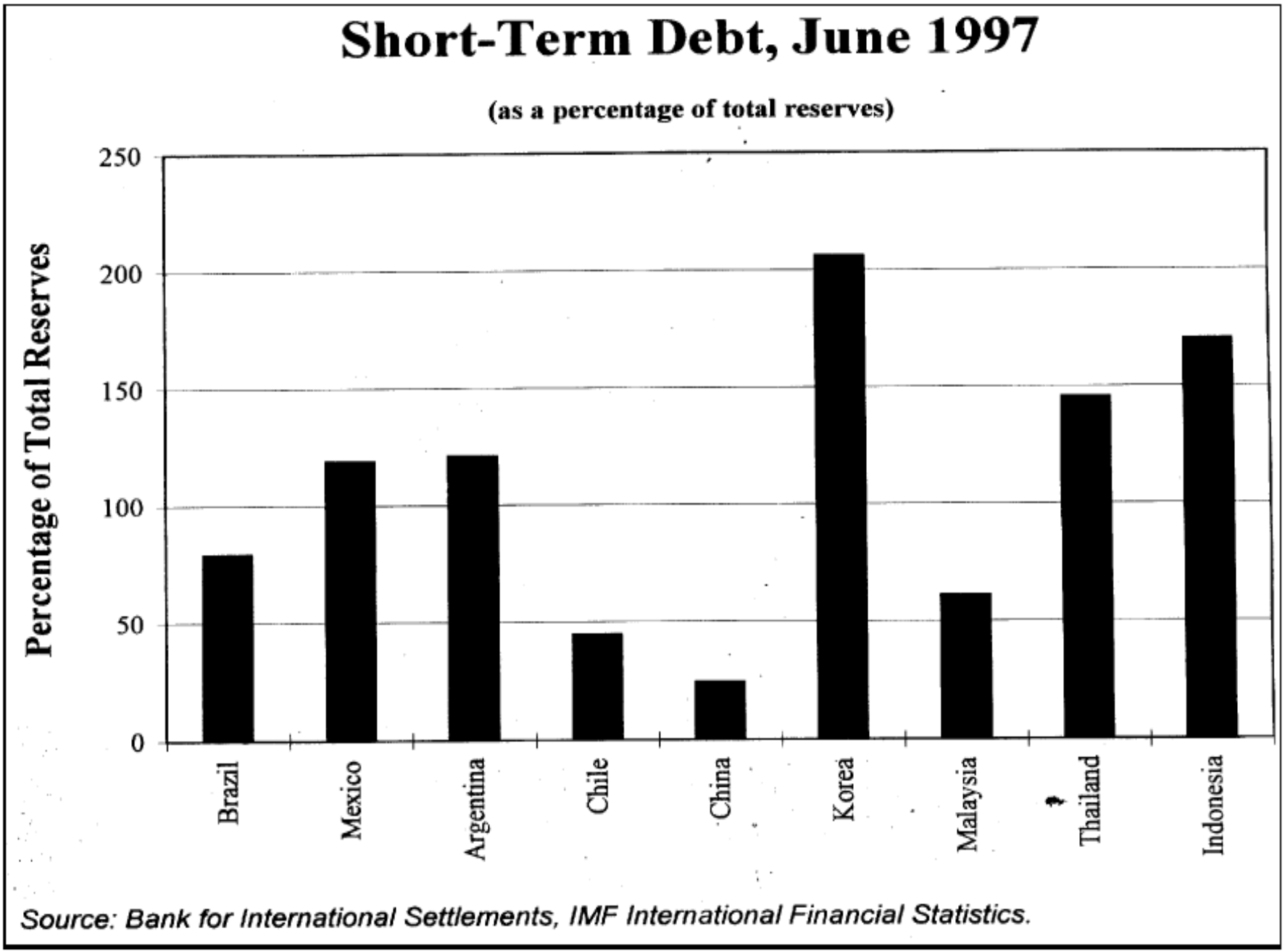
Figure 2b Net Portfolio Flows/GDP of 17 emerging markets



**Composition of foreign debt by region**

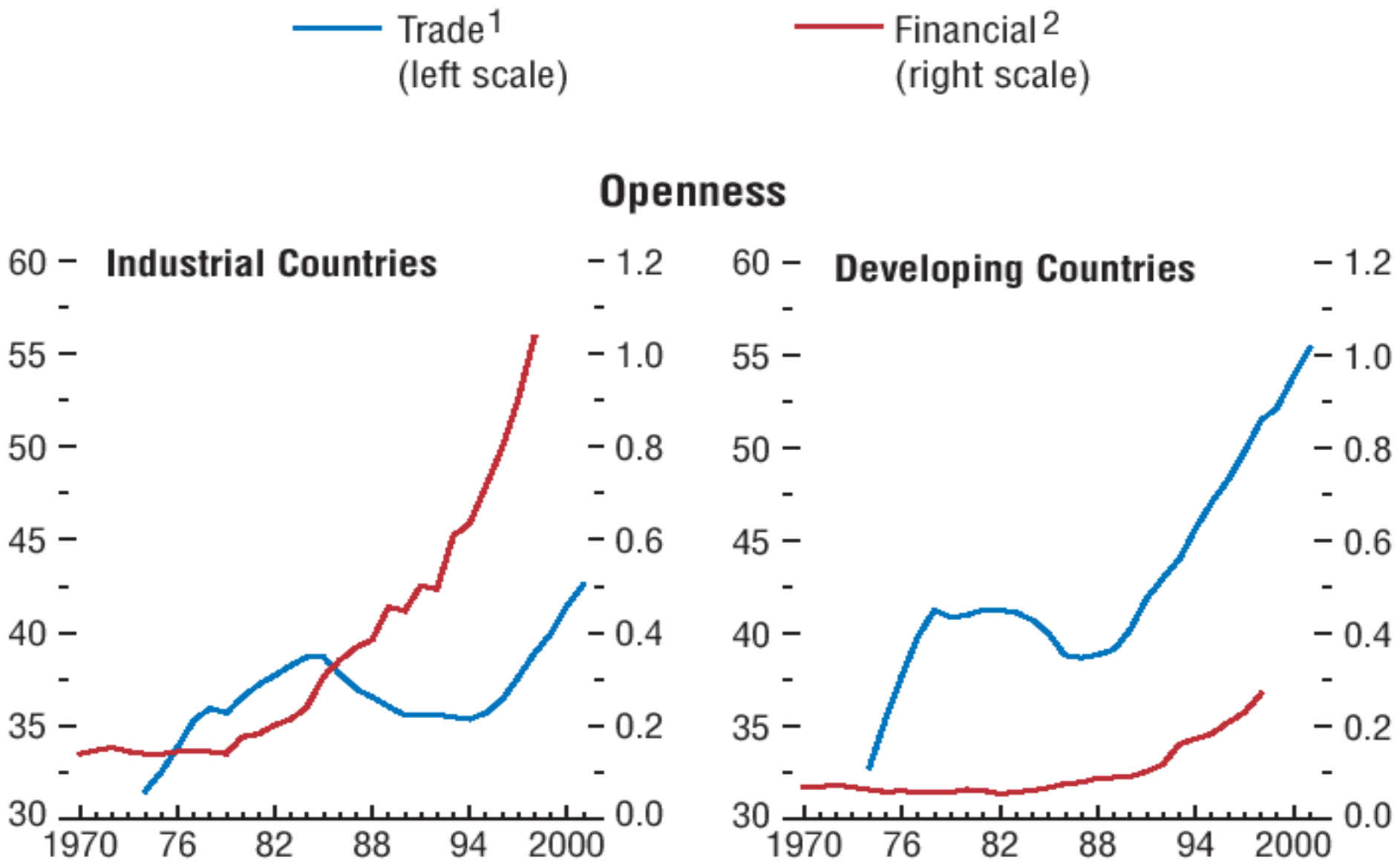
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|---|---|
| Asia/Pacific | | | | | | | | | | |
| ST (commercial banks) | 13.6% | 14.8% | 18.7% | 20.3% | 22.0% | 21.8% | 22.4% | 26.0% | 29.2% | 23.8% |
| ST (other) | 6.8% | 6.6% | 6.0% | 6.0% | 5.4% | 6.4% | 4.7% | 4.3% | 4.2% | 4.0% |
| M&LT | 79.6% | 78.6% | 75.2% | 73.7% | 72.5% | 71.8% | 72.9% | 69.8% | 66.6% | 72.2% |
| Latin America | | | | | | | | | | |
| ST (commercial banks) | 9.3% | 8.0% | 8.9% | 8.5% | 10.3% | 11.1% | 12.4% | 13.9% | 15.0% | 15.2% |
| ST (other) | 3.1% | 9.6% | 9.4% | 12.5% | 12.7% | 14.0% | 12.4% | 8.3% | 6.9% | 4.9% |
| M&LT | 87.6% | 82.4% | 81.7% | 79.0% | 77.0% | 75.0% | 75.2% | 77.8% | 78.1% | 79.9% |
| Europe | | | | | | | | | | |
| ST (commercial banks) | 9.7% | 10.0% | 9.4% | 9.9% | 9.5% | 10.3% | 6.4% | 7.9% | 10.0% | 11.9% |
| ST (other) | 5.3% | 4.6% | 7.4% | 7.9% | 7.8% | 7.0% | 5.6% | 6.6% | 8.7% | 11.0% |
| M&LT | 85.1% | 85.5% | 83.2% | 82.2% | 82.7% | 82.7% | 88.0% | 85.5% | 81.2% | 77.1% |
| Africa/Middle East | | | | | | | | | | |
| ST (commercial banks) | 19.0% | 18.9% | 17.7% | 14.7% | 14.4% | 14.0% | 14.8% | 13.4% | 15.7% | 16.1% |
| ST (other) | 10.3% | 10.2% | 11.9% | 12.8% | 12.0% | 11.5% | 10.6% | 10.8% | 11.1% | 12.6% |
| M&LT | 70.7% | 70.9% | 70.4% | 72.5% | 73.6% | 74.5% | 74.6% | 75.9% | 73.2% | 71.4% |

Source: IIF (1998)

