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Too Much, Too Little, or Too Volatile?
International Capital Flows to Developing Countries in the 1990s

by
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Abstract

Developing countries are constrained in financing current account deficits as real capital mobility is still far from perfect. At the same time, capital flows to these countries proved to be extremely volatile. The paper argues that the long-term problem of "too little" should not be confused with the short-term problem of "too volatile". The former is related to sovereign risk, which may be difficult to overcome. The latter could be kept within limits by financial restructuring towards relatively stable types of capital flows.

Keywords: international capital markets, developing countries, debt, equity investment, sovereign risk, volatility

JEL classification: F21, F32, G15

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CONTENTS

I. INTRODUCTION

Since recent financial crises, the burden of proof of the gains from free capital flows has shifted to the proponents of open capital markets. The supporters of capital account liberalization are "criticized for having offered more 'banner waving' than hard quantitative evidence on the benefits of financial globalisation" (Reisen 1999: 7). Critics relate the increased frequency of crises to capital account liberalization in various developing countries (Stiglitz 2000). The evidence indeed reveals that financial opening preceded most crises (Williamson and Mahar 1998; Kaminsky and Reinhart 2001). International markets are considered to be inherently unstable due to information asymmetries (Griffith-Jones 2000). In IMF publications, too, one reads since recently that financial markets are "affected to some degree by adverse selection, moral hazard, principal-agent problems, and herding behavior" (Eichengreen, Mussa et al. 1998: 2).

It is mainly developing countries that suffer from deficiencies prevailing in international financial markets. Developing countries are facing two distinct problems. First, developing countries are constrained in financing current account deficits over longer periods of time. The long-term problem of insufficient capital inflows is because real capital mobility has remained

surprisingly low, even though the notion of globalized financial markets suggests otherwise. Second, unpredictable shifts from euphoria to panic of international investors have as a consequence that capital flows fluctuate heavily around the rather low trend line. The mood of expectations in the financial sphere seems to affect various developing countries at the same time, irrespective of country-specific economic fundamentals.[1]

As argued in the following, the long-term problem of "too little" and the short-term problem of volatility have to be treated separately. We proceed as follows. Section II portrays the boom-and-bust cycle of capital flows to developing countries in the 1990s. Section III shows that seemingly contradictory propositions on what is wrong with international financial markets may well go together once the different time horizon underlying these propositions is taken into account. Section IV calculates the volatility of different types of capital flows and assesses the possibilities of developing countries to dampen boom-and-bust cycles by financial restructuring towards more stable items. Section V discusses the concern that many developing countries are permanently delinked from international capital markets. We reject the view that only a few large and

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1 Fernández-Arias and Hausmann (2000a: 28) point to a "remarkable correlation" of bond prices in Latin America and other emerging markets as evidence of financial contagion. Likewise, Mauro et al. (2000) show the co-movement of spreads on sovereign debt across emerging markets to be higher in the 1990s than in a historical sample covering the late 19th and early 20th century.

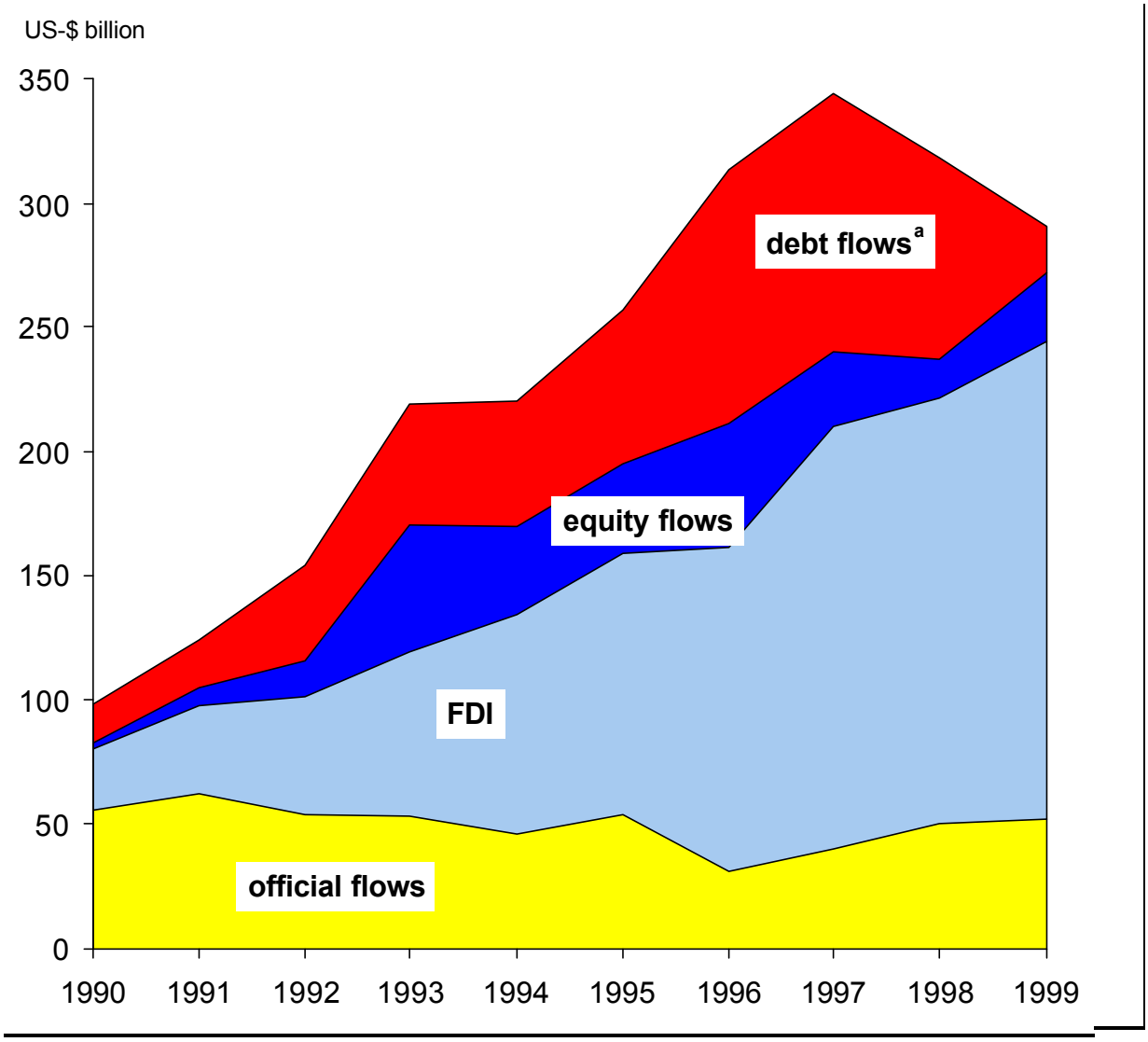
fairly advanced emerging markets have reasonable chances to benefit from foreign direct investment (FDI) inflows. Section VI concludes and provides a sketch of policy challenges related to the problems of "too little" and "too volatile".

