Global Finance Hurts the Poor

Analysis of the impact of North-South private capital flows on growth, inequality and poverty

An Oxfam America Report

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Oxfam America gratefully acknowledges
The Ford Foundation for the funding of this report.

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May, 2002

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Executive Summary

- *Empirical evidence does not support the claim that private capital flows have boosted long-term growth in the South. There are reasons to believe that they have actually contributed to the worldwide decline of growth rates witnessed since the mid-1970s. They have also led to substantial redistribution of income and wealth at the expense of the poor. They have therefore probably increased poverty.*

- *North-South private capital flows have the potential of contributing to poverty alleviation, but that potential will be realized only when they are made less volatile, less expensive and more abundant throughout the South, which requires fundamental reforms of the global financial architecture. Decreasing volatility will decrease risk premia and hence cost, and lower cost will boost volume.*

- *Meanwhile, developing countries governments should adopt not just a cautious, but a skeptical attitude toward private capital flows, especially short-term debt and portfolio flows. They should prioritize reforms aiming at increasing domestic saving rates and welcome FDI in industries where multinational companies can create jobs and generate foreign exchange without harming, and possibly while stimulating, profitable domestic industries. The best way to attract beneficial FDI is to create a favorable business environment for domestic enterprise as well.*

Attracting foreign investment is hailed as a major component of successful development strategies by the World Bank, IMF and many national political leaders North and South. It is also one of the major subjects of discord between them and critiques of economic globalization. This report attempts to clarify the debate and identify further research that would inform unresolved arguments.

Research on the impact of global finance on poverty usually focus on its impact on long-term growth. Short-term growth impacts of financial crises are generally discounted on the ground that they do not leave big marks in statistics over the long term, even though they may do lasting damage to poor people's lives. Moreover, the volatility of North-South private capital flows has generated important redistribution of income and wealth from the poor to the wealthy, in a magnitude such that it has probably more than cancelled out any positive impact they may have had on growth, even in the long term. Governments regularly spend huge amounts to bail out banks' depositors and creditors, and the poor suffer from the fiscal austerity that ensues. There is also some evidence that the financial cycle harms labor income substantially to the benefit of capital income. Tax evasion, which is without doubt facilitated by capital mobility, is another major redistribution channel from the poor to the rich.

As far as long-term growth is concerned, there are three reasons to believe that global private finance can be beneficial. First, foreign finance can accelerate capital accumulation in the South, and it is widely acknowledged that high capital to output ratios are necessary to achieve high incomes. Second, foreign investment can be accompanied by transfers of tech-

nology and management skills, which can enhance productivity in the industry where it takes place and possibly in the rest of the economy. Third, opening the domestic economy to global finance can foster financial development and enhance the allocation of resources, which also boosts productivity.

On the other hand, there are two reasons to believe that foreign finance can hurt long-term growth. First, capital flows are very volatile and instability is not good for growth. Moreover, global financial markets can curtail governments' abilities to cope with other sources of instability, such as sharp declines in terms of trade or natural disasters. Second, foreign capital may simply be too expensive in comparison to the benefits it generates. This report presents some new data indicating that this is the case for most developing countries, although these data are subject to large measurement errors.

Existing empirical research does unfortunately not allow to determine which effects prevail and settle the debate. Most studies are cross-country regressions of long-term growth. They seek to determine whether countries that have received a lot of foreign capital, or those that have liberalized international capital movements in more depth, have experienced higher (or lower) average growth rates in the past decades than those that have not. Several authors have found a significant positive correlation. But this result is not robust to different time periods, groups of countries, sets of control variables, or econometric models. For instance, the World Bank has published results showing that capital inflows in the South were correlated with higher growth between 1990 and 1998 but with lower growth between 1970 and 1998.[1] More importantly, few studies have tested models that account for a probable reverse relationship. Global private capital tends to flow into countries that are already successful, which may well account for most of the (non-robust) positive correlation.

Existing empirical results are therefore a fragile basis for the Washington consensus' faith in the virtues of global private finance for development. More disturbingly, these results rely on a methodology, the cross-country regression format, which does not address the main concerns of critiques of financial globalization. Critiques point out that global private finance influences macro-prices, such as dollar interest rates or dollar-yen exchange rates, that have an impact on trade and official financial flows such that they can adversely affect the development of all countries regardless of how much foreign private capital they actually receive. Hence actual capital inflows into a country or regulation of capital inflows by that country are independent variables that only capture the direct effects of global private finance in that country. Indirect effects, such as systemic global financial and economic instability lowering world demand, may be more important.

Moreover, cross-country regressions of growth rates averaged over long periods of time cannot take into account the worldwide decline of growth rates observed since the early 1970s. Economists John Eatwell and Lance Taylor argue that there could actually be a link between this decline and the end of the Bretton Woods Gold-Dollar Exchange Standard in 1971, which combined fixed exchange rates with restrictions on international capital movements.[2] This thesis could even be compatible with robust findings of positive cross-country correlation between capital inflows and long-term growth. Financial liberalization might be the optimal policy for developing countries' governments given that the world's big economies have chosen to liberalize. But stronger global regulation might still be a superior choice for both South and North.

The debate thus extends beyond technical arguments about which econometric specification is the most appropriate to link countries' growth rates and capital inflows. It goes at the heart of economic theory. The key question is: are largely unregulated financial markets efficient? Most economists point to a series of theoretical

considerations implying inefficiency, such as pervasive asymmetries of information and agency problems. They support the idea that global private finance can play a positive role for economic development in the South but only if it is well regulated in order to redress these market failures. Reflecting this mainstream view, Harvard University Professor Jeffrey Frankel asserts that "modern financial markets are not perfectly efficient but are better than no modern financial markets at all". This statement is safe if the choice lies between the current global financial architecture and the one that existed in the Middle Ages. But on which empirical ground can economists confidently claim that the current global financial architecture is more conducive to growth in the South, and even in the North, than the one that prevailed in the 1950s and 1960s?

More daring economists such as John Eatwell and Lance Taylor underscore Keynes' insights that (i) financial markets function as "beauty contests" and (ii) market sentiment can therefore put the real economy onto sub-optimal growth equilibria. Keynes' beauty contest analogy refers to a game of the British tabloid press in the 1930s, in which readers where asked to look at pictures of women and assess which ones would be judged as the most beautiful by the entire readership. In other words, readers would not win by giving their own opinion about the women's beauty, not even by assessing what others' personal opinions would be, but by guessing what people would, on average, believe average opinion to be. In financial markets, a trader will not bid a price according to what he or she believes an asset's fundamental value to be, but according to what he or she assesses average opinion to be about average opinion of the asset's value. The implications of such a system are twofold. First, some events can suddenly change the conventional wisdom and precipitate dramatic movements of asset prices out of tune of the underlying fundamentals. This volatility can harm the world economy. Second, economic theories that enjoy popularity among traders can become self-fulfilling, as market participants collectively bet against policies that do not fit the conventional wisdom of the day.

It is remarkable that the ideology of efficient financial markets continues to shape policy-making at the highest level at a time when mainstream economics research concentrates on investigating the various sources of market inefficiencies in an attempt to explain the observed erratic movements of financial assets' prices. Secretary of the Treasury O'Neill confidently questions:

> *"How do you know the dollar is too high? Compared to what? What is it you know that the market doesn't know?"* (Financial Times, "Hands Off the Dollar", August 19th 2001)

But what is it that the market knows? Traders intimately know that what makes them successful is not so much their ability to study economic fundamentals but the art of anticipating what other traders will next buy or sell — consistent with Keynes' beauty contest analogy. Journalistic accounts of market activity corroborate this view every day. For example, again about the high dollar:

> *"If the European Central Bank (ECB) cut interest rate [last week], [currency traders] decided, the euro would fall, because it would have been pushed by outside pressure and forced to turn a blind eye to inflation. But if the ECB kept interest rates unchanged (as it actually did), traders bet that the euro would still fall, because the bank would be choking European growth. The market, it seems, is so infatuated with the dollar and scornful of the euro that the ECB's policy makes no difference. The euro duly fell last week [. . .]"* (The Economist, "The Greenback's Charm", July 14th 2001)

And The Economist's article went on explaining why the fundamentals indicated that the dollar should really have started depreciating

vis-à-vis the euro — which it eventually will, after prolonged overshooting causing real harm to the entire world economy. The reality is, as argued by Lance Taylor, that exchange rates movements are anchored onto nothing.[3] They are only very loosely bounded by currencies' real purchasing power because international arbitrage in goods is very imperfect. Within those large boundaries, market "sentiment" is king. Financial markets' whim then influences macroeconomic fundamentals as much as the other way round — if not more.