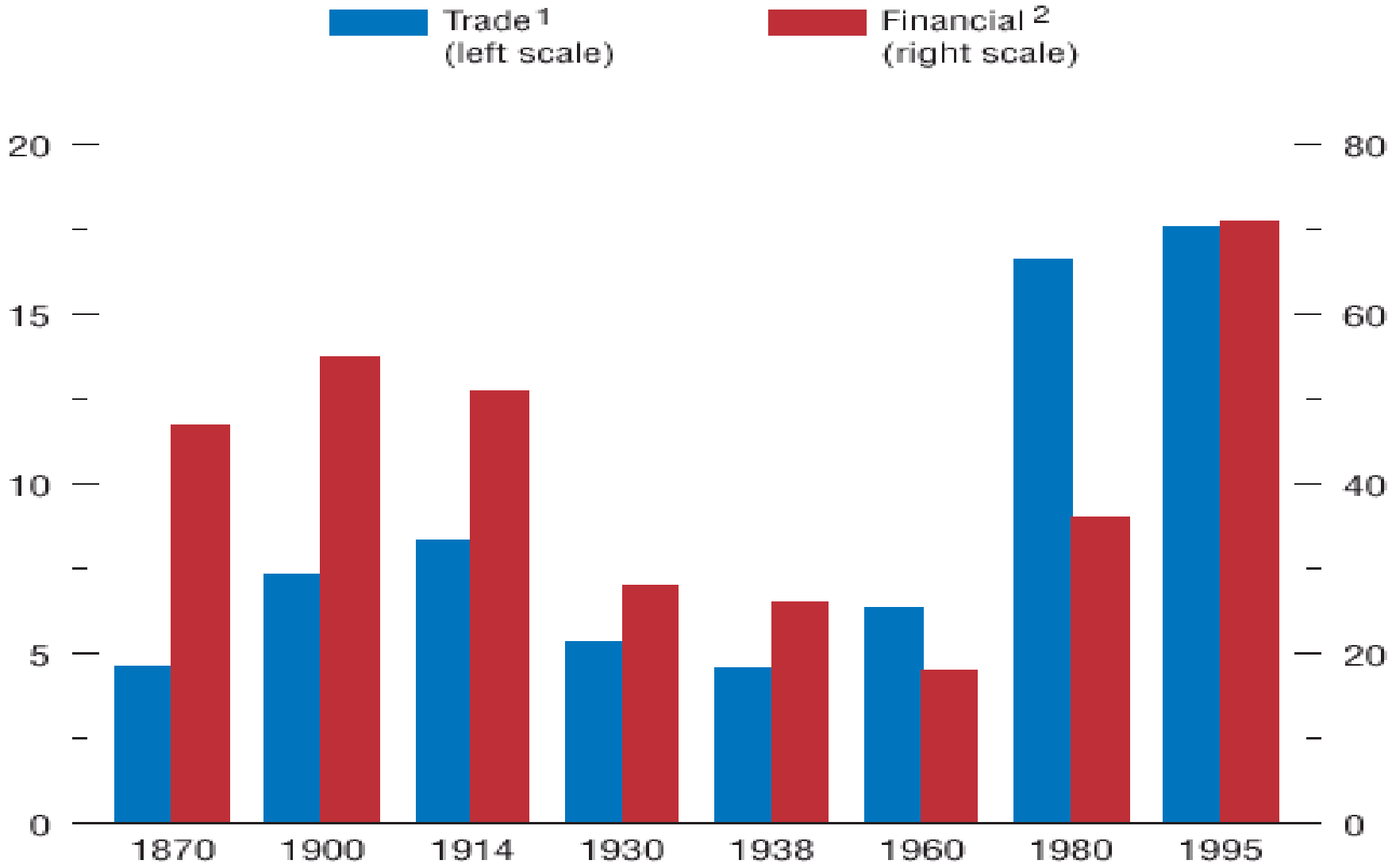

Short-Term Debt, June 1997
(as a percentage of total reserves)
Percentage of Total Reserves
250
200
150
100
50
0
Brazil
Mexico
Argentina
Chile
China
Korea
Malaysia
Thailand
Indonesia
Source: Bank for International Settlements, IMF International Financial Statistics.

# Financial Sector Development, Capital Flows & Vulnerability

Trade openness and financial openness have largely moved together in industrial and developing countries, reflecting the parallel liberalization of trade and capital controls.



Trade and financial integration have generally moved together over the past one-and-a-half centuries.




Sources: Maddison (1995); Obstfeld and Taylor (2002); and IMF staff estimates.
[1] Ratio of the sum of exports and imports to GDP.
[2] Ratio of foreign assets to GDP.

## Figure 3.8. Trade and Financial Integration Across Developing Regions, 1975–99[1]

*(Share of open economies; percent)*

The Western Hemisphere region is the only one where a greater proportion of countries are open to finance than to trade. This is especially true in South America.

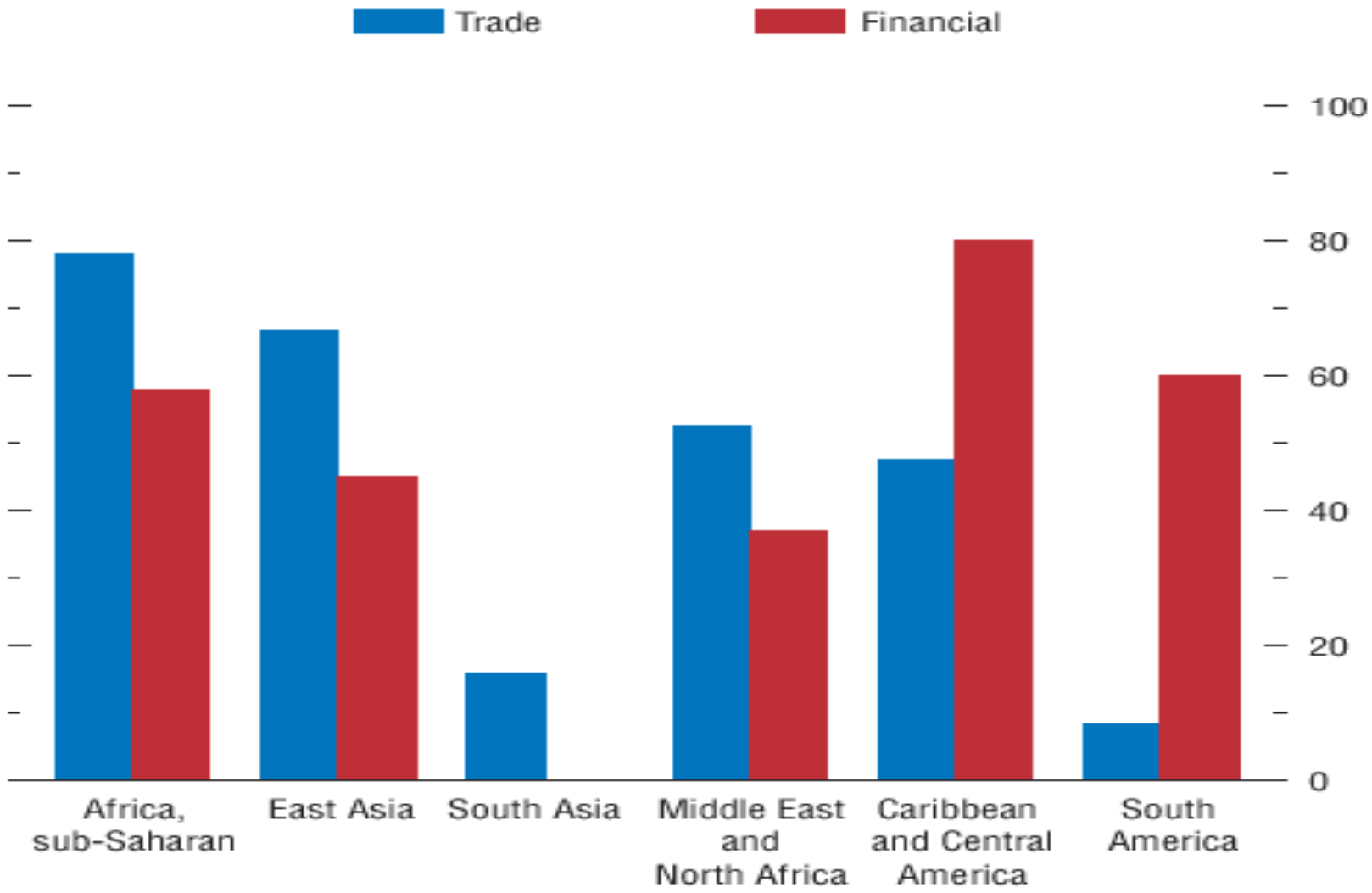


**Table III: Correlation Matrix of Flows and Returns**

This table reports correlations between net flows and returns from nine capital markets along with correlations with four regional indices. Net Flows are defined as (buy value - sell value) by foreign investors scaled by the previous day market capitalization. Flows above the 99th percentile of the daily net flow distribution are set equal to the 99th percentile point. Returns and scaled net flows are all expressed in local currency and in percentage terms. A '*' indicates a correlation that is significant at the five percent level.

| | | Indonesia | | Korea | | Philippines | | Taiwan | | Thailand | | India | | Sri Lanka | | Slovenia | | S. Africa | | Pac. | Eur. | N.Am. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *flow* | *ret* | *ret* | *ret* | *ret* |
| **Indonesia** | *Ret* | 0.39* | | | | | | | | | | | | | | | | | | | | |
| **Korea** | *Flow* | 0.19* | 0.13* | | | | | | | | | | | | | | | | | | | |
| | *Ret* | 0.06* | 0.16* | 0.20* | | | | | | | | | | | | | | | | | | |
| **Philippines** | *Flow* | 0.16* | 0.12* | 0.07 | 0.04 | | | | | | | | | | | | | | | | | |
| | *Ret* | 0.12* | 0.17* | 0.17* | 0.21* | 0.34* | | | | | | | | | | | | | | | | |
| **Taiwan** | *Flow* | 0.19* | 0.14* | 0.19* | 0.23* | 0.17* | 0.19* | | | | | | | | | | | | | | | |
| | *Ret* | 0.12* | 0.14* | 0.10* | 0.20* | -0.01 | 0.13* | 0.28* | | | | | | | | | | | | | | |
| **Thailand** | *Flow* | 0.21* | 0.31* | 0.52* | 0.25* | 0.30* | 0.31* | 0.21* | 0.20* | | | | | | | | | | | | | |
| | *Ret* | 0.18* | 0.37* | 0.20* | 0.35* | 0.13* | 0.26* | 0.26* | 0.21* | 0.44* | | | | | | | | | | | | |
| **India** | *Flow* | 0.18* | 0.04 | 0.19* | 0.05 | 0.04 | 0.15* | 0.25* | 0.14* | 0.16* | 0.11* | | | | | | | | | | | |
| | *Ret* | 0.08 | 0.08 | 0.15* | 0.17* | 0.08 | 0.11* | 0.17* | 0.13* | 0.16* | 0.14* | 0.23* | | | | | | | | | | |
| **Sri Lanka** | *Flow* | 0.03 | -0.05 | -0.01 | 0.05 | 0.08 | 0.02 | 0.05 | 0.02 | 0.06 | 0.05 | 0.10* | -0.03 | | | | | | | | | |
| | *Ret* | 0.06 | 0.02 | -0.01 | 0.02 | -0.01 | 0.05 | 0.02 | 0.04 | 0.10* | 0.11* | 0.06 | -0.02 | 0.07 | | | | | | | | |
| **Slovenia** | *Flow* | -0.11* | -0.07* | 0.01 | 0.04 | -0.02 | 0.02 | 0.01 | 0.00 | 0.07 | 0.09* | 0.05 | 0.03 | 0.03 | 0.04 | | | | | | | |
| | *Ret* | 0.07 | 0.10* | 0.11* | 0.07 | 0.02 | 0.10* | 0.04 | 0.06 | 0.06 | 0.04 | 0.04 | 0.01 | 0.02 | 0.01 | -0.10* | | | | | | |
| **S. Africa** | *Flow* | 0.03 | 0.03 | 0.02 | -0.02 | -0.05 | 0.02 | -0.04 | -0.01 | 0.03 | 0.00 | 0.05 | -0.09* | 0.05 | 0.05 | -0.09* | -0.01 | | | | | |
| | *Ret* | 0.11* | 0.23* | 0.09* | 0.25* | 0.07 | 0.17* | 0.20* | 0.20* | 0.23* | 0.34* | 0.11* | 0.23* | -0.05 | 0.04 | -0.06 | 0.11* | -0.08* | | | | |
| **Pacific** | *Ret* | 0.13* | 0.28* | 0.12* | 0.32* | 0.05 | 0.25* | 0.24* | 0.25* | 0.24* | 0.38* | 0.11* | 0.17* | 0.04 | 0.06 | 0.02 | 0.07 | -0.04 | 0.44* | | | |
| ***lag 1*** | | 0.09* | 0.07* | 0.13* | 0.08* | 0.03 | 0.06 | 0.23* | 0.14* | 0.20* | 0.09* | 0.13* | 0.03 | -0.02 | 0.05 | 0.01 | 0.07 | -0.01 | -0.05 | 0.04 | | |
| **Europe** | *Ret* | 0.06* | 0.17* | 0.08* | 0.23* | -0.02 | 0.12* | 0.10* | 0.12* | 0.13* | 0.25* | 0.06 | 0.11* | 0.01 | 0.00 | -0.05 | 0.10* | -0.06* | 0.58* | 0.38* | | |
| ***lag 1*** | | 0.10* | 0.18* | 0.15* | 0.22* | 0.07 | 0.23* | 0.25* | 0.19* | 0.24* | 0.20* | 0.09* | 0.17* | 0.02 | 0.04 | -0.05 | 0.13* | -0.05 | 0.15* | 0.29* | 0.07* | |
| **N. America** | *Ret* | 0.00 | 0.00 | 0.04 | 0.09* | -0.05 | 0.04 | -0.02 | 0.03 | 0.04 | 0.06 | 0.03 | 0.00 | -0.07 | 0.02 | -0.05 | -0.05 | -0.02 | 0.20* | 0.10* | 0.43* | |
| ***lag 1*** | | 0.11* | 0.22* | 0.13* | 0.28* | 0.01 | 0.23* | 0.27* | 0.23* | 0.19* | 0.22* | 0.12* | 0.17* | 0.03 | 0.07 | 0.00 | 0.18* | -0.06* | 0.43* | 0.43* | 0.40* | 0.01 |
| **Emerging** | *Ret* | 0.23* | 0.46* | 0.19* | 0.33* | 0.07 | 0.27* | 0.31* | 0.26* | 0.33* | 0.54* | 0.19* | 0.34* | 0.03 | 0.08* | 0.00 | 0.22* | -0.03 | 0.50* | 0.49* | 0.41* | 0.08* |
| ***lag 1*** | | 0.16* | 0.13* | 0.22* | 0.07* | 0.15* | 0.14* | 0.31* | 0.14* | 0.27* | 0.13* | 0.12* | 0.04 | 0.07 | 0.11* | 0.01 | 0.08* | 0.00 | 0.04 | 0.07* | -0.06* | 0.03 |