II. TRENDS IN THE 1990s: WHAT'S WRONG?

At first glance, there is strong evidence of the first phase of the boom-and-bust cycle, but only weak evidence of the second phase. Net long-term resource flows to developing countries peaked in 1997 (Figure 1). The subsequent decline by about 15 percent was modest, and inflows in 1999 were still three times as large as inflows in 1990.

This may suggest that the reversal of capital flows was confined to a limited number of emerging markets – notably the five Asian crisis countries, where the sudden swing in net (private) capital flows in 1997 amounted to 11 percent of their combined GDP (Reisen 1999: 9 f.). However, the overall trend portrayed in Figure 1 is misleading also with regard to all developing countries:

Figure 1 — Net Long-term Resource Flows to Developing Countries, 1990–1999 (US$ billion)



[a]Bank lending, bond financing and other debt-related flows.

Source: World Bank (2000: Table 2.1).

- Net *short-term* flows[2] (not included in Figure 1) were sharply reversed from inflows of US$ 43 billion in 1996 to outflows of US$ 48 billion in 1998 (World Bank 2000: 43).[3]

- A growing share of capital inflows was offset by outflows of capital from developing countries.[4] Capital outflows (including errors and omissions) averaged US$ 237 billion in 1997–1999, according to estimates by the World Bank (2000: 43), compared to US$ 68 billion in 1991/92. As a consequence, the amount of external finance actually channeled to investment and consumption in developing countries shrank dramatically (Figure 2). It is in this respect that developing countries witnessed a full cycle, in which the bust phase turned out to be even more pronounced than the previous boom phase.

For assessing financial market deficiencies, it is also important to consider the significant changes in the composition of long-term capital flows to developing countries in the 1990s. Surprisingly perhaps, the major structural shift relates to

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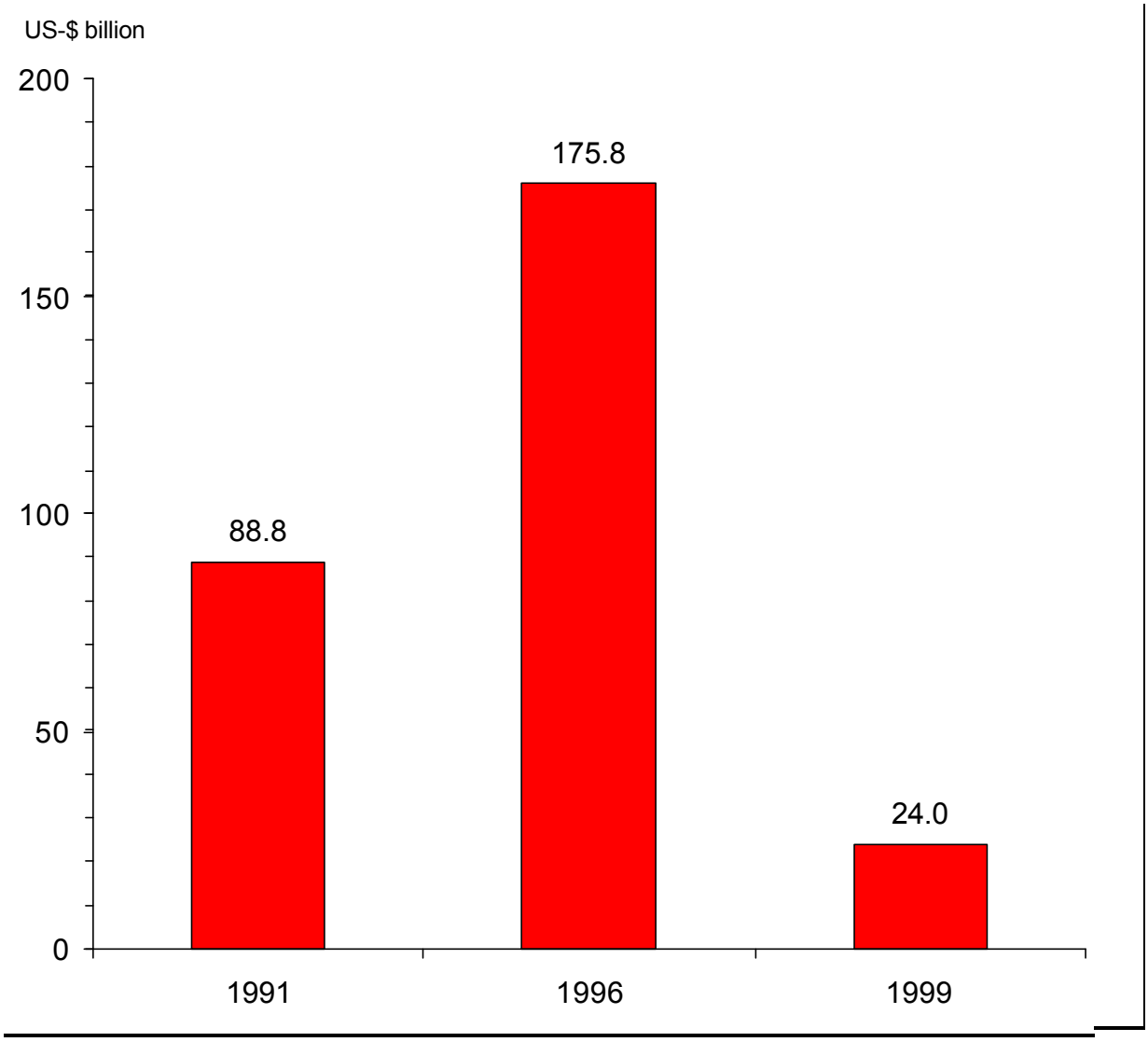
2 Short-term flows are defined as net liability transactions of original maturity of up to one year. In 1996, short-term flows accounted for 12 percent of total net liabilities.

3 Short-term flows remained negative (US$ –11 billion) in 1999, according to World Bank estimates.

4 Note that capital outflows are not directly reported, but rather calculated as a residual in the balance of payments.

Figure 2 — Net External Finance[a] to Developing Countries, 1991–1999 (US$ billion)



[a]Current account deficit plus change in reserves.