The increasing disconnection between reality and the faith in the virtues of lightly regulated financial markets professed by top decision-makers is becoming distressing. *Global policy-makers need to move beyond the standard acknowledgment that free capital flows have drawbacks but are nevertheless better than the alternative of capital controls. They must start considering deep reforms of the global financial architecture in ways that empower governments to manage global private finance for development. The objectives must be to promote substantial, stable, and affordable North-South private capital flows and to maintain effective real exchange rates stable enough to promote trade yet flexible enough to adjust to medium-term changes in fundamentals.*

The current global financial architecture's record is not good in light of these objectives. Net North-South private capital flows have not increased on trend at all (see Section 1). That is because growth prospects in the South have not improved (see Section 7) and the cost of internationally mobile capital is high (see Section 12), notably because it is too volatile and hence investors demand high risk premia (see Section 11). To improve growth prospects, it is necessary to get priorities straight and re-focus on national development strategies instead of luring foreign investors. Striving to be the darling of global finance does constrain macroeconomic, industrial and agricultural policies and does not offer a protection against the markets' whim. The North can also do its bit by cutting its trade barriers against the South and by dramatically increasing development aid to cover the needs that the private sector will not finance. Reforming the global financial architecture could reduce financial volatility and, in parallel with strengthened national development strategies, generate a virtuous circle of increased economic performance and net capital flows.

To be sure, going back to the 1960s is not an option. The Gold-Dollar Exchange Standard eventually collapsed, which proves that it was not perfect either. But some of its shortcomings quickly come to mind and do not need to be repeated, including the anachronistic role of gold, the asymmetric status of the dollar, and the lack of effective supranational authority to monitor and control speculative capital flows. A new global financial architecture combining strong financial regulation at the global level — possibly outlawing certain kinds of transactions — with some sort of arrangement limiting the fluctuations between the dollar, the euro and the yen remains an option that deserves full consideration. The initiatives taken against money laundering in the wake of the war against terrorism demonstrate that when the political will exists, global control of financial markets is possible. Given the political will, no technical barrier will prevent governments to collect and exchange financial information, coordinate their policies, and discourage or punish practices that are detrimental to development.

Meanwhile, unfettered capital movements and floating exchange rates between the three main currency blocks are here to stay for some time. It is also necessary to find the best ways for the South to adapt to that reality in the near term. It is remarkable that the international organizations entrusted to reform the global financial architecture remain at best lukewarm to the idea of managing global capital flows with the full array of policy instruments, including legal restrictions. Harvard University Professor Dani Rodrik notes that there is no code of best practices on capital account controls under

discussion at the Financial Stability Forum.[4] Yet most developing countries preserve some restrictions on capital movements and most economists now acknowledge that it would be folly to suppress them all in a short time. Rather than forgetting "systemically insignificant countries" altogether while racing "emerging economies" through the adoption of state-of-the-art financial standards, it is time to talk about capital controls serenely and to devote resources into researching which controls make most sense under which circumstances.

Appropriate capital controls will certainly vary from country to country. We have seen that there is no robust relationship between growth and capital inflows. Behind this average result, capital flows have been helpful in some cases and harmful in others, depending on an array of factors including national development strategies, the strength of the domestic private sector, and the type of capital inflows. Foreign Direct Investment (FDI) offers numerous advantages compared to other kinds of capital inflows. It can transfer technology and skills from North to South, and opens domestic production to global marketing networks and global economies of scale. It is also less volatile and leaves the investment risk with the foreign investor. However, some FDI projects exploit natural resources in unsustainable ways for short-term profit. Others disrupt communities and have more detrimental social impacts than domestic enterprise. FDI can also generate profits for foreign investors at the same time as hurting national development if it destroys profitable domestic industries or prevents profitable domestic industries to emerge. Governments should therefore promote or discourage FDI in particular industries in the framework of their national development strategies and, in some cases, after project-specific incidence analysis.

Long-term bank lending and bonds will remain an important source of finance, but it is costly and governments should closely monitor and manage the sustainability of both public and private borrowing. The international community should continue to help poor and heavily indebted countries get back on sustainable debt levels.

On the other hand, short-term bank loans and equity investment have proved to be dangerous sources of instability, even though they are appealing in theory. In the aftermath of the Asian financial crisis, many "emerging countries" have in effect shut the stream of net capital flows by building large official reserves and running current account surpluses. But maintaining a large stock of official reserves is very costly (see Section 12). These countries should rather consider re-imposing controls on short-term lending and equity investment until the global financial architecture is reformed, and the international community should support them in that endeavor through adequate exchange of information to curb illegal speculation and capital flight.

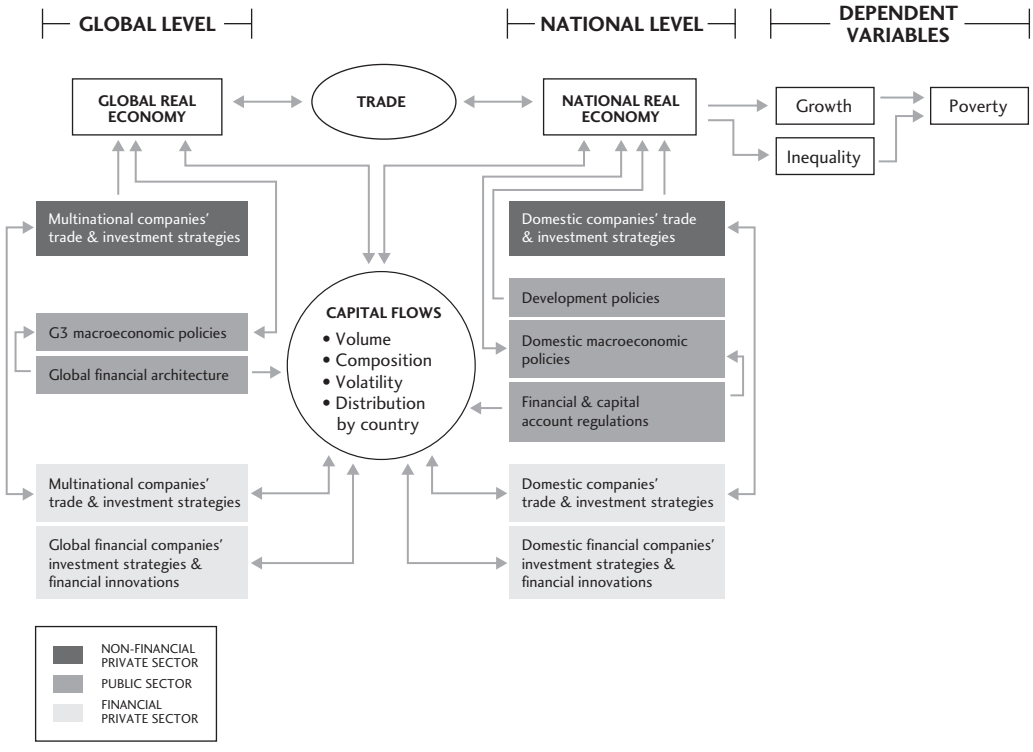
1. Scope and plan of the report

This report summarizes what we know and still need to know about the impact of global private finance on global poverty. Analyzing this issue is inherently difficult because there are hardly any direct effects to observe. By definition, poor people do not own a lot of financial assets at all, and few owe debts to formal financial companies. Hence changes in financial prices affect them only indirectly, either through changes in economic growth or through chains of complex redistribution mechanisms that are very hard to measure. Most of the existing literature therefore focuses on the impact of global private finance on economic growth, and a large part of this report is dedicated to critically assessing that literature. However, this report also covers what we know about redistribution effects, particularly those linked to financial volatility.

The domain of research consists of the interactions between six categories of actors, as shown in Figure 1. These categories of actors are arranged in two columns — global and national level — and three rows — the non-financial private sector, the public sector and the financial private sector. All terms used in the figure are defined in its legend. The arrows represent the relationships that will be studied in this paper.