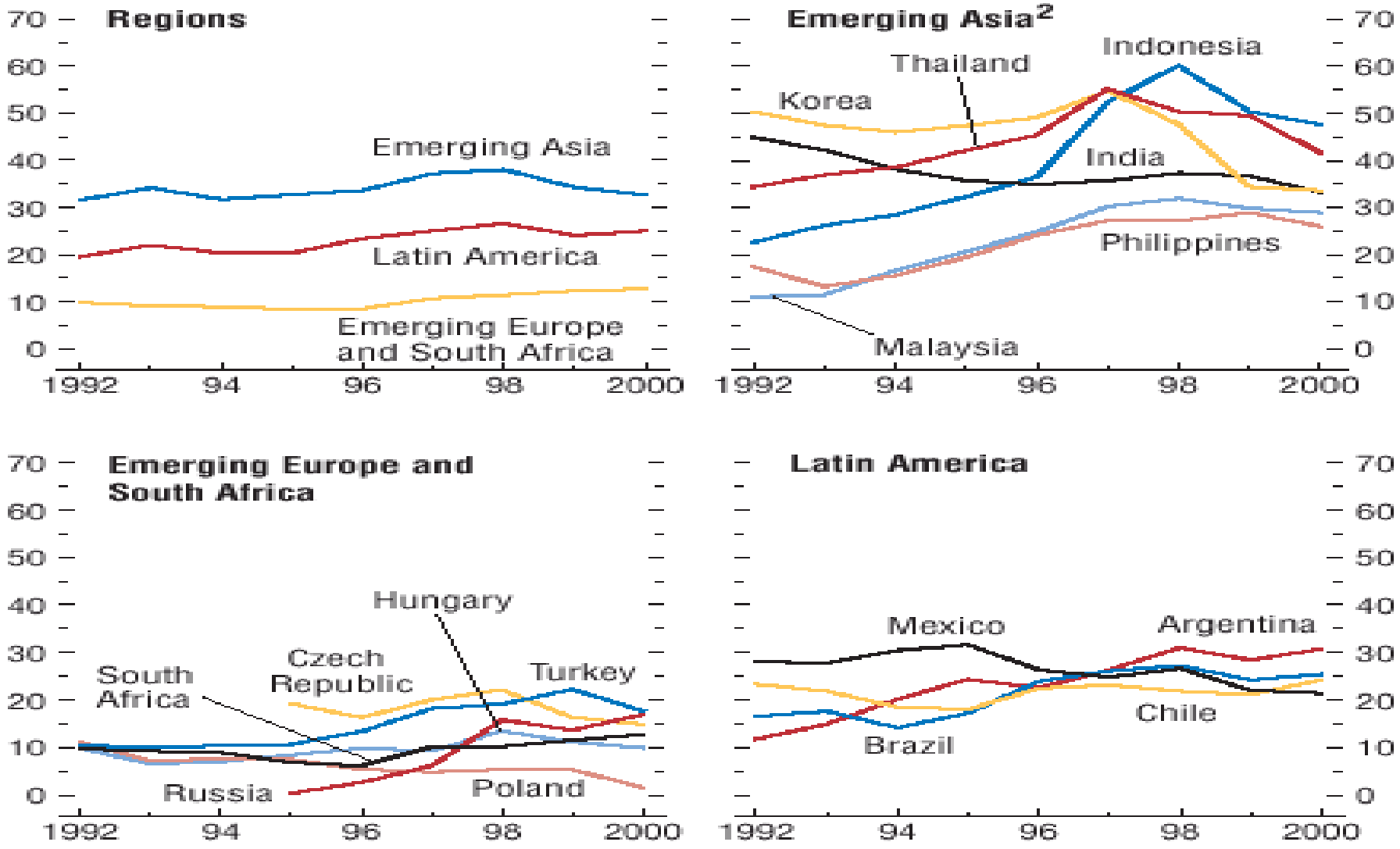
**With only a few exceptions, generally capital flows move to countries with higher return**

# Capital Flows and DCA

- Increased capital inflows (DCA's mirror image) are closely related with domestic asset holding over GDP (k) and the GDP growth (g) through the following relation: DCA/Y = g.k. Hence, if k is 50%, and g is 4% (e.g., Mexico in 1990s), the sustainable DCA is 2% of GDP (yet, Mexico's DCA was 7-8% GDP. Hence it was clearly unsustainable).
- But even with an overshot DCA, a more important question is whether the policy response is correct and *timely*, e.g., inflation (PNT) must be reduced sufficiently *fast*, otherwise in a fixed system an overvalued EXR will be under pressure (to collapse), and in a floating system the massive depreciation may lead to a speculative attack.

There are substantial inter- and intraregional differences in corporate leverage.

**Total Debt/Total Asset (%)**




Sources: Thomson Financial Worldscope database; and IMF staff estimates.

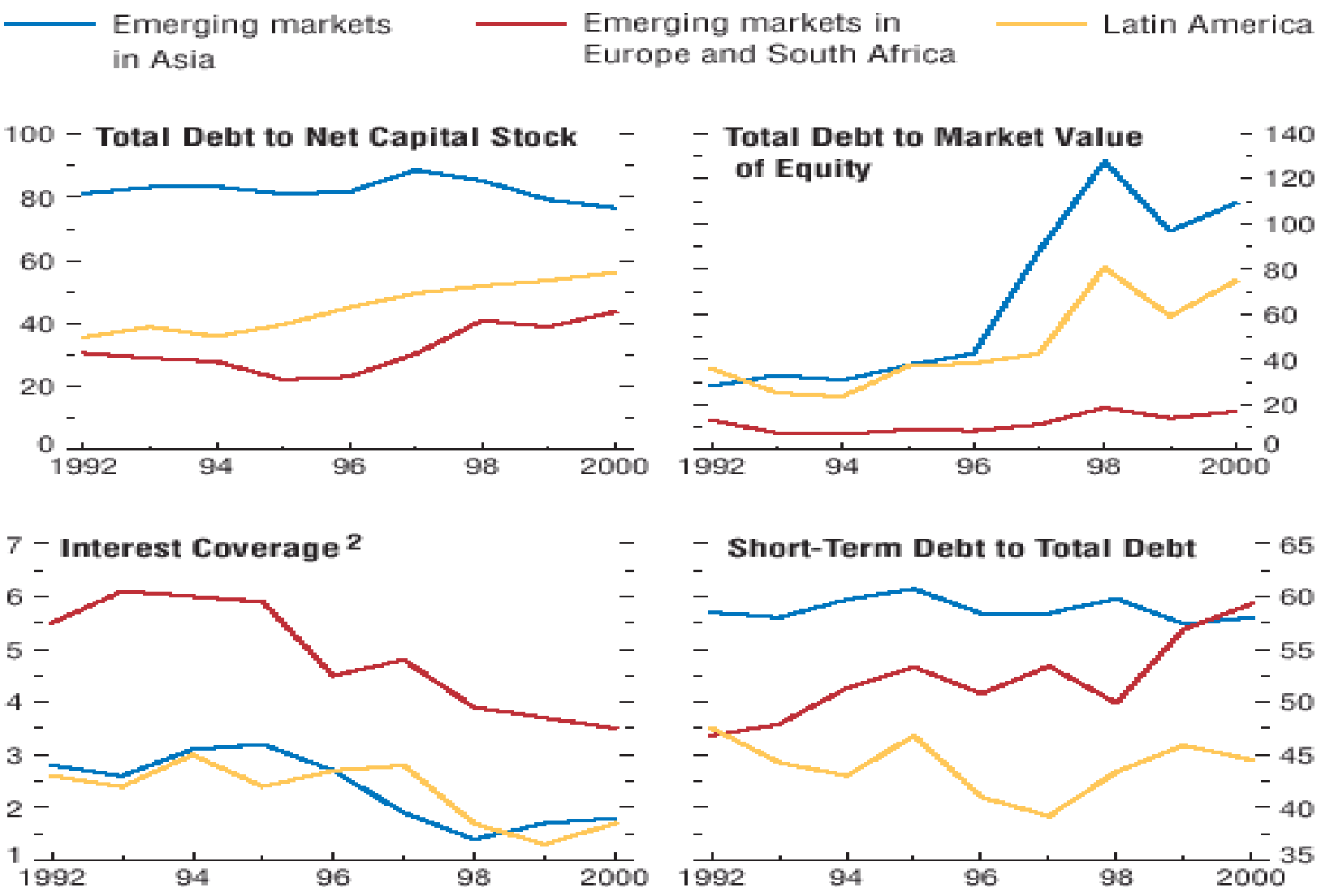
[1]Regional and country aggregates represent the median of all firms in the group, excluding outliers greater than plus/minus three standard deviations.

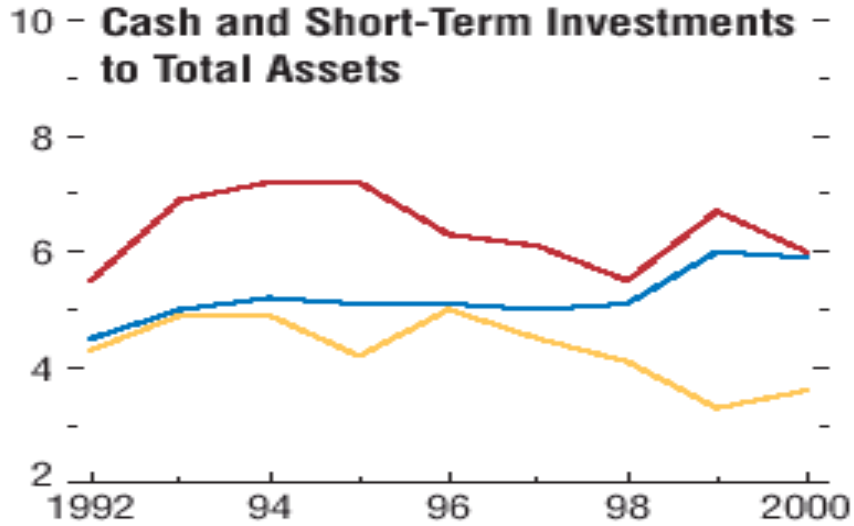
[2]China and Taiwan Province of China not shown.