Source: World Bank (2000: Table 2.3).

the two types of capital flows which figure low on the agenda of financial market reforms. Official flows, which had contributed more than half to total long-term resource flows to developing countries in 1990/91, dwindled in relative importance (Figure 3). By contrast, the share of FDI in total long-term resource flows more than doubled to 60 percent in 1998/99. In Latin America, FDI accounted for more than four fifths of total long-term resource flows in 1999 (World Bank 2000: 244).

Taken together, all other types of capital flows contributed less than a quarter to total long-term resource flows in the early 1990s as well as in the late 1990s. Nonetheless, the debate focuses on the role of banks and portfolio investors in external financing of developing countries. It is them who are blamed for herd behavior and panicking. As a matter of fact, debt-related flows from private sources (bank lending, bonds and other financing) accounted for one third of total long-term resource flows in 1996; three years later, their share was down to 7 percent.[5]

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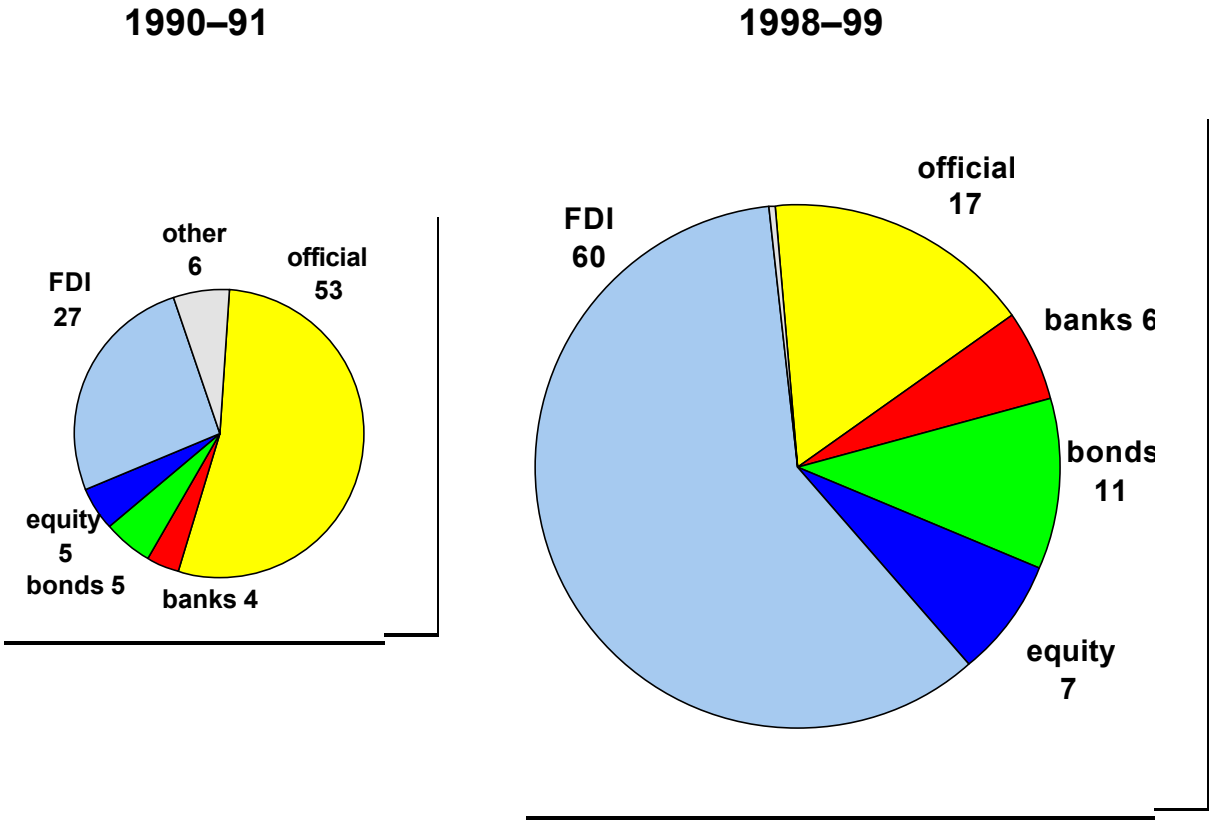
5 The shift was most pronounced for (long-term) bank lending, which turned negative in 1999 (World Bank 2000: 36).

Figure 3 — Structure of Net Long-term Resource Flows to Developing Countries, 1990/91 and 1998/99[a] (percentage of total flows)



[a]Annual average.

Source: World Bank (2000).

It is widely agreed that something must be wrong if international financial markets send shock waves to developing countries which were rated fundamentally sound shortly before and have limited capacity to absorb such shocks. However, there is no agreement on what exactly went wrong in the 1990s. Was the previous boom excessive ("too much"), or does the subsequent

bust prove the case for insufficient capital flows to developing countries ("too little")? Have international capital flows become more volatile in the 1990s than before, and to which countries and flow items does this apply? Does the concentration of private capital flows, notably FDI, in a few emerging markets imply that financial globalization does not matter for the majority of developing countries? These questions are addressed in the following sections.

III. TOO LITTLE OR TOO MUCH?

Booming capital flows to developing countries prior to the Asian crisis notwithstanding, some economists maintain that flows "are surprisingly low relative to what one would expect given the dominant trade theories and the way open economies are usually modelled" (Fernández-Arias and Hausmann 2000a: 23). There are theoretical and empirical arguments supporting the view of "too little".

Theoretically, cross-border finance is likely to be constrained by the willingness-to-pay problem. Financial contracts involving different jurisdictions are difficult to enforce. Such contracts are subject to sovereign risk, i.e., the foreign capital recipient (no matter whether public or private) cannot credibly commit himself to repayment, e.g. as his government may decide to suspend convertibility. Consequently, international capital flows should be higher if sovereign risk was

absent. Commitment and enforcement problems are particularly serious in developing countries lacking adequate bankruptcy laws and independent courts. It is thus mainly these countries that are supposed to receive less capital inflows than in the (hypothetical) situation without sovereign risk.

Empirically, so-called Feldstein-Horioka coefficients suggest that international capital mobility is still far from perfect (Gundlach and Nunnenkamp 1997: 5 f.). The coefficient is estimated by regressing the sample countries' investment rate on their savings rate. The coefficient may range from 1 (no international capital mobility) to 0 (perfect mobility). For a sample of OECD countries, the coefficient declined from more than 0.8 in the 1960s and 1970s to slightly less than 0.6 in the first half of the 1990s. International capital mobility thus appears to be on the rise. However, it is still lower than under the gold standard before World War I (Fernández-Arias and Hausmann 2000a: 33).