Trade and capital flows represent the interface between the global economy and the economy of any particular country. Trade flows are covered here only as transmission mechanisms for capital flows. It is assumed that global actors influence national ones but not the other way around. For example, an increase in dollar interest rates will affect capital flows worldwide (link

Figure 1: Domain of research



'G3 macroeconomic policies → Capital flows'). On the other hand, a hike in Egyptian pound interest rates will only bear upon the capital flowing in and out of Egypt (link 'Domestic macroeconomic policies → Capital flows'). However, when the national economy under study is the United States, the European Union or Japan, it enters the analysis on both the right and left-hand sides of the figure because economic events in those countries have repercussions both domestically and worldwide. If the focus is on particular regions, particular periods or particular financial markets, other countries may exert systemic effects on global capital flows and should therefore also be entered simultaneously on the right and left-hand side of Figure 1. The new fashionable nomenclature of "systemically significant countries" is not only politically incorrect but also very loose. Egypt is certainly significant to her neighbors at all times, and might even turn out to be significant to portfolio managers in New York one of these days — not that we wish bad for her.

The following sections review the literature on the determinants and impacts of global capital flows. In terms of Figure 1, this means:

- Determinants of capital flows (Sections 2 to 5):
  - G3 macroeconomic policies ↔ Global real economy ↔ Capital flows
  - Global financial architecture → Capital flows
  - Multinational companies → Global real economy → Capital flows
  - Global financial private sector ↔ Capital flows
  - Domestic macroeconomic policies ↔ National real economy ↔ Capital flows
  - Financial and capital account liberalization → Capital flows
  - Development policies → National real economy → Capital flows
  - Domestic companies → National real economy → Capital flows
  - Domestic financial private sector ↔ Capital flows

Legend for Figure 1

Global real economy: Global aggregate supply and demand for traded goods and services.

Multinational companies' trade and investment strategies: Non-financial corporations' strategies for global expansion and diversification, which combine industrial and financial rationales and hence appear twice.

G3 macroeconomic policies: Monetary policy (interest rates setting, interventions in currency markets) and fiscal policy (changes in budget deficits) of the three main currency blocks; the macroeconomic policies of other countries may be relevant at certain points in time or for certain regions or countries.

Global financial architecture:

- Global exchange regime: Post-Gold-Dollar Exchange Standard arrangement combining free capital movement and floating exchange rates between three main currency blocks (dollar, euro, yen).
- Global financial codes and standards set by public and private international bodies pertaining to bank risk management, corporate governance, accounting transparency and the like.
- Multilateral and bilateral lending policies for balance of payment adjustments and debt forgiveness.

Trade: International exchanges of goods and services; global actors affect worldwide flows while domestic actors can only influence flows going in and out of their own countries.

Capital flows: Cross-border private financial flows, including FDI, bank lending, portfolio investment (i.e., bonds and equities); global actors affect worldwide flows while domestic actors can only influence flows going in and out of their own countries.

Global financial companies' investment strategies and financial innovations: The investment strategies of private financial companies operating globally, including banks, insurance companies, pension funds, mutual funds, hedge funds, and credit-rating agencies, and the instruments they use (e.g., derivatives).

National real economy: Domestic aggregate supply and demand for goods and services.

Domestic companies' trade and investment strategies: Strategies of non-financial companies and individuals of which the operations are centered on a single country, which combine industrial and financial rationales and hence appear twice.

Development policies: National regulations, fiscal incentives and public spending pertaining to all aspects of a country's social, agricultural and industrial policies.

Financial and capital account regulations: Regulations of the domestic private financial sector, as well as domestic controls of cross-border financial flows; these rules are of course part of the "Development policies" category but are listed separately because of their particular relevance in this report.

Domestic macroeconomic policies: Domestic fiscal policy (changes in budget deficit) and monetary policy (interest rates setting and exchange rate management with the choice between free float, managed float, or rigid peg with a major currency block).

Domestic financial companies' investment strategies and financial innovations: The investment strategies of private financial companies of which the operations are centered on a single country, and the instruments they use (e.g., derivatives).

Growth: GNP growth rates per capita.

Inequality: Income and wealth inequality within countries, which can take many dimensions: urban-rural gap, regional inequality, inequality between the formal and informal sectors or between the employed and unemployed, relative growth of non-traded and traded sectors, relative growth of different industries, gender gaps, diverging returns to education, professional experience and occupation, share of labor and capital in value-added and so on.

Poverty: The incidence and depth of poverty is the product of national growth and within-country inequality.

- Impacts of capital flows (Sections 6 to 12):
  - Capital flows → National real economy → Growth → Poverty
  - Capital flows → National real economy → Inequality → Poverty
  - Capital flows → Domestic macroeconomic policies → National real economy → Growth → Poverty
  - Capital flows → Domestic macroeconomic policies → National real economy → Inequality → Poverty
  - Capital flows → Global real economy → Trade → National real economy → Growth → Poverty
  - Capital flows → Global real economy → Trade → National real economy → Inequality → Poverty

Sections 2 to 5 examine the determinants of capital flows. They address respectively the evolution through time of the volume of North-South private capital flows, of their allocation across countries, of their composition (e.g., Foreign Direct Investment or FDI, portfolio investment, bank lending), and of their volatility. The next sections examine the impacts of capital flows, focusing on each dependent variable: inequality and poverty (Section 6), and growth and poverty (Sections 7 to 12).

Each section is concluded with a summary of existing knowledge and, in some cases, an agenda for further research.

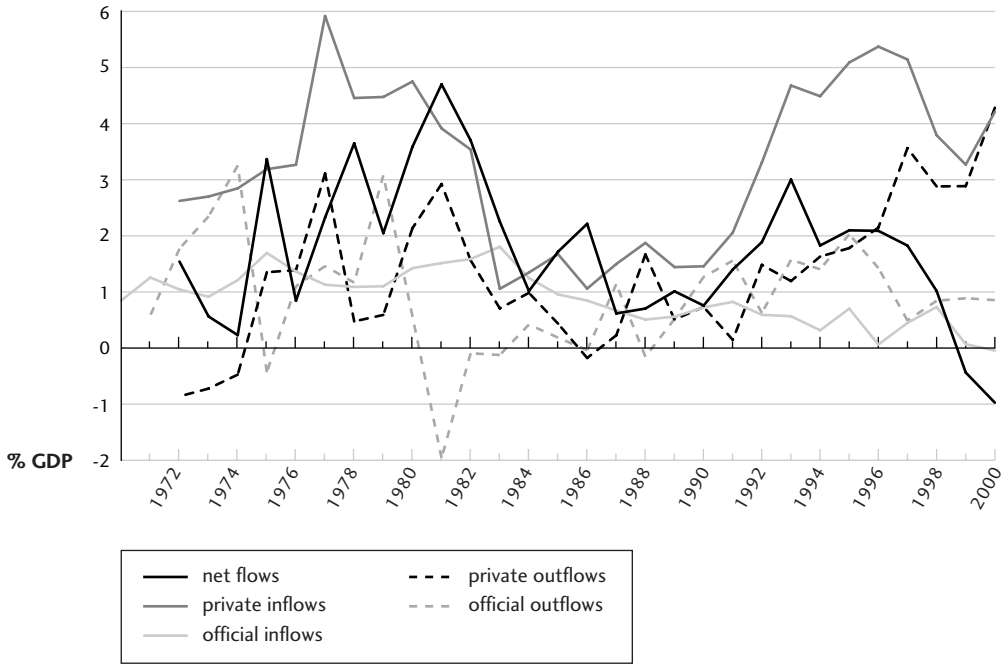
2. Determinants of the volume of capital flows

Figure 2 shows the evolution of North-South capital flows, as a percentage of the South's GDP.[5] The figure includes official flows as a benchmark but the focus of this report is on private flows. Private inflows exhibit a cyclical pattern without clear trend.