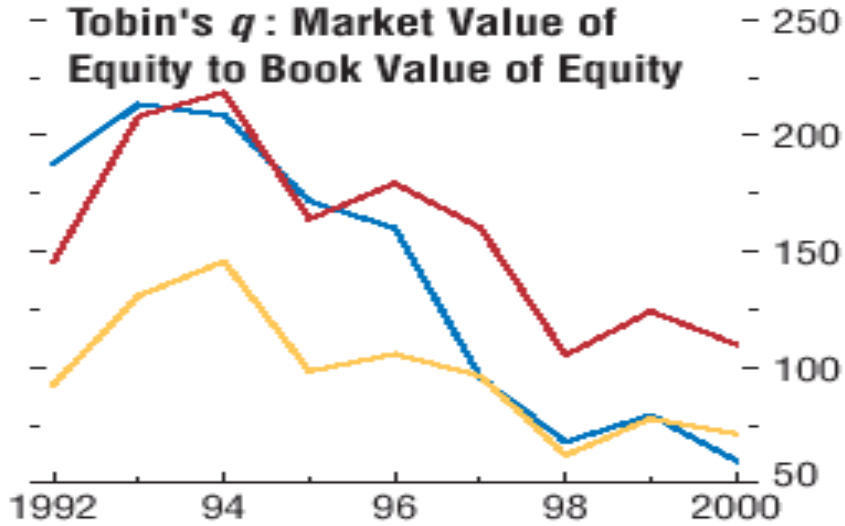
## Figure 2.13. Regional Indicators of Corporate Fragility[1]

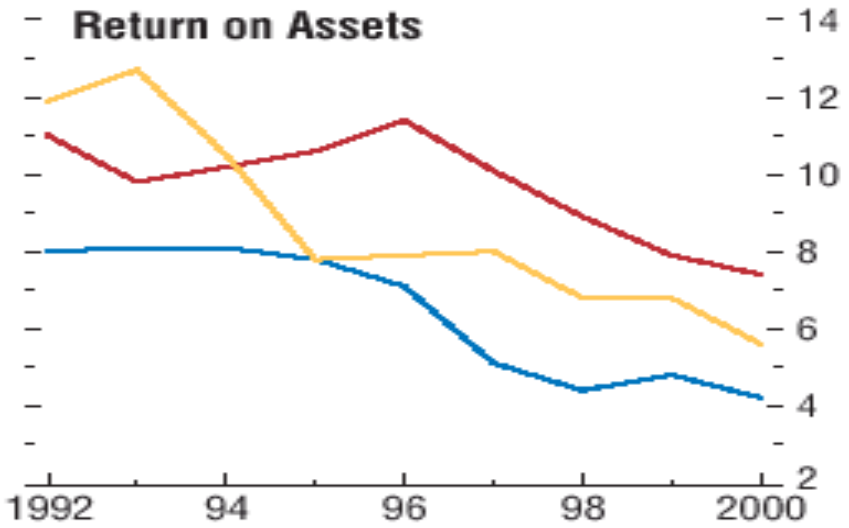
*(Percent)*

Corporate financial indicators vary significantly across regions.






Sources: Thomson Financial Worldscope database; and IMF staff estimates.

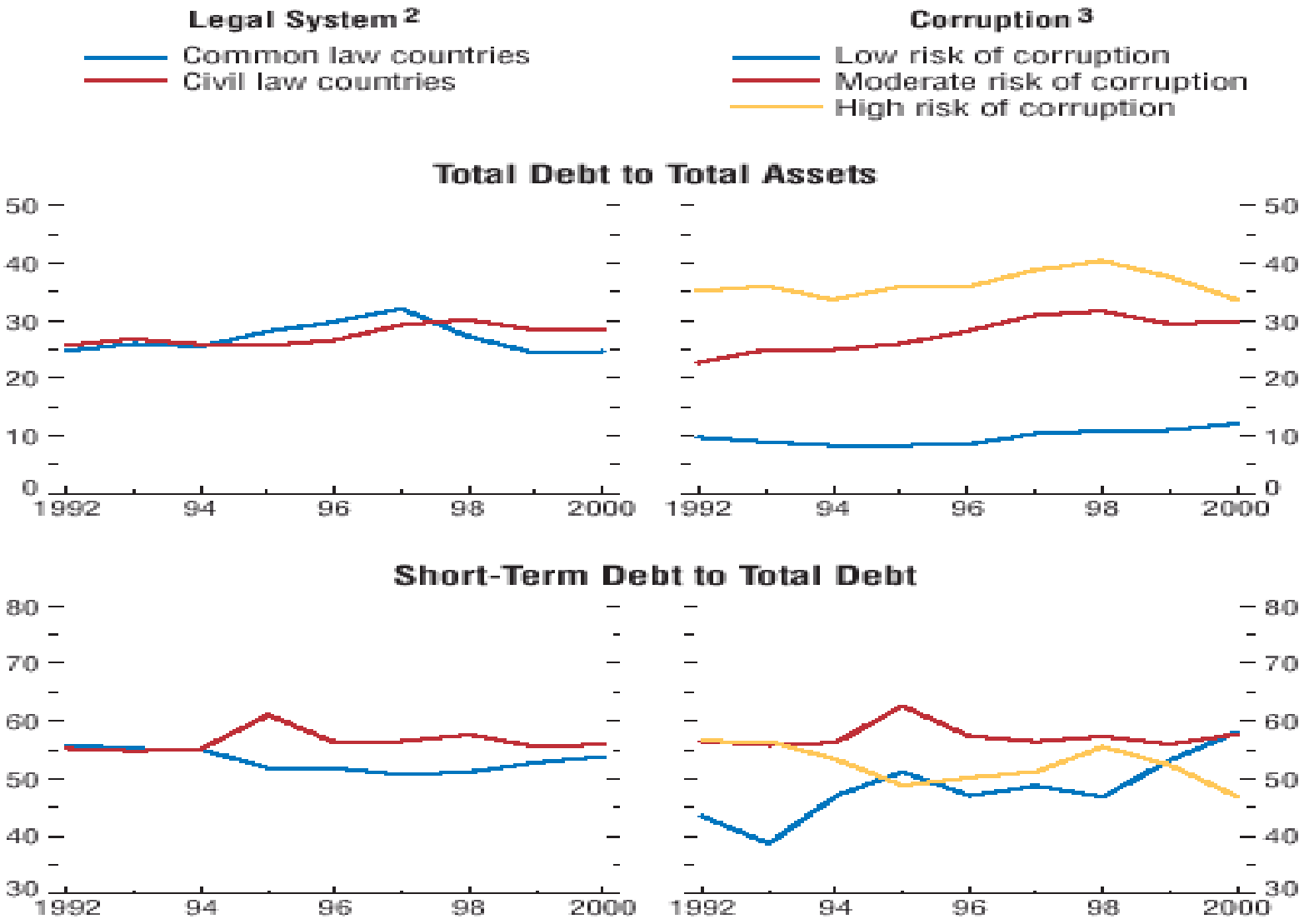
[1]Regional aggregates represent the median of all firms in the group, excluding outliers greater than plus/minus three standard deviations.

[2]Interest coverage is presented here as a simple ratio.

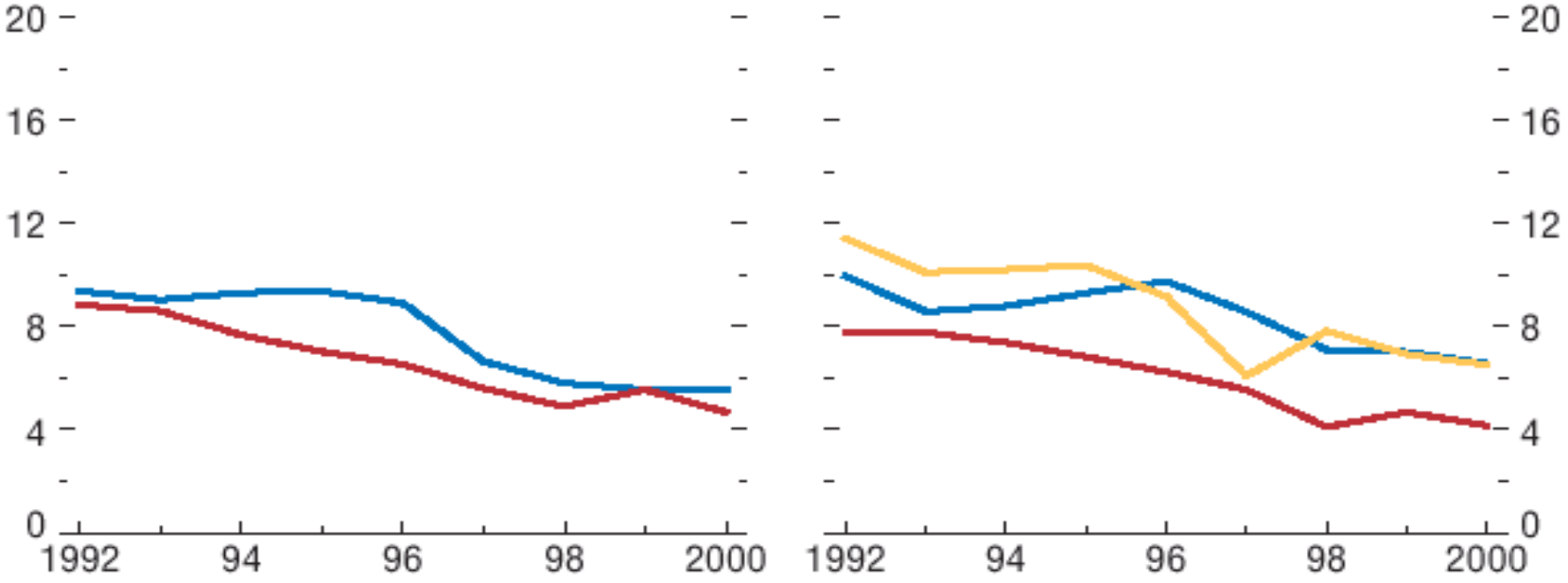
## Figure 2.14. Institutional Factors[1]

*(Percent)*

Institutional factors play an important role in firms' financing patterns. Firms in common law countries and firms in countries with good governance tend to have lower leverage, significantly lower short-term debt ratios, and moderately higher return on assets.



## Return on Assets




Sources: International Country Risk Guide (ICRG); La Porta and others (1998); Thomson Finanical Worldscope database; and IMF staff estimates.

[1]Group aggregates represent the median of all firms in the group, excluding outliers greater than plus/minus three standard deviations.