It fits into the picture of limited international capital mobility that only 9 out of 30 upper-middle-income countries (according to World Bank definition) financed a current account deficit averaging more than 5 percent of GDP in the 1990s (World Bank, World Development Indicators CD-ROM). In four major Latin American economies, the average current account deficit in the 1990s was indeed

lower than in industrial countries such as Australia and New Zealand.[6] Finally, despite the recent boom of FDI flows to developing countries, FDI accounted for less than 7 percent of gross fixed capital formation in these countries in 1988–1998 (UNCTAD 2000).

Does all this imply that there is no point in arguing that capital flows to developing countries were excessive prior to recent financial crises? Such a conclusion would be a fallacy. The boom in capital inflows proved unsustainable, which logically implies that there must have been "too much" before. Demand and supply factors were underlying the unsustainable boom. On the demand side, financial intermediaries in Asian countries played a crucially important role (Krugman 1998a). Banks and nonbank intermediaries financed speculative investments at home, and refinanced themselves by (short-term) borrowing abroad. The liabilities of financial intermediaries were perceived to carry an implicit government guarantee, while intermediaries remained essentially unregulated. As a consequence, moral hazard loomed large: The excessively

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6 Among the Latin American economies (Argentina, Brazil, Chile and Mexico), the average current account deficit ranged from 1.5 percent of GDP (Brazil) to 3.8 percent (Mexico). The deficit financed by Australia and New Zealand exceeded 4 percent of GDP.

risky lending of intermediaries fueled asset price bubbles and led to overborrowing in foreign currency.[7]

It obviously takes two to tango, i.e., overborrowing would not have been possible without overlending. On the supply side, moral hazard may also be referred to in supporting the case for "too much". The blame is put primarily on IMF emergency lending, which may encourage foreign private creditors to ignore risk and overlend as they expect bailouts to reduce or even eliminate potential loan losses (Meltzer Commission 2000). Especially the bailout arranged for Mexico in 1995 is held responsible for excessive capital flows to Asian countries (Meltzer 1998).

While there is little to quarrel in principle about moral hazard having led to an oversupply of private capital flows to developing countries, empirical evidence

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7 Moral hazard may have been less relevant in Latin America than in Asia. Fernández-Arias and Hausmann (2000a: 35) stress that "Latin America, ..., has made very significant progress in improving banking supervision and regulation, especially after the Tequila crisis in 1995". Nevertheless, demand factors may have caused too much of capital inflows in this region, too. In many Latin American countries, foreign capital inflows were considered a substitute for raising persistently low national saving rates (*The Economist* 1995).

supporting this argument is extremely difficult to come by.[8] However, the case for "too much" remains valid, even if one questions the relevance of moral hazard (as the present author has repeatedly done). George Soros (1997) should be an authoritative source, when he argues that the private sector does not have the information with which to form a balanced judgement; Soros continues that the profit motive makes the private sector move in a herd-like fashion, and that "excess always begins with overexpansion".[9]

Herding causing a temporary oversupply of foreign capital to developing countries can be rational for several reasons when information is incomplete.[10] In deciding on their engagement in Asia, for example, smaller banks followed the lead of larger banks as the former believed the latter to be better informed. Creditors and portfolio investors relied on favorable sovereign ratings by major

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8 The claim of the Meltzer Commission (2000) that the moral hazard problem "cannot be overstated" is rejected by recent studies trying to assess the empirical relevance of moral hazard on the supply side. According to Lane and Phillips (2000: 1), "moral hazard is difficult to detect in market reactions to various IMF policy announcements and there is no evidence that such moral hazard has recently been on the rise". Nunnenkamp (1999: 13) concludes: "The structure of private capital flows to developing countries as well as the time profile and cross-country distribution of bank lending all suggest that private creditors and the IMF have decided independently from each other on their engagement in developing countries."

9 Krugman (1998b) put it more bluntly: "The bubble [in Asia] was inflated still further by credulous foreign investors, who were all too eager to put money into faraway countries about which they knew nothing."

10 For a more detailed discussion, see Eichengreen, Mussa et al. (1998: 12 ff.) and the literature given there.

rating agencies, which were wrongly perceived to have superior knowledge (Reisen and von Maltzan 1999). Moreover, "in the presence of principal-agent problems, ... investors managing money for others may have an incentive to 'hide in the herd' in order not to be easily evaluated" (Eichengreen, Mussa et al. 1998: 13).

It is only at first glance that the propositions of "too little" and "too much" appear to be mutually exclusive. They may well go together once the different time horizon of the seemingly contradictory propositions is taken into account. "Too little" is a long-term phenomenon caused by structural and persistent deficiencies in contract enforcement and commitment mechanisms. In other words, sovereign risk depresses the long-term trend of capital flows to developing countries. The rather low level of sustainable external financing does not preclude "too much" in the shorter run, however. Myopia of capital recipients in developing countries and foreign capital providers may cause significant upward deviations from the bottom line.

The problem is that myopia and herding work in the opposite direction as well. When the asset price bubble burst in Asia, the herd of foreign (and local) investors rushed for the exits. The sudden reversal of capital flows can be attributed to coordination failure among investors. The rush for the exits was rational from an individual investor's point of view. However, it ran counter to

the collective interest of investors, as the affected countries were pushed deeper into crisis in this way. The downside of overshooting was aggravated by modern elements of risk management such as automatic margin calls,[11] the procyclical behavior of rating agencies, and a regulation-induced retreat of institutional investors from downgraded emerging markets (Reisen 1999).[12]

This means that "too much" will typically be followed by a particularly harmful manifestation of "too little", with capital flows sinking below the long-term bottom line. For assessing financial market deficiencies and deriving policy implications, it is essential to separate the long-term problem of "too little" from the problem of volatility, i.e., temporary overshooting in both directions.[13] While structural deficiencies related to sovereign risk may be difficult to overcome, volatility may be reduced more easily if two conditions are met: First, certain types of capital flows are typically more stable than others and, second, essentially all developing countries have the possibility to draw on more stable types of capital flows. These conditions are discussed in the subsequent sections.

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11 Banks that had lent to leveraged institutions (such as hedge funds) called in credits as soon as the price of the collateral dropped below a specified level.

12 In some industrial countries, prudential regulations require institutional investors to hold only investment grade securities. Hence, a downgrading of a country's rating led to an immediate sell-off of the affected assets.

13 Fernández-Arias and Hausmann (2000a: 27) miss this point when they argue that "the theories of too volatile can be regarded as a special chapter of the theories of too little".