Financial cycles

The cyclical pattern can be explained by way of a brief review of economic history. The Bretton Woods exchange regime combining fixed exchange rates with controls on international capital transactions had kept a lid on global capital flows throughout the 1950s and 1960s, except for FDI in some industries and bank lending to official debtors. Current account imbalances were typically small and were resolved by occasional devaluation and fiscal austerity. Controls on transactions made speculation costly and fixed exchange rates reduced profit opportunities. However, sustained trade deficits in the United States, which did not need foreign exchange thanks to the special status of the dollar, stimulated speculative attacks against the gold-dollar parity toward the end of the period. The collapse of the Gold-Dollar Exchange Standard in 1971 followed by the liberalization of international capital flows in the United States, Europe and Japan in the following years set the stage for surging global capital flows. At the same time, the oil shocks of 1974 and 1979 resulted in major current account surpluses in oil producing countries and deficits in others. The freshly unbound global financial markets were instrumental in financing

Figure 2: Capital flowing in and out of the South



Source: Global Development Finance database (World Bank).

Note: See Endnote 5 for definitions.

the latter with the former, mainly through bank loans. Policies by governments in the North aiming at curtailing their trade deficits as well as poor investment climates at a time of stagflation resulted in channeling a lot of capital to oil importing developing countries. At the end of the decade, the Federal Reserve sharply rose dollar interest rates in order to fight inflation and a run on the dollar. This move not only exacerbated the heavy interest payments due by developing countries governments, but also led to a recession in the North and hence reduced export markets. A severe debt crisis ensued in the South in 1982. The insolvency of major recipients of capital in the South and the persistence of high interest rates in the North drained North-South capital flows throughout the 1980s. Both of these factors reverted in the early 1990s. On the one hand, "emerging markets" of Latin America recovered their creditworthiness through structural adjustment and debt restructuring plans. They were joined by formerly communist European countries and successful East Asian countries that liberalized international capital flows at that time. On the other hand, the 1991 recession in the United States pushed dollar interest rates very low. The boom of North-South capital flows continued until the Asian financial crisis of 1997-98, with a first pause following the Mexican financial crisis of 1994-95. North-South capital flows collapsed a second time, although FDI inflows remained at a high level and compensated for negative debt flows as crisis-stricken countries ran current account surpluses to repay their debts and built substantial official reserves to protect themselves against continued financial volatility.

This account points to the combination of "push" and "pull" factors in determining the total volume of North-South private capital flows. The former refer to characteristics of industrialized countries, in particular:

- The end of the Gold-Dollar Exchange Standard and the subsequent liberalization policies adopted in the North, which were necessary conditions to unleash the dynamic (link 'Global financial architecture → Capital flows' in Figure 1)
- Global portfolio managers' investment strategies (link 'Global financial companies' investment strategies → Capital flows')
- The business cycle in the North (link 'Global real economy → Capital flows')
- Monetary and fiscal policies in the North, linked to the business cycle, which affect the volume of surplus savings that is available for investment in the South (link 'G3 macroeconomic policies ↔ Global real economy → Capital flows')
- North-South terms of trade, and primarily the price of oil, which continues to greatly influence the North-South current account, and hence capital flows (link 'Global real economy → Capital flows')

Pull factors refer to the investment climate in the South, particularly:

- The business climate in the South (links 'Domestic companies strategies → National real economy → Capital flows' and 'Development policies → National real economy → Capital flows')
- Macroeconomic stability in the South (link 'Domestic macroeconomic policies → National real economy → Capital flows')
- Changes in the incentives or disincentives to foreign investment in the South (link 'Financial and capital account liberalization → Capital flows')

Several technical papers, reviewed in Montiel and Reinhart (1999), explore the question of "pull" or "push" of North-South capital flows. Both Dooley, Fernandez-Arias and Kletzer (1994) and Frankel and Roubini (2000) find a very close relationship between dollar interest

rates and the cost of North-South capital flows. The former conclude that the entire increase in the price of commercial debt of "emerging markets" after 1989 could be explained by debt restructuring and lower dollar interest rates, while the latter also note that the IFC Global Index of equities for Latin America is even more sensitive to dollar interest rates than the Standard and Poor's 500 Index. Fernandez-Arias (1996) runs panel regressions for thirteen middle-income countries during the 1989-1993 period. He estimates that as much as 62% of the increase in portfolio inflows was due to falling dollar interest rates and 25% was due to rising creditworthiness, the residual 12% being attributed to an improved investment climate. However, creditworthiness is itself a function of international returns because debt burdens automatically decrease when international interest rates are cut. Once this is taken into account, falling dollar interest rates then explain 86% of the increase in net inflows compared to 14% for domestic factors. In other words, capital was "pushed" into the South during that period more than "pulled" by a stronger demand. Another paper, by Calvo, Leiderman and Reinhart (1993), covers roughly the same period for Latin American countries only and reaches the same conclusion. On the other hand, Chuhan, Claessens and Mamingi (1993) confirm the finding for portfolio flows to Latin America but contradict it the case of East Asia, albeit without taking into account the impact of dollar interest rate on creditworthiness. The World Bank (1997) confirms the push hypothesis for the 1989-1993 period, but shows that the evidence is much weaker for the subsequent 1993-95 period, a time when the American economy boomed and monetary policy tightened yet did not produce a decline in capital outflows to the South. As to bank lending, Goldberg (2001) concludes from an econometric analysis of American banks' lending to emerging markets since the mid-1980s that the volume of loans is more responsive to macroeconomic conditions in the United States than to growth and interest rates in the recipient countries. Finally, Montiel and Reinhart (1999) find a significant correlation between total capital inflows and both the dollar and yen interest rates for a panel of 15 developing countries over the 1990-1996 period.

A more recent paper, by Reinhart and Reinhart (2001), generalizes these findings to all capital flows originating from the United States into the entire South between 1970 and 1999, taking into account both American monetary policy and business cycle. They observe that capital flows from the United States into the South have been greater, on average, in years when American monetary policy has been eased, that is, in years when the federal funds rate was lower at the end than at the beginning. The effect is striking for bank lending. Periods of monetary easing usually correspond to the bottom of the business cycle, and banks have two reasons to expand their foreign lending activity: domestic interest rates are low and creditworthy domestic lending opportunities are few. On the other hand, FDI has been slightly lower in periods of monetary easing, because multinational companies have fewer resources to invest abroad during domestic downturns. Portfolio investments have been slightly higher during monetary easing despite the fact that mutual funds and other institutional investors also have fewer resources to invest during downturns, because low domestic interest rates induce them to invest a larger share of their portfolio abroad, or to borrow domestically to invest abroad. Reinhart and Reinhart also show that total US-South capital flows are significantly correlated with dollar interest rates over the 1970-1999 period. A one-percentage point hike in the federal funds rate decreases the yearly flow by 2.32 billion of 1970 US dollars out of a yearly average of about 15 billion.

Market analysts also see a link between fund managers' strategies and the cyclical character of North-South capital flows:

> *When the US markets are doing well, [US investors] feel like taking a little bit more of that risk they perceive is in the international funds. When stock prices are coming down in the US, and they want to reduce their exposure to stocks, they tend to reduce exposure across the board instead of just here. But by doing so they are behaving contrary to what principles of diversification would dictate.* (John Olienyk quoted in Financial Times, 6/27/2001)

The correlation between the Standard and Poor's 500 Index and the IFC Composite Index of emerging stock markets has indeed increased from 0.27 to 0.41 between 1975-1987 and 1990-1995 (Financial Times, 3/21-22/1998). Such anti-diversification strategy would explain, ex post, why American investors poured money into the stock markets in the South during the 1990s despite the fact that the US stock market outperformed emerging markets. The IFC Composite Index underperformed the Standard and Poor's World Index by 43.1% over the 1990s (same source). The same holds for emerging markets' bonds, the spread of which increased sharply during the year 2000 in spite of improved credit ratings. Here is how market analysts explained the situation:

> *Emerging markets [bond yields] have been closely correlated with Nasdaq and have been trading not on the back of their own fundamentals but on the back of volatility in technology stocks.* (Philip Poole quoted in Financial Times, 5/16/2001)

> *The real correlation is between emerging markets and US inflation, which at the moment is the biggest risk in the market.* (Jose Luis Daza, same source)

Kaminsky and Schmukler (2001) show that credit agencies also play a role in exacerbating the cyclicality of capital flows. Using panel regressions and event studies for 16 "emerging markets" over the 1990-2000 period, they find that sovereign ratings do affect both sovereign bond yields and stock market returns in emerging markets, and thus have the potential to guide the markets. However, downgrades and upgrades tend to follow rather than precede market downturns and rallies. Countries with low ratings are also more vulnerable to dollar interest rate volatility.