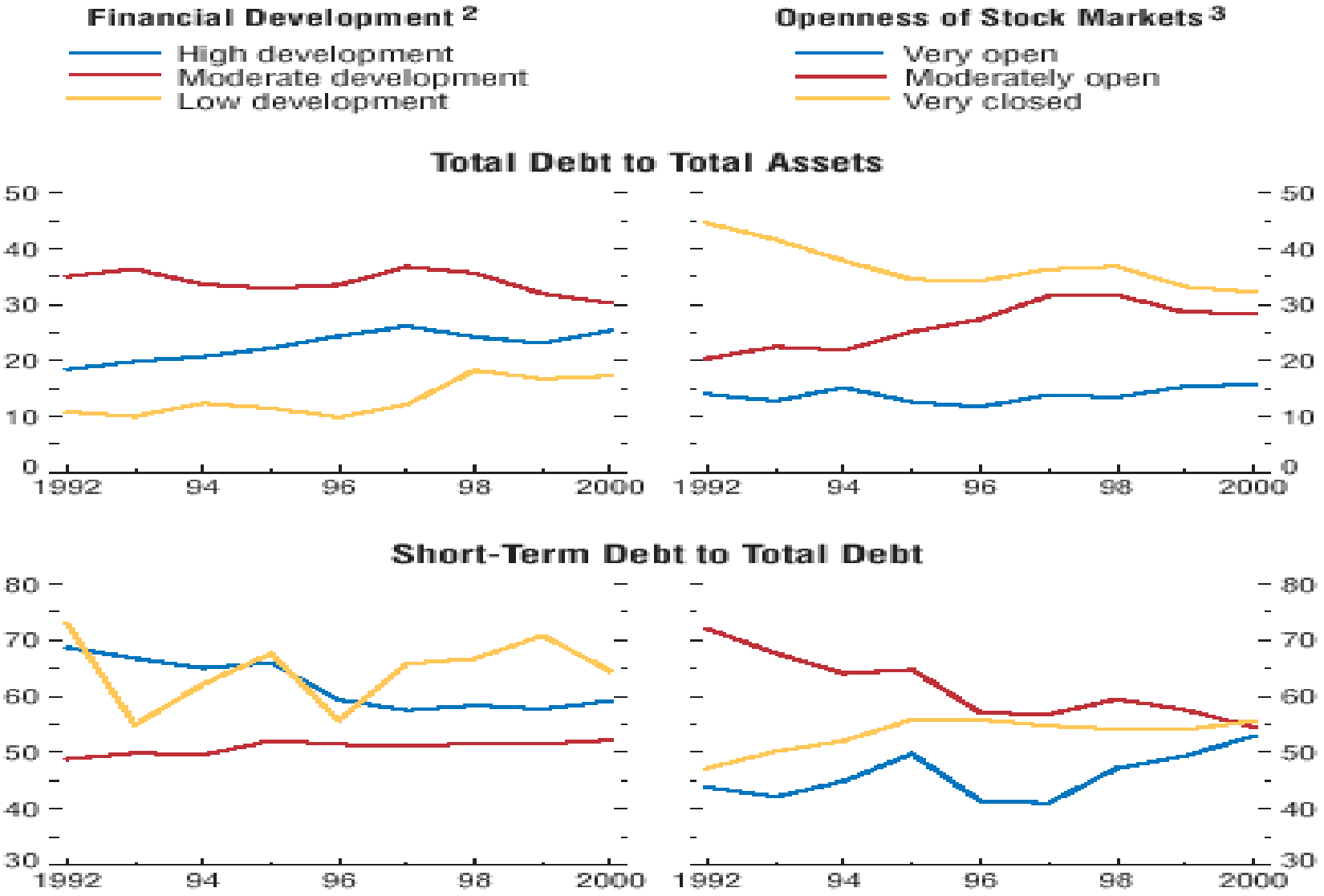
[2]Legal system is defined using La Porta and others (1998). Common law countries include India, Malaysia, South Africa, and Thailand. Civil law countries include Argentina, Brazil, Chile, China, Czech Republic, Hungary, Indonesia, Korea, Mexico, the Philippines, Poland, Russia, Turkey, and Taiwan Province of China.

[3]Corruption is defined using the ICRG definition, which rates the risks of corruption based on the length of time that a government has been in power. The high risk countries include Indonesia, India, Russia, Thailand, and Turkey. The moderate group includes Argentina, Brazil, Chile, China, Korea, Malaysia, Mexico, the Philippines, and Taiwan Province of China. The low risk group includes Czech Republic, Hungary, Poland, and South Africa.

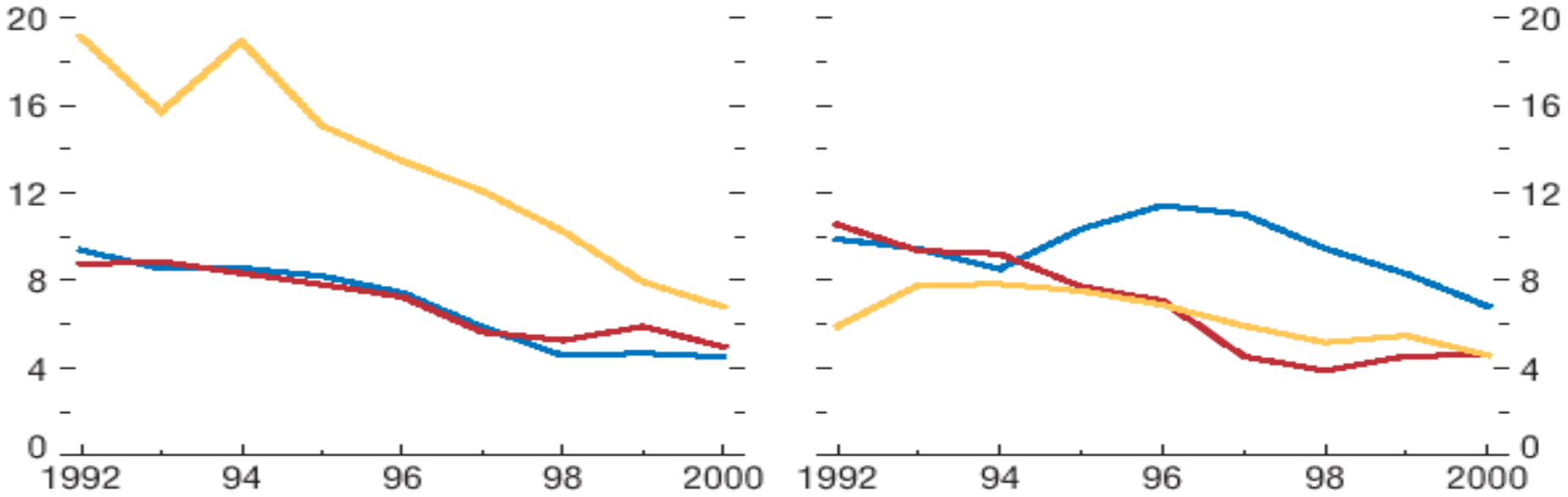
## Figure 2.15. Macroeconomic Factors[1]

*(Percent)*

Corporate financing choices are significantly affected by the degree of financial development and the degree of integration with world capital markets.



## Return on Assets




Sources: Edison and Warnock (2001); IMF, *International Financial Statistics;* Standard & Poors Emerging Market Database; and Thomson Financial Worldscope database.

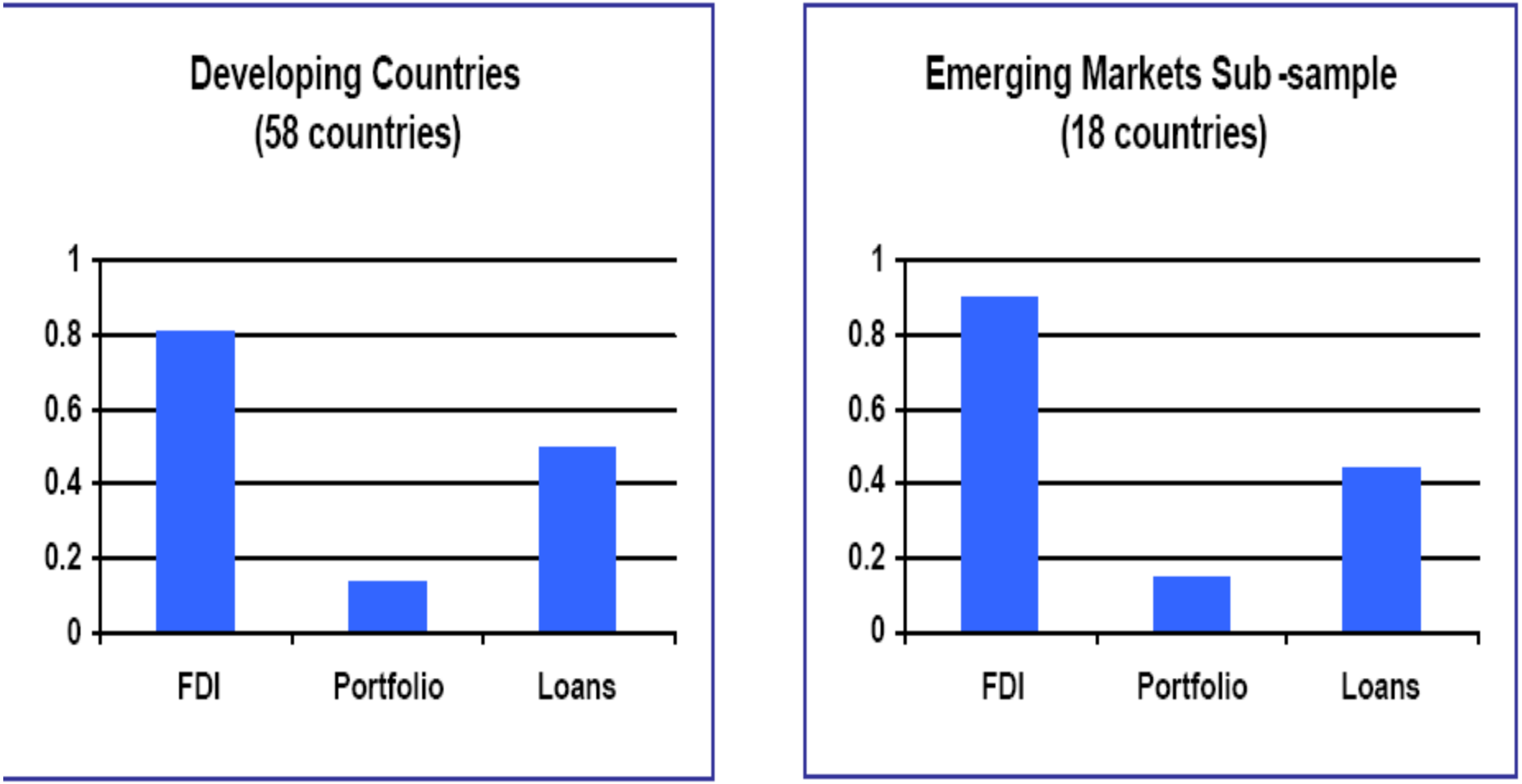
[1]Group aggregates represent the median of all firms in the group, excluding outliers greater than plus/minus three standard deviations.

[2]Financial development is defined using Levine (2001) as the sum of total private credit to GDP and market capitalization to GDP ratios. Low development include Argentina, Hungary, Poland, Russia, and Turkey. The medium group includes Brazil, China, Czech Republic, India, Indonesia, Korea, Mexico, and the Philippines. The high development group includes Chile, Malaysia, South Africa, Taiwan Province of China, and Thailand.

[3]Openness is defined using Edison and Warnock (2001) as one minus the percent of shares that may not be purchased by foreign investors as captured in the ratio of IFC Investable Index to IFC Global Index. The very open category includes Argentina, Mexico, Poland, South Africa, and Turkey. The moderate group includes Brazil, Chile, Czech Republic, Hungary, Indonesia, Malaysia, the Philippines, Russia, and Thailand. The very closed group includes China, India, Korea, and Taiwan Province of China.