IV. TOO VOLATILE?

The subsequent evaluation of volatility serves two purposes. First, the widespread feeling that capital flows to developing countries have become more volatile in the 1990s is subjected to an empirical test. Second, the question is raised whether overall volatility may be reduced by shifting the structure of external financing towards relatively stable types of capital flows. We take the coefficient of variation (standard deviation divided by mean) as a measure of volatility.[14] The calculation of this indicator is based on annual data for 13 major emerging markets in Asia and Latin America; where available, quarterly data are used in addition, in order to check the robustness of results to data frequency.

In contrast to what appears to be common belief, the volatility of total capital flows turned out to be lower in the 1990s than in the 1980s in most of the sample countries (Table 1).[15] This may be relatively easy to explain in the case of Latin America, where major countries experienced exceptionally high volatility in the

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[14] The coefficient of variation is superior to the standard deviation as a measure of volatility. At times of rising capital flows, the standard deviation is likely to increase. However, accounting for a rising mean, volatility may remain unchanged.

[15] Total capital flows represent the sum of FDI in the reporting economy, portfolio investment liabilities, and other investment liabilities. Other investment comprises loans, trade credits, and transactions in currency and deposits. Chile, Peru and Venezuela are not listed in Table 1 because of missing data on portfolio investment liabilities.

1980s due to the debt crisis.[16] It fits into this picture that volatility increased in Colombia, which was less affected by the debt crisis. More surprisingly, volatility declined in most Asian countries, too. Apart from Indonesia and Thailand, the destabilizing effect of the Asian crisis appears to have been offset by factors working in favor of reduced volatility.

Among possible reasons for lower volatility, the structure of external financing may figure prominently, if flow items which gained relative importance were considerably less volatile than other items. As shown in Section II, the composition of net (long-term) resource flows to developing countries shifted strongly towards FDI. Hence, the question essentially is whether FDI proved to be more stable than debt-related flows.[17] The answer to this question is clearly affirmative:

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16 It does not make much of a difference whether the calculations are based on annual or quarterly data. Not surprisingly, the coefficient of variation is typically higher in the case of quarterly observations. However, cross-country differences and changes over time are hardly affected.

17 For earlier studies on this issue, see the overview given by Reisen (2000: 83 ff.).

Table 1 — Volatility of Capital Flows[a] to Developing Countries, 1980–1999 (coefficient of variation)[b]

Countries[c]	1980s		1990s	
Argentina	–6.5	(–10.6)	0.6	(0.9)
Brazil	–5.8	(–4.9)	0.7	(1.4)
Colombia	0.4[d]		0.9	
Mexico	1.7	(2.2)	0.5	(0.9)
China, PR	0.6[e]		0.5[f]	
Indonesia	0.4[g]	(0.5)	1.9	(2.9)
Korea, Rep.	3.2	(3.7)	0.9	(1.2)
Malaysia	1.0		0.6	
Philippines	1.1[h]	(1.5)	0.6	(1.0)
Thailand	0.7	(0.9)	1.6	(1.9)

[a] Sum of FDI in the reporting economy, portfolio investment liabilities, and other investment liabilities. – [b] Standard deviation divided by mean. Based on annual observations (figures in brackets: based on quarterly observations). – [c] Chile, Peru and Venezuela not considered here because of missing data on portfolio investment liabilities. – [d] Missing data for 1988. – [e] 1982–1989. – [f] 1991–1999. – [g] 1981–1989. – [h] Missing data for 1984.

Source: IMF (var. issues).

- With few exceptions, the coefficient of variation (in absolute terms) is lowest for FDI in our 13 sample countries (Annex Table). This applies to both the 1980s and the 1990s.

- The average coefficient of variation for all sample countries is substantially lower for FDI than for other inflow items (Figure 4). On average, the volatility of FDI did not change in the 1990s, compared to the 1980s.

Apart from the relative stability of FDI, considerable differences in volatility are also observed with respect to portfolio investment and other investment.[18] The latter proved to be most unstable, and it was only for other investment that volatility increased in the 1990s (Figure 4). This suggests that bank loans,

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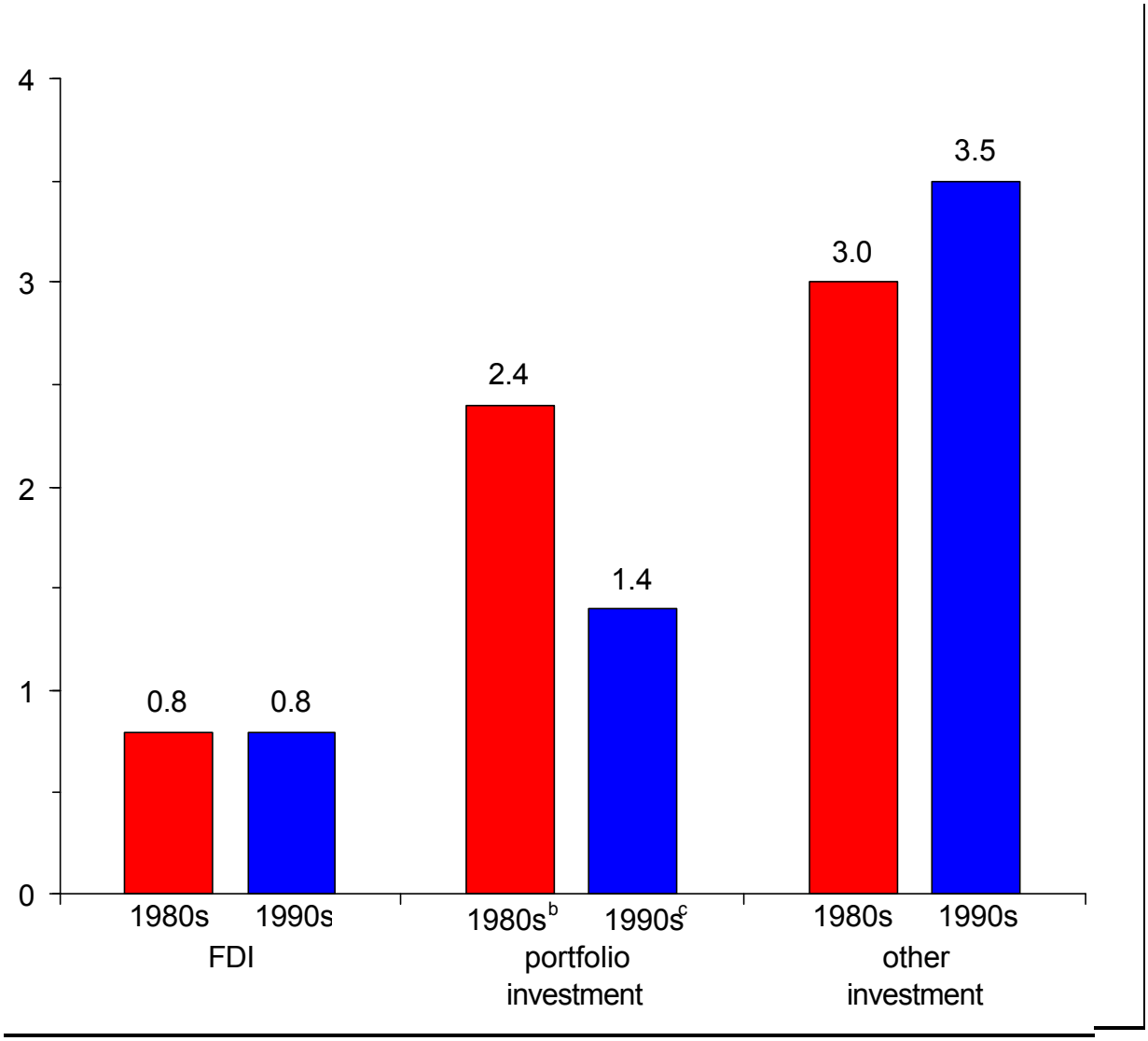
18 Note that differences in volatility between various types of capital flows may also be due to demand factors. For instance, FDI would appear to be more stable than debt flows if developing countries referred primarily to debt for smoothing consumption over time. Hence, it cannot be ruled out that volatile flows are stabilizing macroeconomically. However, the observation that portfolio investment and other investment typically declined during crisis episodes in Asia and Latin America suggests that supply factors dominated demand factors.