The oil price is yet another important push factor. The South is net exporter of oil and the oil price is perhaps the single most important variable affecting the North-South current account balance, which by definition is equal to net capital flows when official reserve increases are included in capital outflows (UNCTAD, 1999a). The oil shocks of the 1970s have obviously played a critical role in the 1970s-early 1980s cycle. More recently, the rising oil price in 1999 and 2000 has been credited for part of the decline in debt flows to the South in those years (United Nations, 2001).

There is thus strong empirical evidence supporting the claim that push factors dominate pull factors in explaining North-South capital flows. However, the debate is not completely settled. Hernandez and Rudolph (1995) offer the strongest defense for the pull hypothesis by better measuring countries' investment climates, by using larger samples including countries that received little capital inflows, and by focusing on total capital inflows. But panel regressions make it hard to distinguish between what influences changes of the total volume of North-South capital flows through time and what affects the distribution of these flows across countries. We will see in Section 3 that pull factors play a more important role for the latter, and time series regressions would be more appropriate to study the former (as in Reinhart and Reinhart, 2001).

An upward trend?

Capital flow data from other sources show that private inflows have dramatically fallen in 2001, accentuating the downward portion of the 1990s cycle (Institute for International Finance, 2001). This suggests that the boom in North-South foreign investment in the 1990s was really just a cyclical pattern. This conclusion is reinforced by the data for the late 1970s displayed in Figure 2. Short-term bank loans ballooned in 1977 such that total private inflows reached a peak as high as in the 1990s in relation to GDP. But Figure 2 may be misleading in this respect, due to data shortages. While data are available for almost all countries for the 1990s, they are missing for many countries in earlier years, and those countries for which data are missing tend to be countries that were known to be relatively closed to foreign capital (e.g., the communist block). If data were available for all countries, the 1970s' boom in capital inflows would appear smaller than the 1990s' one. Moreover, the data from the Institute for International Finance show that FDI inflows have fallen between 1999 and 2001, but have not collapsed as debt and equity flows have. Hence there may be an upward trend for FDI inflows, and a cycle of amplified magnitude for debt and equity inflows. These upward trend and magnified cycle are also the product of push and pull factors. Push factors include:

- Again, the end of the Bretton Woods system, which set free Northern capital and was a precondition for the cycle's greater magnitude (link 'Global financial architecture → Capital flows')
- Global diversification strategies adopted by global financial companies, facilitated by the emergence of new information technologies, by further liberalization of capital markets in the North (e.g., shift of savings from banks to institutional investors, breakdown of boundaries between financial companies), and by the invention of new financial instruments such as derivatives (link 'Global financial companies strategies & financial innovations → Capital flows')
- Strategies of global expansion of non-financial companies facilitated by worldwide trade liberalization, which is especially relevant to FDI (link 'Multinational companies strategies → Global real economy → Capital flows')

Given that overall economic performance in the South has not improved on trend since the 1970s, with a few notable exceptions (e.g., China and India), it cannot explain the rising trend of North-South capital flows. Pull factors must therefore be limited to the following:

- Liberalization reforms passed by developing countries governments enlarging the potential markets for foreign investment, including the entry of China, India and Central and Eastern European countries in global capital markets (link 'Financial and capital account regulation → Capital flows')
- Privatization programs in the South, accounting for a share of the trend increase in merger & acquisitions which are part of FDI (link 'Development policies (National real economy → Capital flows')

These trends are discussed in Griffith-Jones (1998) among others, but there has not been any studies attempting to isolate the respective importance of these forces in producing the upward trend of FDI and magnified cycle for other flows. For debt and equity flows, if the pull factor of capital account liberalization were the dominating one, the cycle might not be further magnified as the liberalization wave passes its peak once most major countries complete the opening of their capital markets to foreign investors. For FDI, it is clear that the increased international division of labor is driven by trade policy in both North and South and by the removal of restrictions on FDI in the South, as well as by technological

progress. These trends may be expected to continue. Privatization programs have also plaid a role in the trend increase of FDI, but they are not sustainable since the stock of sellable public companies is limited.

Financial recycling

The discussion has thus far concentrated on capital inflows. But Figure 2 shows that private capital outflows from South to North have also sharply increased, to the point that they have matched private inflows in 2000 and are expected to exceed them in 2001 (International Monetary Fund, 2001). Reserve accumulation by central banks is also a form of outflows, which have exceeded official inflows throughout the 1990s. Hence net flows have turned negative since 1999, which means that the South is running a current account surplus to finance the North (see Figure 2).

The co-existence of large net capital inflows and outflows reveals the autonomous character that global finance has acquired following the end of the Gold-Dollar Exchange Standard and the liberalization policies adopted first in the North and then in the South. While in the past developing countries tended to import just enough capital to cover their current account deficits, many of them now borrow abroad to re-invest abroad. A boom in capital inflows stimulates such "financial recycling". But the net flows invested in the domestic real economy are still by definition equal to the opposite of the current account, which is itself by definition equal to domestic savings minus investment. Hence, net resources transfers remain ultimately constrained by the willingness of the North to save more than it invests. In this respect, the persistent US deficit has represented a continuous drain on resources available to the South, absorbing two thirds of the rest of the world surplus savings in the mid-1990s (Blecker, 1998). As noted by Frankel and Roubini (2001), this situation is not likely to improve in the future, as population aging in Japan, Europe and the United States is expected to reduce savings rate.

North-South net flows will thus increase only if active policies are implemented to boost savings rate in the North or if a larger share of that saving is invested in the South. The conventional wisdom holds that capital-poor developing countries should offer more profitable investment opportunities and therefore attract finance from capital-rich industrialized countries. Fernandez-Arias and Hausman (2000) note that, considering the huge international gaps in capital-to-output ratios, North-South net capital flows should be much larger than what they actually are, according to standard economic theory — although that theory ignores many real-world distortions including unequal levels of human capital (see Lucas, 2000). They also remark that net flows were larger during the globalization era preceding World War I, and speculate that this phenomenon was due to the existence of a world currency, the gold standard, which reduced the risk of cross-border investment. It is also worth mentioning that financial markets and instruments were much less developed at that time, the bulk of capital flows taking the form of FDI, bank loans or bonds without complex derivatives. The global financial architecture, rather than the information technology revolution or the increasing financial sophistication, might therefore be the main engine of net North-South flows.

Another way to boost North-South capital transfers could be foreign aid. Grants are not considered as capital flows and are not included in Figure 2. They hover around 0.5% of the South's GDP. For all the hype that has been made in the 1990s about foreign aid becoming redundant due to the boom in private flows, grants have actually been higher than net private flows since 1999!

Summary and agenda for further research

Private capital inflows in the South follow cycles of increasing magnitude. Only FDI inflows have exhibited an upward trend, despite the entrance of Eastern Europe, China and India in the global financial market and sweeping liberalization in Latin America and Southeast Asia. Push factors, in particular dollar interest rates, the business cycle in the North and the oil price, are more important determinants of the total volume of inflows than the investment climate in the South. Private and official capital outflows have dramatically increased, such that net capital flows to the South have turned negative in 1999, transforming the South into a lender to the North (in terms of flows, not stocks).

Put crudely, the evidence supporting push factors for cyclical variations of capital flows and the persistent low level of the North's aggregate current account surplus mean that the South tends to absorb whatever amounts the North is willing to save. That is at times too little for the South, like in the 1980s and in recent years, and at times too much for some countries though not necessarily in aggregate, as the crises of the early 1980s and late 1990s demonstrate. Consequently, the exhortation for poor countries to attract foreign private capital misses an important point. Whether few or many developing countries liberalize capital movements might affect the distribution of total net flows amongst them, but will have relatively little impact on the size of the pie. As an UNCTAD report emphasizes, the Malaysian success in attracting FDI could simply not be replicated for the entire South, or even a large chunk of it, due to the scarcity of capital worldwide, or at least of the truly mobile sort (UNCTAD, 1997, pp.92-93). Although increasing investment is not the only way in which foreign capital contributes to growth (see Section 7), closing the capital gap by maintaining a large but stable and sustainable North-South net resource transfer ought to remain an important global policy goal.