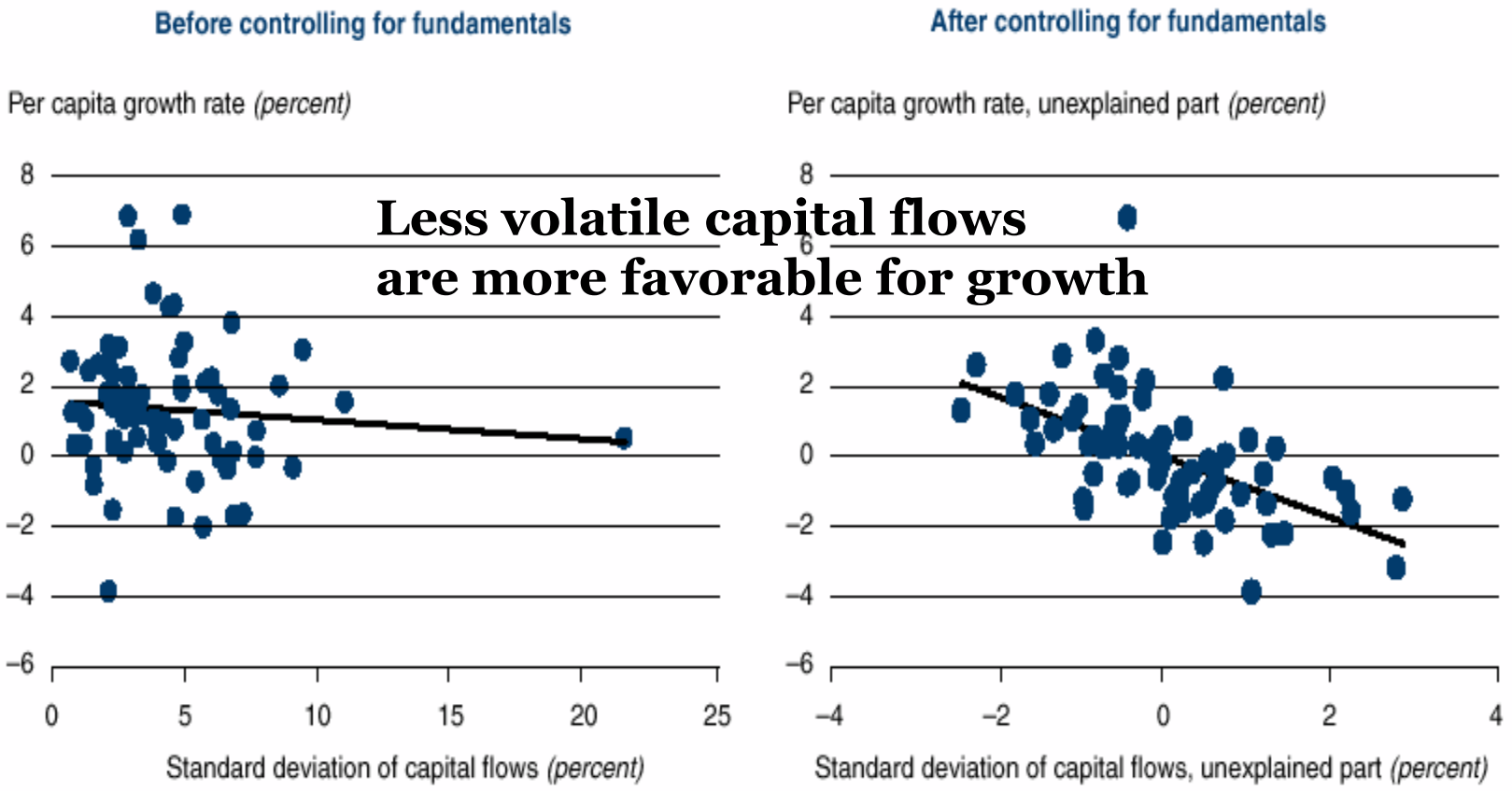
# Growth Impact of Capital Flows and Measuring Outflows

**Figure 1: Estimated Impact of capital flows on domestic investment**
**(FDI is superior)**




Source: Based on Bosworth and Collins (1999). The height of the bar represents the estimated impact of $1 of the indicated capital flow on domestic investment.

## Figure 3.8 Correlations and partial correlations between per capita average growth rates and private capital flows volatility, 1970–98



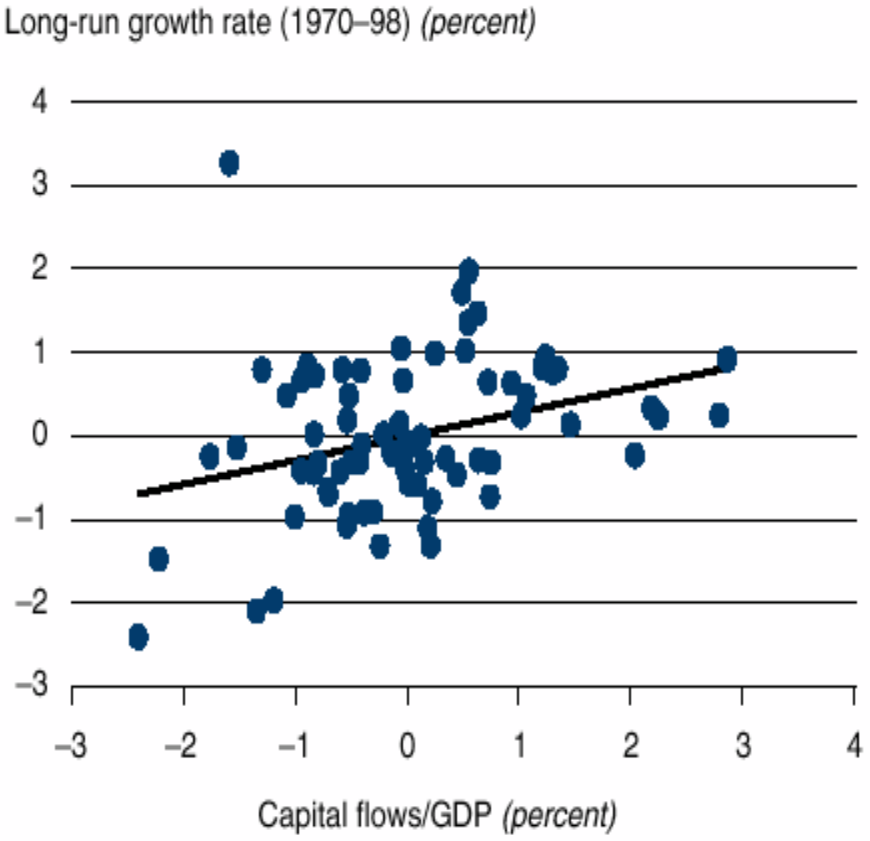

**Less volatile capital flows are more favorable for growth**

*Note:* The partial correlation between the growth rate and capital flows volatility is the correlation between the residual growth rate and residual volatility in capital flows, after controlling for various fundamentals (see annex 3.1 for details). This residual variation in the growth rate and capital flows volatility is termed "unexplained part."
*Source:* World Bank, *Global Development Finance: Country Tables* and sources cited therein, various years (see annex 3.1 for details).

## Figure 3.9 Precrisis and postcrisis growth rates and capital flows, 1970–98

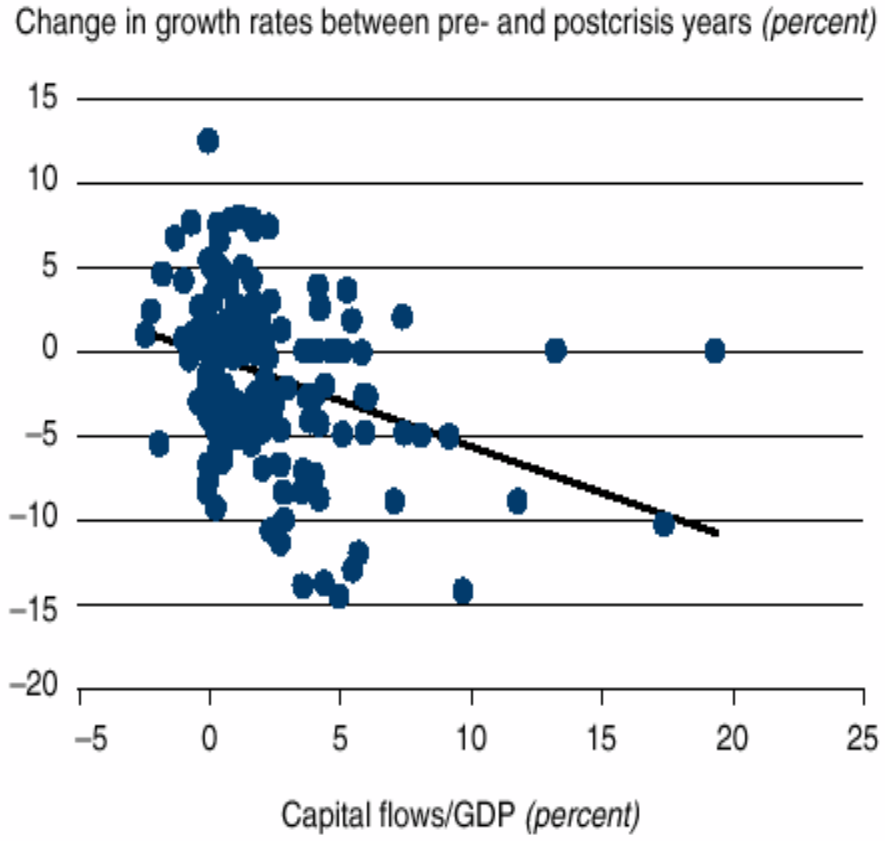
*In precrisis years, higher capital flows are associated with higher growth*

**Noncrisis years**




*During crisis years, higher capital flows are associated with deeper downturns*

**Crisis years**

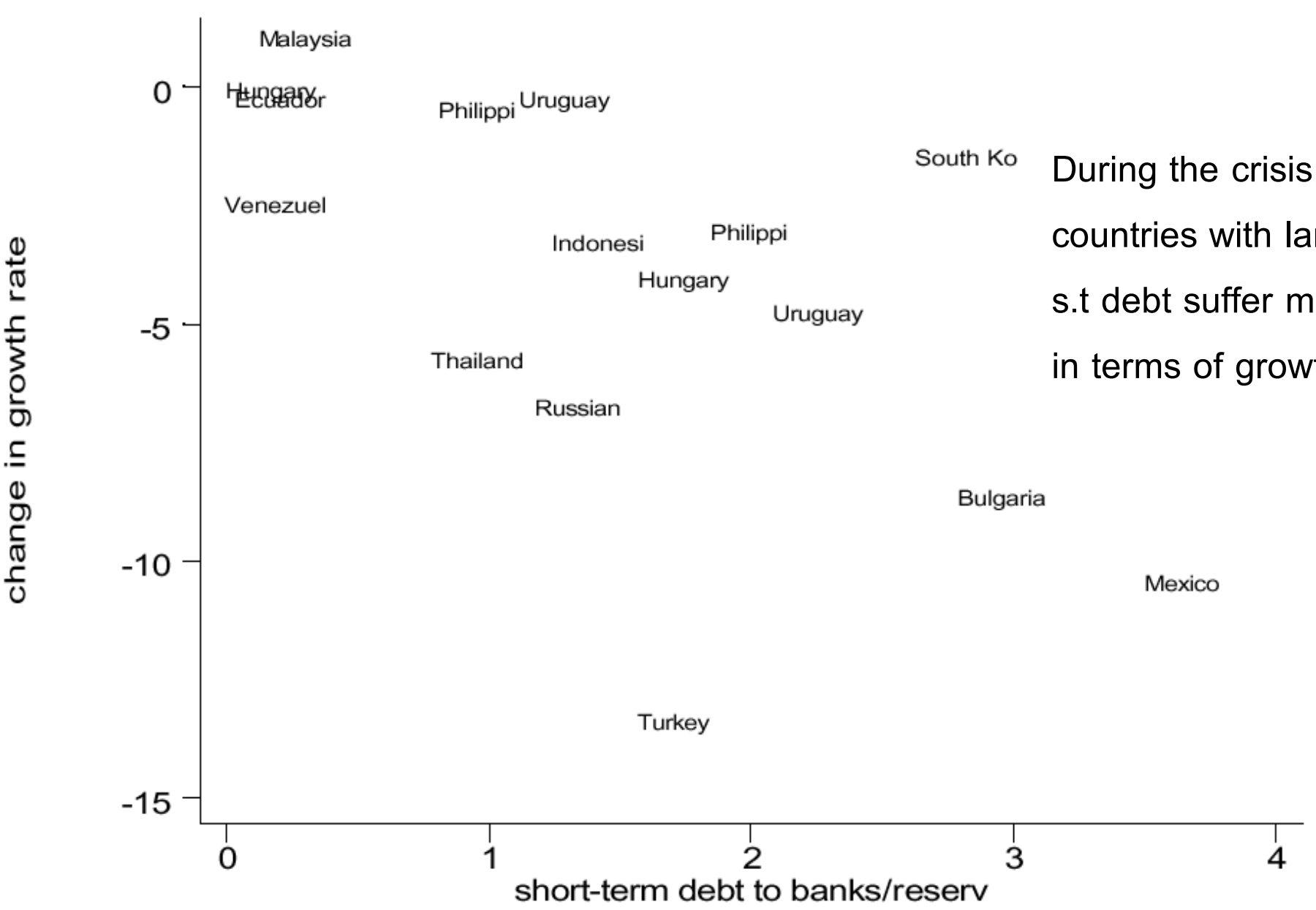



*Source:* Gupta, Mishra, and Sahay 2000.