Figure 4 — Volatility of Different Types of Capital Flows in the 1980s and 1990s (coefficient of variation)[a]



[a]Standard deviation divided by mean. Average of country-specific coefficients of variation (absolute value) for 13 Asian and Latin American countries (annual data). – [b]Without Chile, Mexico, Peru and Venezuela. – [c]1.3 without countries listed in note b.

Source: Annex Table.

which tend to dominate other investment liabilities, represented the primary source of volatility of capital flows.[19]

The evidence is ambiguous with regard to portfolio investment. In the 1980s, portfolio investment was almost as unstable as other investment. In sharp contrast to the latter, however, volatility of portfolio investment declined in the 1990s. This was probably because portfolio investment is a "mixed bag with respect to its stability" (Reisen 2000: 84): It comprises stable elements, e.g. equity investment by long-term oriented pension funds and life insurance companies, as well as cyclical elements such as bond financing.

Balance-of-payments data reflect this variety to a limited extent only (IMF, var. issues). Nevertheless, debt securities proved to be more volatile than equity securities in most countries reporting separate data for these two types of portfolio investment liabilities.[20] This difference may account for the decline in

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19 In the 1990s, other investment represented the most unstable item in almost all sample countries; exceptions are Chile, Malaysia and the Philippines (Annex Table).

20 In the 1990s, the coefficient of variation was higher for debt securities than for equity securities in Brazil, Chile, Korea, Mexico, Thailand, and Venezuela. The opposite pattern was observed in Argentina and Peru.

volatility of overall portfolio investment reported in Figure 4, as equity flows gained relative importance.[21]

Fernández-Arias and Hausmann (2000b) raise two objections against comparing volatility for different types of capital flows in the way it is done here. First, the differences reported above are considered to be a statistical artifact. Second, if at all, the composition of external liabilities is said to matter for a specific group of countries only. Both objections are not convincing.

According to the first argument, the risk of capital reversals cannot be assessed by looking at each type of flow separately because of "round tripping". For instance, FDI may appear stable simply because multinational companies use other ways than repatriating FDI to leave the country: "If a foreign firm saw a crisis coming and wanted to take money out ..., it would borrow domestically and buy foreign assets or repay foreign loans" (Fernández-Arias and Hausmann 2000b: 4). Though related to FDI, outflows would be generated under an account other than FDI. The empirical relevance of round tripping of this sort is open to question. It is hard to imagine, however, that it is as widespread to account for the pronounced differences in volatility reported above. Moreover, FDI inflows

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21 According to World Bank (2000: Table 2.1), the share of equity flows in net long-term resource flows to developing countries increased from 2.8 percent (1990) to 9.5 percent (1999). At the same time, the share of bond financing and other debt-related flows (apart from bank lending) declined from 12.7 to 10.5 percent.

kept *rising* in various Latin American and Asian countries when they were hit by financial crisis.[22] Finally, the earlier observation that the rising share of FDI in total capital inflows went along with reduced *overall* volatility in various countries in the 1990s is in conflict with the claim that the stability of FDI "provides little information on the overall volatility of the capital account" (Fernández-Arias and Hausmann 2000b: 4).[23]

The second argument refers to the authors' finding that the probability of financial crises was largely independent of the composition of inflows, if the analysis is based on a broad sample of developed and developing countries. Developed countries had a lower frequency of crises than developing countries, even though non-FDI liabilities figured much more prominently in the former than in the latter. Therefore, Fernández-Arias and Hausmann (2000b) reject the view that FDI is generally safer, and thus superior to other types of capital inflows. This conclusion is highly problematic in a developing-country context,

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22 In Mexico, average FDI inflows in 1995/96 were about 20 percent higher than average FDI inflows in 1993/94 (IMF, var. issues). In Asia, FDI inflows multiplied in Korea and Thailand in 1996–1999. According to survey results reported by UNCTAD (1998: 223), only 12 percent of responding multinational enterprises expected their FDI to decline in East and South-East Asia in the short to medium term as a consequence of financial crises.

23 In this context, it may also be noted that the volatility of overall capital flows in the 1990s was higher, on average, in the six Asian countries of our sample than in the seven Latin American countries. At the same time, the average share of FDI in total capital flows was lower in the Asian group than in the Latin American group. Within the Asian group, those countries with a high share of FDI in total capital inflows (China and Malaysia) suffered significantly less overall volatility.

i.e., as long as enforcement and commitment problems weigh systematically larger in developing countries than in developed countries (see Section III). For developing countries, the relevant finding is that non-FDI liabilities do increase the probability of crises, whereas FDI liabilities do not,[24] once developed countries are eliminated from the sample. In contrast to developed countries, developing countries cannot afford large concentrations of debt liabilities without facing a higher risk of crises.