Further research would be useful in determining the relative importance of terms of trade shocks and financial shocks as causal factors of capital flows cycles. The suggestion that the global financial architecture would be the most important determinant of the total volume of private net flows also deserves more attention. Fernandez-Arias and Hausman (2000) suggest to approach this question by studying dollarized economies such as Panama, which do not face exchange rate risk, or non-sovereign territories such as Puerto Rico, which do not face sovereign risk. The idea is clearly not to suggest that all countries should become Americanized, but to study to what extent a supranational arrangement that would suppress exchange and sovereignty risks could help stabilize North-South private capital flows, increase their net volume, and promote domestic savings and financial development. Finally, Montiel and Reinhart (1999) propose avenues for further research on the push vs. pull question, including better measuring the investment climate in the South and extending the sample through time and countries. They also point to the importance of distinguishing factors influencing the total volume of North-South capital flows, which is more amenable to time series analysis, and their distribution across countries, which requires cross-section analysis. They suggest that pull factors are more important for the latter, a question to which we now turn.

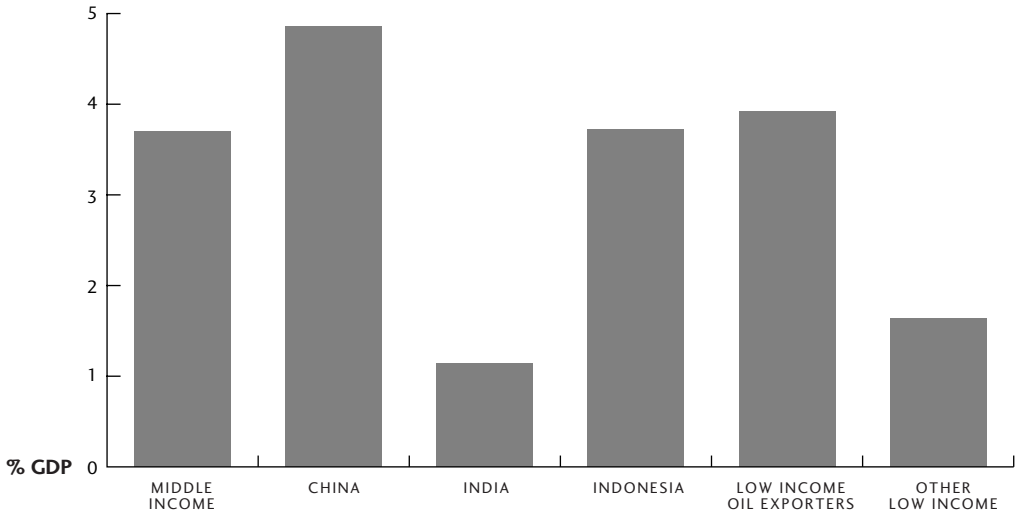
3. Determinants of the allocation of capital flows among recipient countries

North-South capital flows are unequally distributed among recipient countries. While the average country of the South received private inflows equal to 3.5% of GDP per year over the 1970-1998 period, some got almost nothing while twenty countries attracted more than 5% of GDP. With the exceptions of oil exporters and three large economies (China, India and Indonesia), low-income countries have been less favored by foreign investors, even proportionally to the size of their economies (see Figure 3).

As for their volume, the distribution of North-South capital flows among recipient countries is the product of supply and demand forces. The global private sector allocates capital according to its own logic of profitability. FDI generally follows an industrial logic (link 'Multinational companies strategies → Global real economy → Capital flows'), while portfolio investments mostly follow a financial logic (link 'Global financial companies strategies → Capital flows ↔ Global real economy'). But the dynamism of the domestic economy can make some countries more attractive than others (link 'National companies strategies → National real economy → Capital flows') and national policies can be geared toward attracting foreign capital or not (links 'Development policies → National real economy → Capital flows' and 'Capital account regulation → Capital flows').

The following two sub-sections examine the industrial and financial determinants of the allocation of capital inflows and how national actors can position themselves in response to them. However, this distinction between industrial and financial logic is an analytical simplification, as they are often blurred in practice. First, some multinational companies have subsidiaries in the financial sector (e.g., General Electric). Second, as shall be seen in the next section, an increasing share of FDI consists of mergers and acquisitions, which might not always be part of long-term industrial strategies. Third, decisions about

Figure 3: Distribution of private capital inflows across countries (1972–98)



Source: Global Development Finance database (World Bank).

FDI profit repatriation or reinvestment are subject to purely accounting, legal, financial and fiscal considerations. Fourth, some companies decide to raise capital outside of their home country for marketing or strategic reasons, which induces intra-company financial flows that are not necessarily connected to trade and investment in productive capacity.

The industrial logic

Two major determinants of FDI location in the South are natural resources endowments and market size. Multinational extractive industries have no choice but to invest in the countries where the best mineral deposits are located. Agricultural endowments are a bit more homogeneously distributed within broad climatic regions, but geography matters, too. The size of the domestic economy is a major determinant of the location of production facilities because alternative ways of penetrating domestic markets such as exports, production licensing or patent sales often face substantial intrinsic, socio-cultural or economic policy barriers.

Many other factors are relevant to determine the location of production, including the quality of human resources and physical infrastructures, the dynamism of local enterprises, political and macroeconomic stability, the degree of rule of law, and economic regulations or fiscal incentives pertaining to trade and to foreign investment itself. All these factors define each country's "business environment". Unlike market size and natural resources, governments can take steps to improve their business environment.

Morrisset (2000) has carried out cross-country regression analysis with a sample of 29 African countries over the 1990-97 period. He finds a clear correlation between FDI, natural resources endowments and market size. Economic growth and trade openness also appear to be significantly correlated with FDI, although the direction of causality is uncertain (see Section 7). Bhattacharya, Montiel and Sharma (1997) confirm the correlation with economic growth and trade openness and add the stability of real exchange rates as a macroeconomic factor linked to the allocation of FDI in Sub-Saharan Africa.

Microeconomic determinants are more difficult to assess. One measure of countries' business environment is the World Economic Forum's Current Competitiveness Index, which is available for a sample of 34 "emerging economies".[6] The Africa Competitiveness Index is an equivalent index available for 23 African countries. These indices rank countries according to a large number of variables pertaining to the quality of infrastructure, human capital, financial services, legal environment, business strategy and economic policy, which are measured mostly by a poll of local and foreign businesspeople but also by some quantitative data (World Economic Forum, 1998 and 1999). These indicators have been created for a business audience and reflect the beliefs of that audience — all pro-market policies are considered as improving competitiveness. Although the Current Competitiveness Index is closely correlated with the level of GDP, Lall (2001) criticizes its conception as an indicator of future competitiveness or growth. For our purpose, however, it is sufficient to consider the Current Competitiveness Index as a measure of countries' attractiveness to foreign businesspeople. Figure 4 presents the results of a cross-country regression analysis of FDI location for the year 1999. The dependent variable is the ratio of FDI to GDP, and therefore takes into account market size, and the regression controls for mineral resources endowments.[7] It turns out that the competitiveness index is insignificant for both samples, and even has the wrong sign in the case of Africa.[8] This may either mean that the domestic business environment is not an important factor of FDI location, or that the index is too imperfect, for example because it would not appropriately weight its numerous components.

Although it appears hard to measure, there is some qualitative evidence that political stability and pro-market legislation do help attracting foreign investment. Morrisset (2000) provides such

Figure 4a: FDI as a function of competitiveness in emerging countries (1999)