**Summary indicators on episodes of sharp reversal in private capital flows**

| | | reversal in private capital | ST debt owed to banks | | other ST debt | |
|---|---|---|---|---|---|---|
| country | year | flows (% of GDP) | ratio to reserves | share of total debt | ratio to reserves | share of total debt |
| Russia | 1998 | n.a. | 1.35 | 0.11 | 1.73 | 0.14 |
| Indonesia | 1997 | 5.02 | 1.41 | 0.26 | 0.29 | 0.05 |
| Philippines | 1997 | 7.08 | 0.95 | 0.19 | 0.30 | 0.06 |
| South Korea | 1997 | 10.99 | 2.82 | 0.62 | 0.02 | 0.01 |
| Thailand | 1997 | 10.53 | 0.95 | 0.36 | 0.07 | 0.03 |
| Ecuador | 1996 | 18.80 | 0.20 | 0.02 | 0.00 | 0.00 |
| Hungary | 1996 | 7.19 | 0.17 | 0.06 | 0.09 | 0.03 |
| Mexico | 1995 | 5.71 | 3.64 | 0.14 | 5.91 | 0.23 |
| Malaysia | 1994 | 19.90 | 0.30 | 0.22 | 0.21 | 0.15 |
| Turkey | 1994 | 11.05 | 1.70 | 0.16 | 1.26 | 0.12 |
| Venezuela | 1994 | 5.53 | 0.18 | 0.04 | 0.10 | 0.02 |
| Uruguay | 1993 | 5.43 | 2.25 | 0.15 | 5.78 | 0.38 |
| Bulgaria | 1990 | 5.99 | 2.95 | 0.25 | 0.84 | 0.07 |
| Hungary | 1990 | 9.41 | 1.74 | 0.11 | 0.91 | 0.06 |
| Philippines | 1990 | 7.35 | 1.99 | 0.09 | 2.92 | 0.14 |
| Uruguay | 1990 | 5.36 | 1.29 | 0.09 | 5.04 | 0.36 |
| average | | 9.02 | 1.49 | 0.18 | 1.59 | 0.12 |
| average for other cases | | -- | 0.76 | 0.11 | 0.71 | 0.08 |

Source: IIF (1998) and authors' calculations. Debt ratios are lagged one year.




During the crisis, countries with large s.t debt suffer more in terms of growth

Note: Short-term debt exposure is lagged one year.
Each observation corresponds to a year of sharp reversal in capital flows, as defined in text:

# Estimating Capital Outflows

- The best measure of capital flight (as opposed to legitimate outflow) is the "net errors and omissions" item in the balance of payments, which shows how much of the outflow cannot be accounted for by the required equality of asset and liabilities in the balance. This line exists, and is sometimes positive, in every country due to statistical shortcomings.
- In most countries errors and omissions tend towards zero over several years as pluses compensate minuses. For example, Russia stands out (by comparison with emerging as well as developed markets) by showing consistent and significant minuses, which can only reflect capital flight, i.e. movement of cash out of the country in contravention of the law, via schemes using "one-day companies" in Russia and specially created companies offshore.

# Measuring Capital Outflows

- Phenomenon of capital flight is related to the existence of high uncertainty and risk related to returns on domestically held assets. Residents take their money and run in order to avoid losses on that asset holding.
- In practice, it is difficult to distinguish between normal and abnormal or illegal capital outflows (Gordon and Levine 1989). If DCA and debt are large, any capital outflow increases problems of financing their net imports and debt payments.
- In general, the following measures of capital flight can be distinguished in the literature (Claessens and Naudé 1993: 2-9):
  1. The residual (or broad) method;
  2. The Dooley method;
  3. The hot money method;
  4. The trade misinvoicing method; and
  5. The asset method.

## The Residual Method

- $KFr = \Delta ED + FI - CAD - \Delta FR$

  where $\Delta$ denotes change, *ED* is stock of gross external debt reported in the World Bank data, *FI* is the net foreign investment inflows, *CAD* is the current account deficit and *FR* is the stock of official foreign reserves. By taking into account an additional item, i.e. the change in the short-term foreign assets of the domestic banking system ($\Delta B$):

  $KFm = \Delta ED + FI - CAD - \Delta FR - \Delta B$

## The Dooley Method

- $TKO = FB + FI - CAD - \Delta FR - EO - \Delta WBIMF$

  where *FB* is foreign borrowing as reported in the balance of payments statistics, *EO* is net errors and omissions (debit entry), and *WBIMF* is the difference between the change in the stock of external debt reported by the World Bank and foreign borrowing reported in the balance of payments statistics published by the IMF. The stock of external assets corresponding to reported interest earnings is:

  $ES = INTEAR / r_{us}$ where *ES* is external assets, $r_{us}$ is the US deposit rate (assumed to be a representative international market interest rate), and *INTEAR* is reported interest earnings. Capital flight according to the Dooley method is then measured as:

  $KFd = TKO - \Delta ES$

## The hot money method

- By concentrating on short-term flows, medium and long-term outflows are excluded, which are viewed as being normal in character (Gibson and Tsakalotos 1993: 146).

  $KFh = SKO + EO$

  where *SKO* is the total amount of short-term capital outflows. According to this method capital flight is measured by adding up net errors and omissions and non-bank private short-term capital outflows. Like the Dooley method, this method corresponds to the idea that capital flight goes unrecorded, due to the illegal nature of these capital movements. The unrecorded capital movements are believed to appear in net errors and omissions.

## The trade misinvoicing method

- Some authors use the amount of trade misinvoicing as a measure of capital flight (Claessens and Naudé 1993). Trade misinvoicing is determined by comparing trade data from both the importing and exporting country. Importers are assumed to be involved in capital flight when they report higher values of imported goods as compared to the reported value of the same goods by exporters. In turn, exporters are involved in capital flight when they report lower values of exported goods as compared to the reported value of the same goods by importers. Proponents of this measure stress the fact that abnormal capital outflows of residents may be included in export underinvoicing and/or import overinvoicing, since both these malpractices provide channels to siphon domestically accumulated wealth outside the country.

## The asset method

- Some authors take the total stock of assets of non-bank residents held at foreign banks as a measure of capital flight. This is the so-called asset method (Hermes and Lensink 1992; Collier *et al.* 2001). The asset method is a short-cut measure of capital flight. This measure may be seen as an indication of the minimum amount of assets held abroad, since residents may hold their assets in other forms next to bank accounts, for example, in foreign equity holdings. The IMF provided data on these bank assets until 1994. For recent years, however, no information is available to apply this measure.

# Determinants of Capital Flows

# Table 1. Definition of Variables

| | Definition | Expected Sign |
|---|---|---|
| *External Variables* | | |
| *REXT* | Real ex-post international interest rate: US dollar 3-months Libor minus the US-CPI 3-months inflation | – |
| *NPKF* | Net private capital flows available to all developing countries, minus the flows received by country j, as a share of GDP of the major industrial countries | + |
| *PIB_IND* | Economic activity (GDP) in industrial countries | – |
| *Domestic Variables* | | |
| *GPIB* | Real GDP growth | + |
| *PSB* | Public sector (central government) balance as a share of GDP | + |
| *INV* | Gross domestic investment as a share of GDP | + |
| *TRADE* | Total exports as a share of GDP | + |
| *DEBTSS* | Foreign debt service as a share of GDP | – |
| *CRPR* | Growth in banking sector nominal credit to the private sector | – |
| *APPR* | Real exchange rate appreciation (in percent) during the past year: $[RER_t - RER_{t-1}]/RER_{t-1}$ | – |

Table 2. Determinants of Capital Inflows
Sample 1: 1977–84

| | m&lt debt | fdi | portfolio | tot. flows |
|---|---|---|---|---|
| lgpib | n/a | 0.021 | | -- |
| lpsb | -0.139 | -0.024 | | -- |
| linv | 0.129 | n/a | | 0.176 |
| ldebtss | -0.369 | -0.026 | | -0.355 |
| lcrpr | -- | -- | | n/a |
| lappr | -0.027 | -0.004 | | -0.017 |
| rext | n/a | n/a | | n/a |
| npkf | 1.336 | 0.644 | | 1.234* |
| N | 111 | 111 | | 111 |
| R-sq | 0.358 | 0.230 | | 0.349 |
| F test | 6.890 | 4.670 | | 6.730 |
| Prob>F | 0.000 | 0.000 | | 0.000 |

Table 4. Determinants of Capital Inflows
Sample 3: 1987–96

| | m&lt debt | fdi | Portfolio | tot. flows |
|---|---|---|---|---|
| lgpib | n/a | 0.039 | n/a | n/a |
| lpsb | 0.116 | -0.044 | n/a | n/a |
| linv | 0.207 | -- | 0.074 | 0.184 |
| ldebtss | -0.221 | n/a | -- | -0.122 |
| lcrpr | -- | -0.004 | -0.002 | -0.004 |
| lappr | -- | -- | -- | -- |
| rext | -- | -- | -- | -0.337 |
| npkf | 2.094 | 1.471 | 1.334 | -- |
| dummy | n/a | 1.286 | n/a | 2.983 |
| N | 236 | 236 | 236 | 236 |
| R-sq | 0.202 | 0.371 | 0.167 | 0.442 |
| F test | 6.750 | 13.260 | 6.470 | 20.750 |
| Prob>F | 0.000 | 0.000 | 0.000 | 0.000 |

## Table 7: Composition of Capital Flows

| Dependent variable: log(Loan) – log(FDI), averaged over 1994-96 | | | | | | |
|---|---|---|---|---|---|---|
| Methodology | Fixed Effects GCR/ WDR | Random Effects GCR/ WDR | Fixed Effects T I | Random Effects T I | IV Fixed effects GCR/ WDR | IV Fixed effects GCR/ WDR |
| Corruption | 0.662** | 0.680** | 0.707** | 0.720** | 0.296# | 0.285# |
| | (0.128) | (0.225) | (0.176) | (0.290) | (0.181) | (0.182) |
| Tax rate | 0.021 | 0.021 | 0.021 | 0.020 | | |
| | (0.017) | (0.031) | (0.018) | (0.029) | | |
| FDI incentives | 0.194 | 0.244 | -0.056 | -0.019 | 0.111 | 0.095 |
| | (0.152) | (0.260) | (0.160) | (0.254) | (0.156) | (0.157) |
| FDI restrictions | 0.440** | 0.446** | 0.458** | 0.446** | 0.336** | 0.333** |
| | (0.086) | (0.157) | (0.088) | (0.145) | (0.093) | (0.093) |
| Log (GDP) | -0.569** | -0.651** | -0.597** | -0.655** | -0.274** | -0.254** |
| | (0.107) | (0.186) | (0.110) | (0.174) | (0.115) | (0.118) |
| Log (Per capita GDP) | 0.172* | 0.205 | 0.272** | 0.302 | 0.034 | 0.033 |
| | (0.098) | (0.181) | (0.125) | (0.210) | (0.103) | (0.103) |
| Log distance | 0.350** | 0.543** | 0.357** | 0.525** | 0.123 | 0.111 |
| | (0.094) | (0.114) | (0.096) | (0.114) | (0.132) | (0.132) |
| Linguistic tie | -0.699** | -0.680** | -0.722** | -0.700** | -0.753** | -0.803** |
| | (0.305) | (0.287) | (0.313) | (0.292) | (0.289) | (0.296) |
| Exchange rate volatility | -0.661 | -0.007 | -1.351 | -0.755 | | -1.793 |
| | (2.060) | (3.505) | (2.216) | (3.488) | | (2.226) |
| Over-identifying restriction (P-value of the test) | | | | | 0.43 | 0.40 |
| Adjusted $R^2$/Over-all $R^2$ | 0.49 | 0.52 | 0.46 | 0.50 | - | - |
| No. of obs. | 225 | 225 | 225 | 225 | 180 | 180 |

Note: see notes to Table 5.