V. FDI: PREFERABLE, BUT MOSTLY NOT AVAILABLE?

The share of FDI in total capital flows tends to be larger in countries that are riskier, financially underdeveloped and institutionally weak. Hence, it may be "hard to argue that the rise in the share of FDI is an indication of good health" (Fernández-Arias and Hausmann 2000c). Nevertheless, policies directed at expanding the share of FDI make sense in developing countries, unless risk-increasing weaknesses typically prevailing in these countries are overcome. Even

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[24] Note that FDI, too, is subject to sovereign risk. The host country government may restrict profit remittances and the repatriation of capital. However, sovereign risk is less severe for FDI than for debt. Direct investors are entitled to a residual depending on the company's performance, rather than holding a prespecified claim in hard currency. The absence of currency and maturity mismatches, looming large in the case of debt denominated in foreign currency, reduces the incentive of governments to impose payment restrictions on FDI. Moreover, various governments have committed themselves to refrain from such restrictions by having concluded bilateral investment treaties (UNCTAD 1999: 117 f.).

harsh critics, such as Stiglitz (2000), of comprehensive capital account liberalization by developing countries argue in favor of opening up towards FDI.

Openness to FDI is frequently recommended not only because FDI is less crisis-prone, but also because it offers more than just capital. The FDI package is perceived to include transfers of technology and management know-how (*The Economist* 2001: 90).[25] Hence, the economic growth effects of FDI in developing countries are expected to be higher than the growth effects of other types of capital inflows.[26]

The problem with FDI is widely perceived to be its high concentration in a few large and relatively advanced emerging markets (e.g. UNCTAD 1995; Collins 1998: 33). This seems to imply that most developing countries do not possess reasonable chances to attract FDI and cannot make use of its favorable properties. This concern is unjustified, however, as it is based on the distribution of FDI in absolute terms.

The 20 countries listed in the upper panel of Figure 5 accounted for more than 80 percent of inward FDI stocks in all developing countries in 1998. The top

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25 Borensztein et al. (1998) as well as UNCTAD (1999: 207) consider FDI to be a major channel for the access to advanced technologies by developing countries.

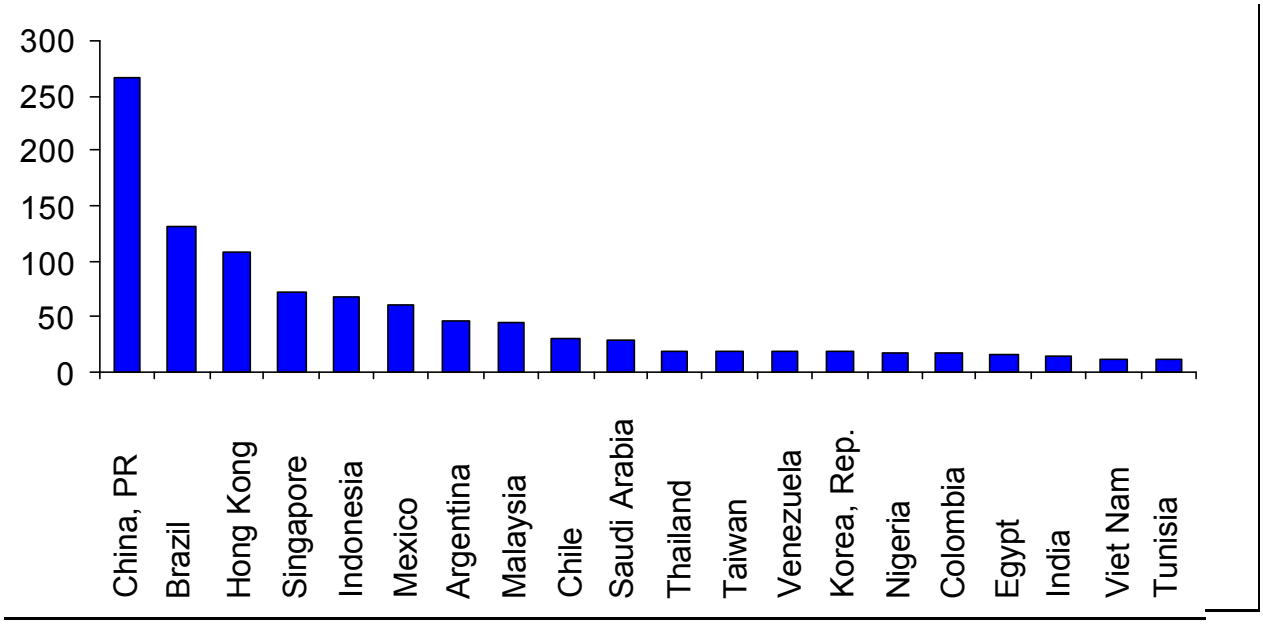
26 It should be noted that the empirical evidence of the economic growth effects of different types of capital inflows is not as clear as this reasoning suggests. For an overview of recent studies and a critical evaluation, see Nunnenkamp (2001: 3 ff.).

performers in absolute terms are either large countries such as China, Brazil, Indonesia, Mexico and Argentina, or economies with fairly high per-capita income such as Hong Kong and Singapore. This ranking provides a distorted picture on developing countries' attractiveness to FDI. Inward FDI stocks have to be considered in relative terms, in order to avoid a large-country bias and assess locational attractiveness appropriately.

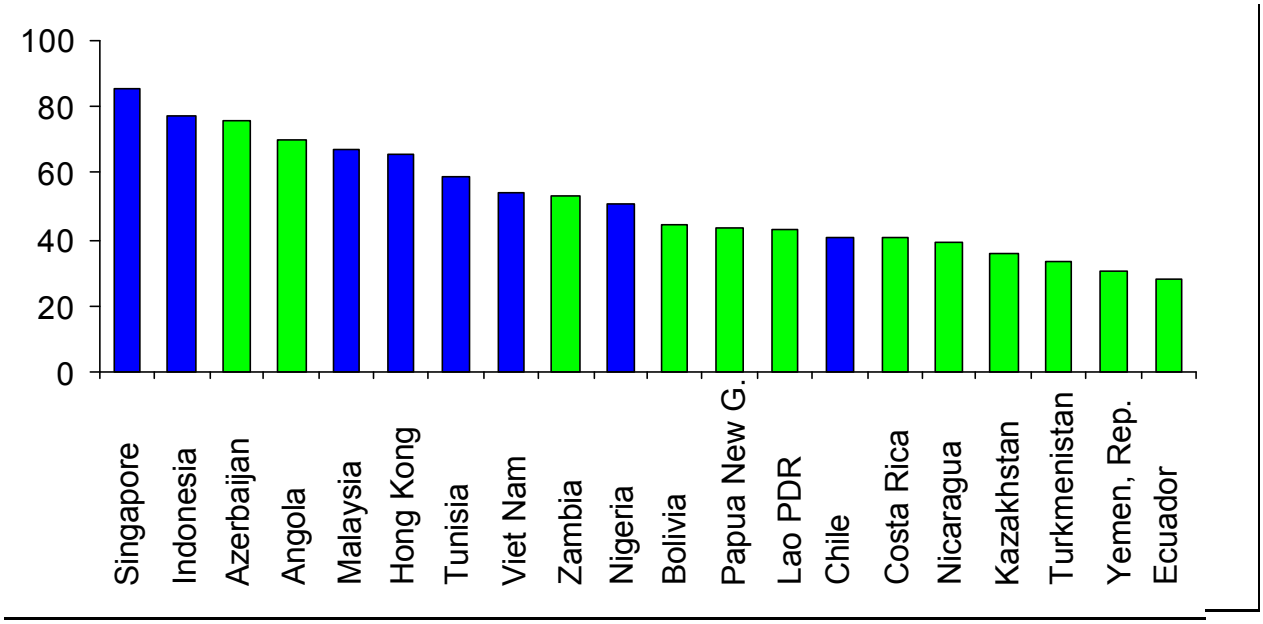
The lower panel of Figure 5 relates inward FDI stocks to the host countries' GDP. We exclude Caribbean tax havens and developing countries with a population of less than three million from this ranking; both groups include economies with extremely high FDI-GDP ratios, which may be due to a few FDI projects in the case of very small countries. Even though the sample is reduced in this way, the ranking changes significantly when inward FDI stocks are considered in relative terms. Just eight of the 20 top performers in absolute terms are also among the 20 top performers in relative terms. Moreover, the distribution of inward FDI in relative terms is considerably less uneven than the distribution of absolute stocks.