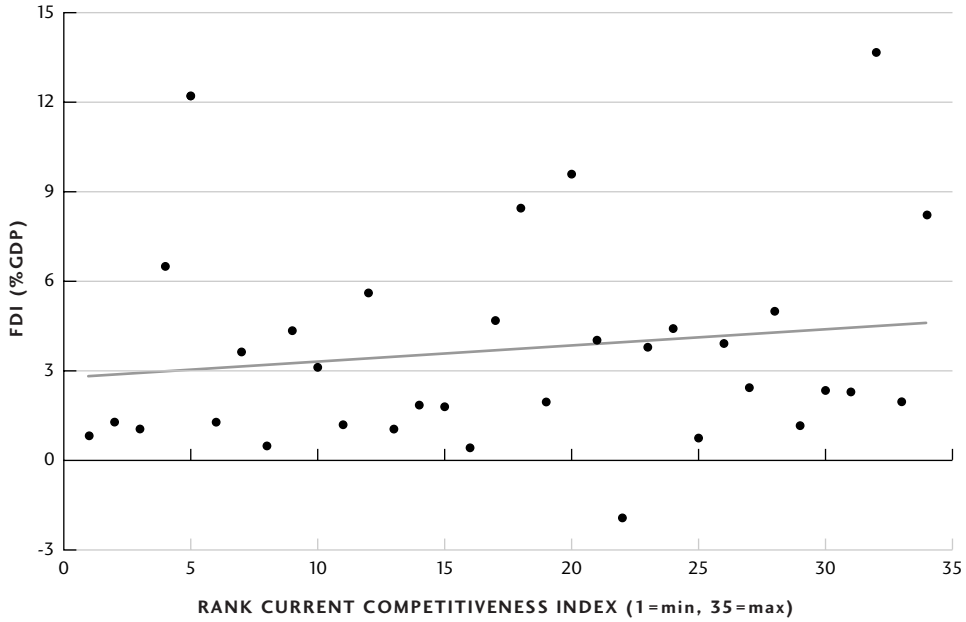
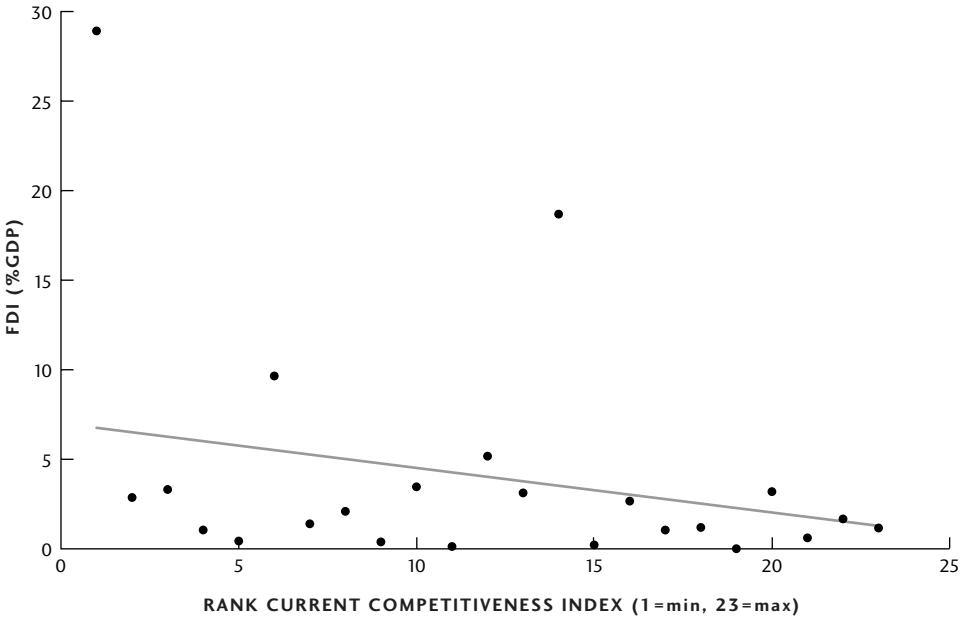


Figure 4b: FDI as a function of competitiveness in Africa (1999)



evidence in the case of Mali and Mozambique, two countries that have undergone successful transitions to democracy as well as attracted a lot of FDI. He mentions trade liberalization and reform of investment codes as policies that mattered for this success. Corruption is one factor that is widely believed to be nefarious to FDI, and Wei (2000) concentrates on the corruption component of the World Economic Forum's competitiveness index (and other corruption indicators). He finds that its correlation with FDI is not only significantly negative but also large.

Of particular interest are policies that explicitly target FDI. Wei (2000) constructs indices of FDI restrictions and incentives.[9] Both are significantly correlated with FDI after control-

ling for a number of variables for a sample of 110 developing and industrialized countries in the mid-1990s. Interestingly, South Korea and Taiwan are among the four countries with the most restrictive FDI policy, and they have indeed built their formidable development on the basis of domestic savings and active industrial policy promoting domestic enterprise. Quinn (1997) proposes an alternative index of capital account regulation, which will be used extensively in Section 7.[10] Unfortunately, the latest year for which Quinn's index is currently available for developing countries is 1988, at the beginning of a wave of capital account lib-

Figure 5a: Change in FDI (%GDP) as a function of capital account liberalization (1973-89)

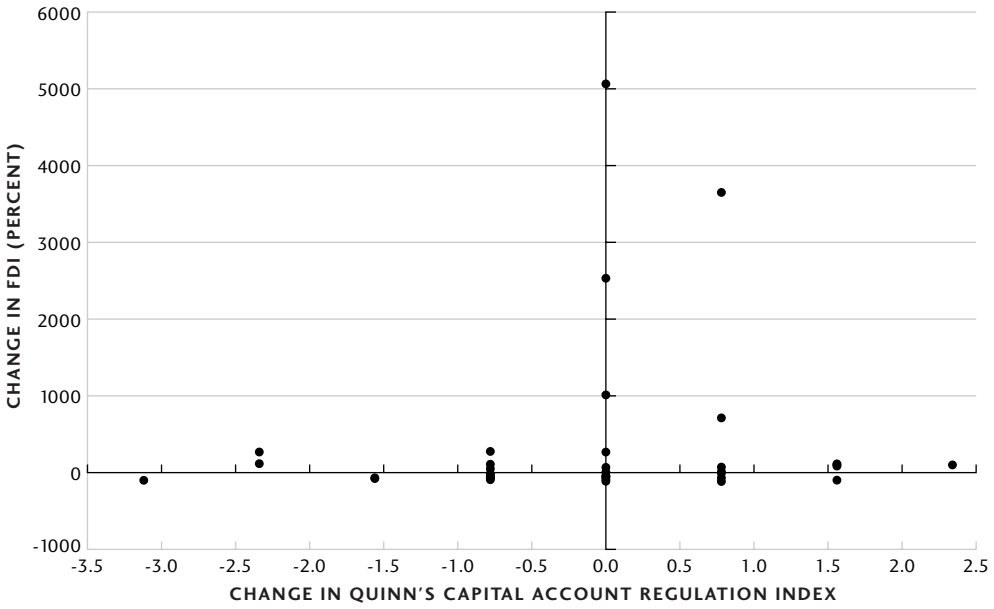
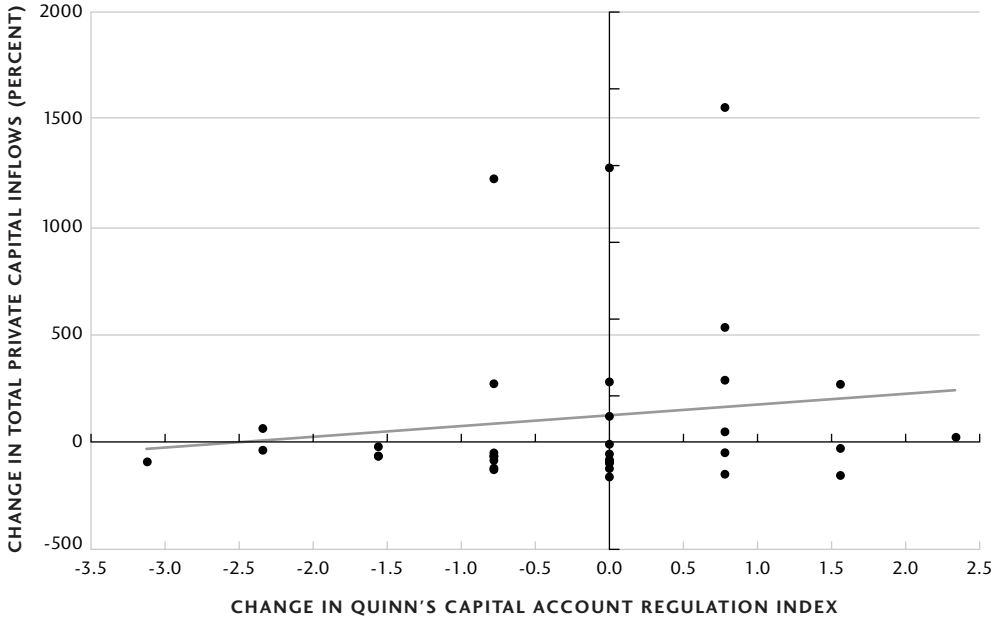


Figure 5b: Change in total private capital inflows (%GDP) as a function of capital account liberalization (1973-89)



eralization. Figure 5 shows that the relationship between changes in this index and changes in either FDI or total private capital inflows is positive but weak for a sample of 37 developing countries between 1973 and 1988.[11] It is not statistically significant and heavily influenced by a few outliers.[12] The discrepancy between Wei's results and those reported here may be due to the sample of countries, the period under study, the control variables and econometric specifications used by Wei, or the respective quality and relevance of Wei and Quinn's indices of capital account restrictions. Since Wei's analysis is much more sophisticated, we must conclude that restrictions and incentives on FDI do matter to attract foreign investment. But Figure 5 is a useful reminder of the fact that capital account liberalization itself is neither a sufficient nor even a necessary condition to attract foreign capital.