**Figure 3: Composition of Capital Inflows and Corruption**
(Partial correlation based on Table 7, Column 1)

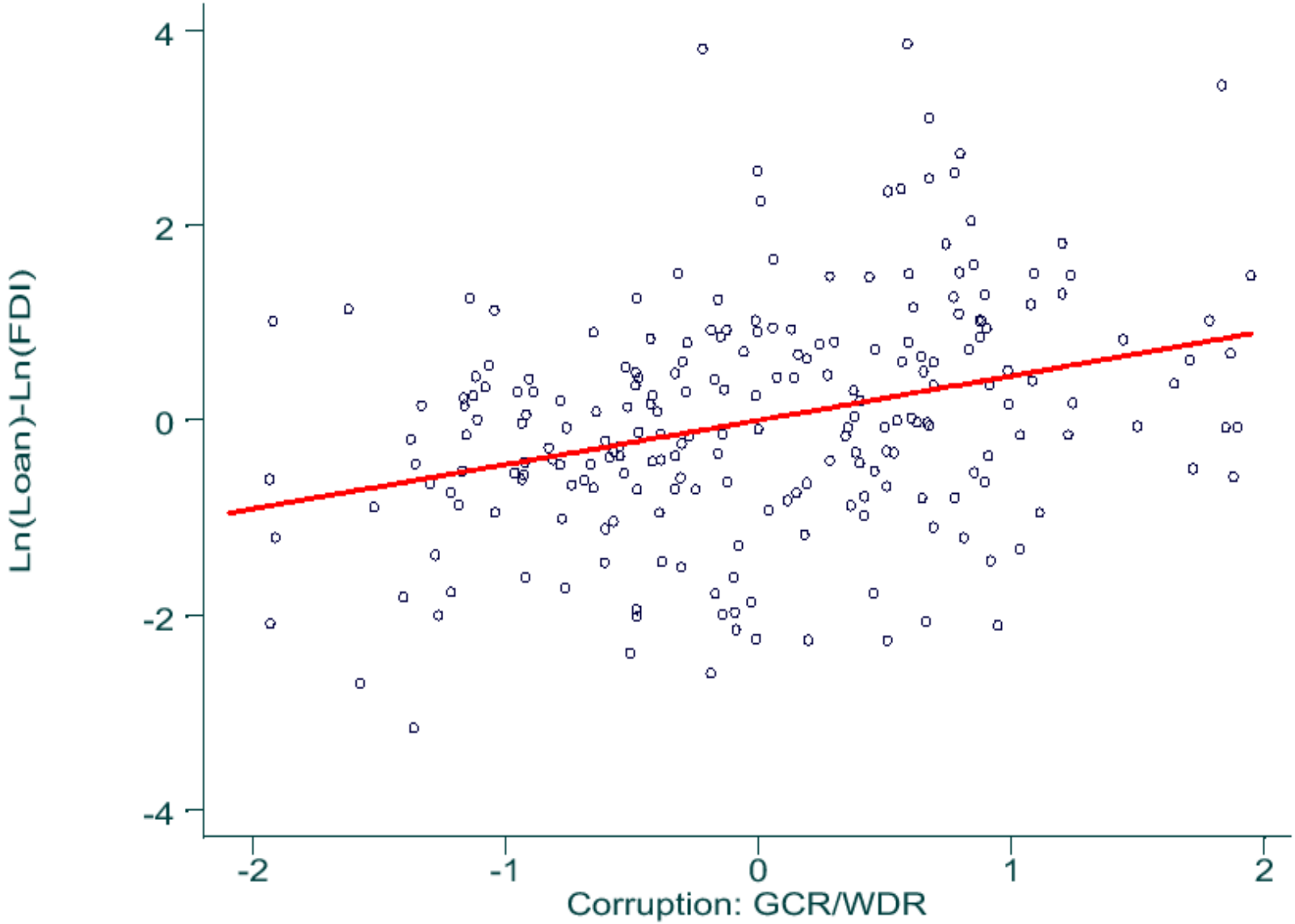
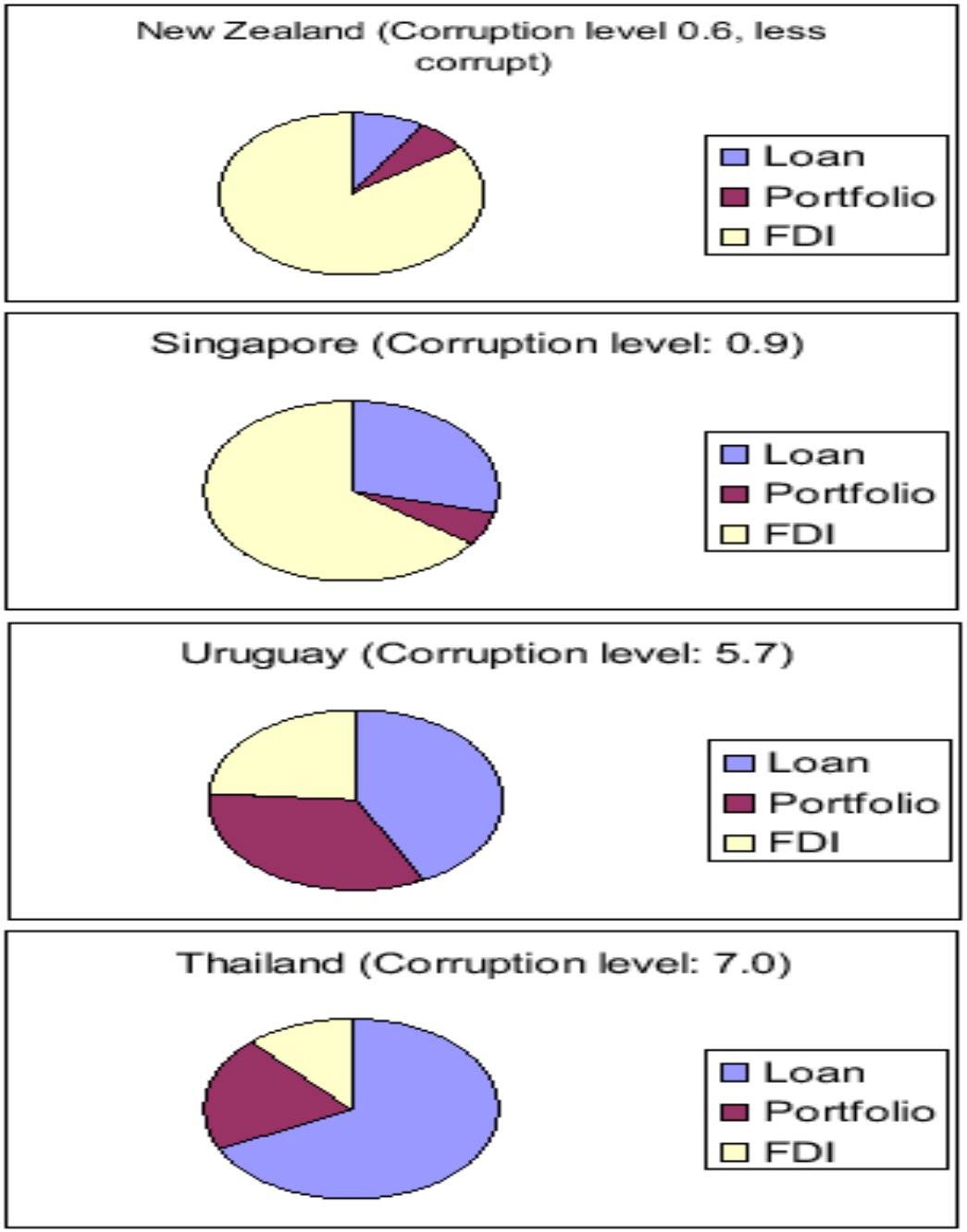


**Figure 2:Quality of Public Governance and the Composition of Capital Inflows**



## Table 1a: Volatility of FDI/GDP, Bank Loan/GDP, and Portfolio Flow/GDP as Measured by Standard Deviation:1980-1996

| | FDI/GDP | Loan/GDP | Portfolio/GDP |
|---|---|---|---|
| **Whole sample: 103 countries** | | | |
| Mean | 0.012 | 0.041 | 0.014 |
| Median | 0.008 | 0.033 | 0.009 |
| **Emerging markets: 85 countries** | | | |
| Mean | 0.012 | 0.046 | 0.012 |
| Median | 0.008 | 0.035 | 0.004 |
| **OECD: 18 countries** | | | |
| Mean | 0.008 | 0.020 | 0.021 |
| Median | 0.007 | 0.014 | 0.020 |
| **Selected countries** | | | |
| Indonesia | 0.007 | 0.017 | 0.009 |
| Korea | 0.002 | 0.037 | 0.014 |
| Malaysia | 0.023 | 0.034 | 0.023 |
| Mexico | 0.007 | 0.033 | 0.026 |
| Philippines | 0.009 | 0.026 | 0.017 |
| Thailand | 0.007 | 0.028 | 0.012 |

Notes:

1. Sources: Total inward FDI flows, total bank loans, and total inward portfolio investmen from the IMF's Balance of Payment Statistics, various issues, GDP data are from the World Bank's GDF & WDI Central Databases.

2. Only countries that have at least eight non-missing observations during 1980-1996 for all variables and whose populations are greater than or equal to one million in 1995 are kept in sample.

3. OECD countries (with membership up to 1980) include: Australia, Austria, Canada, Den Finland, France, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States. Emerging Markets refer to all countr not on the above list and with a GDP per capita in 1995 less than or equal to US$15,000 (in U.S. $).

**Table 8: Transformed Ratio of Loans to FDI**

| Dependent variable: log(Loan+0.1) – log(FDI+0.1), averaged over 1994-96 | | | | | | |
|---|---|---|---|---|---|---|
| Methodology | Fixed Effects GCR/ WDR | Random Effects GCR/ WDR | Fixed Effects T I | Random Effects T I | IV Fixed effects GCR/ WDR | IV Fixed effects GCR/ WDR |
| Corruption | 0.675** | 0.674** | 0.701** | 0.681** | 0.382* | 0.374* |
| | (0.151) | (0.226) | (0.210) | (0.320) | (0.199) | (0.196) |
| Tax rate | 0.011 | 0.013 | 0.012 | 0.012 | | |
| | (0.020) | (0.031) | (0.021) | (0.032) | | |
| FDI incentives | 0.040 | 0.072 | -0.196 | -0.166 | -0.014 | -0.023 |
| | (0.178) | (0.262) | (0.187) | (0.280) | (0.171) | (0.169) |
| FDI restrictions | 0.546** | 0.550** | 0.558** | 0.547** | 0.427** | 0.425** |
| | (0.101) | (0.156) | (0.103) | (0.159) | (0.103) | (0.102) |
| Log (GDP) | -0.591** | -0.645** | -0.615** | -0.657** | -0.323** | -0.309** |
| | (0.128) | (0.189) | (0.131) | (0.194) | (0.128) | (0.129) |
| Log (Per capita GDP) | 0.227* | 0.239 | 0.314** | 0.318 | 0.114 | 0.113 |
| | (0.117) | (0.182) | (0.149) | (0.232) | (0.114) | (0.112) |
| Log distance | 0.391** | 0.477** | 0.396** | 0.479** | 0.159 | 0.151 |
| | (0.112) | (0.133) | (0.115) | (0.135) | (0.147) | (0.146) |
| Linguistic tie | -0.490 | -0.504 | -0.513 | -0.522# | -0.752** | -0.787** |
| | (0.365) | (0.356) | (0.373) | (0.360) | (0.325) | (0.326) |
| Exchange rate volatility | 0.563 | 1.091 | -0.279 | 0.442 | | -1.257 |
| | (2.368) | (3.490) | (2.553) | (3.798) | | (2.451) |
| Over-identifying restriction (P-value of the test) | | | | | 0.28 | 0.28 |
| Adjusted $R^2$/Over-all $R^2$ | 0.48 | 0.51 | 0.45 | 0.50 | - | - |
| No. of obs. | 231 | 231 | 231 | 231 | 183 | 183 |

Note: see notes to Table 5.

**Figure 1: Relative Volatility of Different Capital Flows**