Figure 5 — Inward FDI Stocks: Top 20 Developing Countries[a], 1998

a) US$ billion



a) percent of GDP[b]



[a]Excluding Caribbean financial centers. – [b]Excluding developing countries with a population of 3 million and less.

Source: UNCTAD (2000).

In smaller and less advanced countries with high FDI-GDP ratios, FDI appears to be resource-based in various instances. However, resource-based FDI figures prominently in some of the absolutely largest recipients, too (notably in Saudi Arabia and Nigeria). Moreover, if countries such as Azerbaijan, Angola and Zambia were excluded from the lower panel of Figure 5, not only China (FDI-GDP ratio: 27.6 percent) but also countries such as Togo (26.4), Côte d'Ivoire (24.2), and Malawi (22.9) would enter the group of 20 top performers. According to findings of UNCTAD (1999b), services and manufacturing are key sectors for FDI in various African countries. Hence, a fairly heterogeneous set of relatively small and less advanced countries proved attractive to FDI in relative terms. This leads us to reject the pessimistic view, according to which just a few emerging markets can draw on FDI and, thereby, reduce the risk of financial crises.

VI. SUMMARY

For all deficiencies involved, international capital market developments in the 1990s offer some good news for developing countries. In contrast to common belief, there was no general increase in the overall volatility of capital flows to emerging markets. The composition of capital inflows does matter for putting external financing on a sustainable basis. FDI, in particular, proved to be fairly robust during episodes of financial crisis. Furthermore, also small and less

advanced developing countries have the chance to make use of the favorable properties of FDI.

This is not to ignore that it is mainly developing countries that are affected by deficiencies prevailing in international financial markets. Developing countries are still constrained in financing current account deficits over longer periods of time. This long-term problem of "too little" should not be mixed up with the short-term problem of volatility. Erratic fluctuations around the long-term trend of capital flows to developing countries could be kept within limits, if appropriate measures were taken by the affected countries and by multilateral institutions involved in the reform of the international financial architecture:[27]

- On the national level, consistent macroeconomic policies, effective financial regulation as well as gradual liberalization of the capital account provide safeguards against the vagaries of global financial markets.

- On the international level, counteracting the herd behavior of investors is among the major challenges. An obligatory involvement of private investors in the international crisis management, including rules on a temporary standstill to prevent coordination failure, should help reduce volatility.

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[27] For a detailed discussion, see e.g. Griffith-Jones (2000), Williamson (2000) and Nunnenkamp (2001).

The current reform debate mainly addresses the short-term problem of volatility. Recent financial crises seem to have diverted attention from the long-term phenomenon of "too little". Yet, some institutional reforms initiated, e.g. by emerging market economies in Asia are also likely to contribute to higher global capital mobility in the longer run. Newly enacted bankruptcy laws and the creation of independent courts may be instrumental in alleviating enforcement and commitment problems. However, global capital mobility will remain far from perfect unless sovereign risk is credibly reduced.

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Annex Table — Volatility of Different Types of Capital Flows to Developing Countries, 1980–1999 (coefficient of variation)[a]

	1980s			1990s		
	FDI	portfolio investment	other investment	FDI	portfolio investment	other investment
Argentina	0.7	–7.1	–2.8	0.9	1.1	8.4
	(0.9)	(–8.2)	(–4.9)	(1.4)	(1.9)	(15.4)
Brazil	0.4	–1.2	–2.7	1.1	1.0	–2.0
	(0.5)	(–1.6)	(–2.9)	(1.2)	(2.1)	(–3.6)
Chile	0.8	n.a.	–6.0	0.8	0.9	0.8
Colombia	0.5	2.1[b]	0.7	0.9	0.8	1.4
Mexico	0.2	–[c]	2.7	0.4	1.1	4.7
	(0.5)	(–)	(3.4)	(0.5)	(1.6)	(7.5)
Peru	1.7	n.a.	–2.2	0.8	1.4[d]	2.4
Venezuela	0.8	n.a.	–9.2	0.8	2.3	–3.1
China, PR	0.6[e]	0.9[e]	0.8[e]	0.5[f]	1.2[f]	3.5[f]
Indonesia	0.5[g]	2.8[g]	0.4[g]	1.2	3.1	8.1
	(0.8)	(3.8)	(0.6)	(1.4)	(5.8)	(11.2)
Korea, Rep.	1.0	3.2	5.8	1.0	0.7	2.1
	(1.1)	(4.7)	(6.8)	(1.1)	(1.1)	(2.9)
Malaysia	0.4	1.4	3.6	0.3	–1.9	1.5
Philippines	1.4	1.9[h]	1.5	0.5	1.3	0.9
	(1.5)	(2.0)	(1.9)	(0.8)	(1.6)	(1.5)
Thailand	1.0	1.2	0.7	0.6	1.0	6.4
	(1.0)	(1.5)	(1.0)	(0.7)	(1.4)	(7.5)

[a] Standard deviation divided by mean. Based on annual observations (figures in brackets: based on quarterly observations). – [b] Missing data for 1988. – [c] Calculation not meaningful due to extremely low mean. – [d] 1993–1999. – [e] 1982–1989. – [f] 1991–1999. – [g] 1981–1989. – [h] Missing data for 1984.

Source: IMF (var. issues).