The financial logic

North-South portfolio investments, in both bonds and equities, are made in the framework of institutional investors' portfolio diversification aiming at increasing returns and decreasing risk — not always successfully as mentioned in Section 2. Griffith-Jones (1998) and UNCTAD (1999b) review the factors that institutional investors take into account to choose in which country to invest based on surveys and interview materials. They offer a mixed picture, underscoring the fact that all investors do not follow the same rules. Among the factors that are most consistently mentioned as important or critical are the convertibility of the currency, the absence of restrictions on profit repatriation, the speed and reliability of settlement systems, the availability of domestic brokers, and the quality of stock market regulations and accounting standards. Capital account liberalization is thus more important to portfolio inflows than to FDI.[13] Among macroeconomic factors, exchange rate stability, the amount of official reserves, the ratio of long-term to short-term debt, and the health of the domestic banking system are consistently deemed important or critical. High economic growth rates are considered important by a majority of investors but irrelevant by a large minority in UNCTAD's survey, while "ability to pay", including both high growth rates and low debt to GDP ratio, is a necessary investment criterion according to Griffith-Jones' interview. Political stability, macroeconomic stability and commitment to liberal economic policies such as trade liberalization and privatization are also either desirable or important to most investors. Institutional investors also differ in their investment strategies. For many of them, investing in "emerging markets" is very much a residual activity and they adopt a top-down decision-tree with the following typical cascade: (a) choice of equity to bond ratio, (b) choice of domestic to foreign ratio, (c) choice of investing anything in "emerging markets", (d) choice of region ratios, (e) choice of country ratios based on the above-mentioned criteria, (f) choice of individual assets.

As in the case of FDI, size matters. Montiel and Reinhart (1999) note that there is a significant correlation between stock market development and both portfolio and total capital inflows. Financial wealth inequality between North and South is so great that portfolio investment opportunities can quickly dry up for Northern investors. Fidelity, America's largest institutional investor, has 900 billion dollars of assets under management, which is about half of the combined total stock market capitalization of the South! It is then not surprising that the surge of portfolio investment in Latin America in the early 1990s prompted a stock market boom in the region (Calvo, Leiderman and Reinhart, 1993), which can be reversed by strategic decisions in New York. If global finance were a water system, opening a canal

between the great American lake and the small Malaysian pond would quickly engender flooding without appropriate dams — or capital account regulations.

Again as in the case of FDI, corruption is bad for portfolio investments. Focusing on bond prices, Bubnova (2000) shows that the yields of infrastructure bonds increase with political risk, especially corruption, as well as with red tape and political disorder.

Summary

The size of the economy and, for FDI in low-income countries, the natural resources endowment are the main determinants of the allocation of North-South capital flows among recipient countries. Nevertheless, national governments do have the ability to attract larger shares of foreign investment, which contrasts with our previous section's conclusion about the weak leverage of the South as a whole to increase the total volume of North-South flows.

The measures that are likely to increase FDI include investment in infrastructure and human resources, greater macroeconomic and especially exchange rate stability, greater political stability and lower corruption, as well as trade liberalization. All these measures are anyway part of good development strategies, with the qualification that trade liberalization does not need to be adopted across-the board. Hence there is little ground for focusing policy on attracting foreign investment. Capital account liberalization appears to be neither a sufficient nor a necessary condition to attract FDI, although restrictions beyond a certain threshold will presumably prevent capital from flowing in. Specific fiscal and other incentives can increase FDI flows, but they are not necessarily economically beneficial (see Section 9) and are unlikely to compensate for poor investment climates.

The size of the economy and liquidity of financial markets are also major determinants of the geographical distribution of portfolio capital inflows. Financial and capital account liberalization matter much more for portfolio inflows than for FDI, as many countries welcome FDI and bank inflows but do simply not have functioning equity and stock markets. Exchange rate stability, the strength of the banking system, and a high ratio of official reserves to short-term debt are other important factors influencing institutional investors' portfolio allocation decisions.

4. Determinants of the composition of capital flows

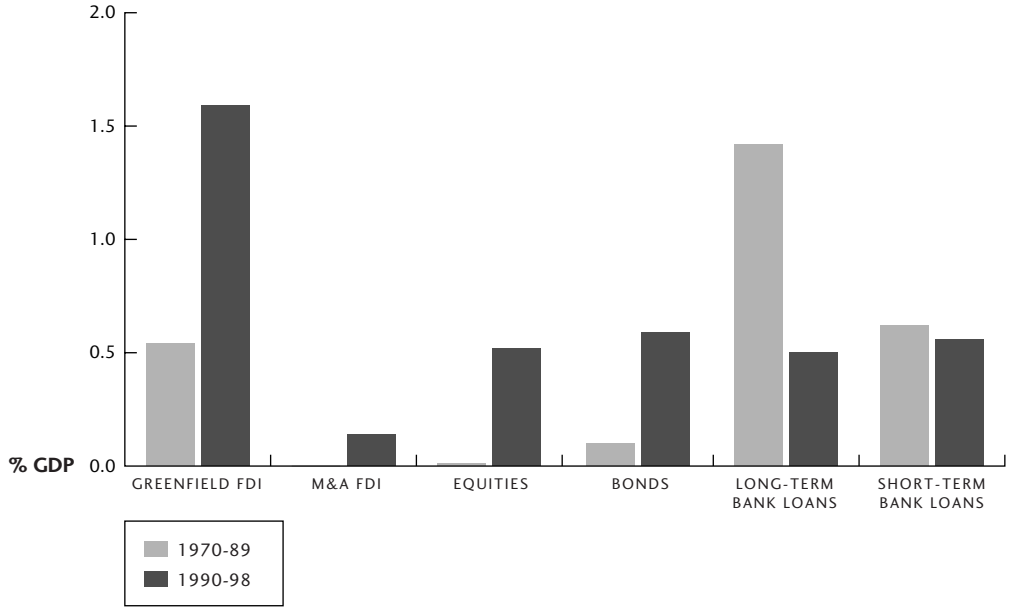
Examining the composition of capital inflows in the South matters because different kinds of capital flows affect development in different ways. As shall be discussed in the following sections, short-term bank loans are considered as the least desirable kind of capital inflows because of their high volatility. By contrast, FDI is widely perceived as the most desirable kind of capital inflow because it is less volatile, more likely to increase investment, at least as far as "greenfield" investments are concerned,[14] and is the only kind of capital inflow that directly generates a transfer of technology and know-how. But FDI is also the most expensive type of capital inflows.

Figure 6 shows that private capital inflows into the South have long been confined to bank lending and FDI, the former being progressively replaced by bonds. Equity flows have boomed in the early and mid-1990s, and so have both greenfield FDI and mergers and acquisitions (M&As).

The rise of portfolio investment flows, including both bonds and equities, follows the general trend towards the securitization of finance (link 'Global financial companies investment strategies & financial innovations → Capital flows' in Figure 1). But it has also been made possible by developing countries governments embracing that trend (link 'Capital account regulation → Capital flows'). The increase of M&As has been facilitated by capital account liberalization, too, and has been driven mostly by the increased international specialization of production (link 'Multinational companies trade and investment strategies → Capital flows'), and by the privatization of public companies in the South (link 'Development policies → National real economy → Capital flows').

We saw in Sections 1 and 2 that capital account liberalization in the South has probably little effects on both the volume and the alloca-

Figure 6: Changes in the composition of private capital inflows



Source: Global Development Finance database (World Bank) and World Investment Report 1999 (UNCTAD) for M&As data (1990s only).

tion of North-South capital flows among recipient countries, except for portfolio investment. Where capital account liberalization does seem to have important effects is on the composition of capital inflows that each country receives. Using panel regression analysis for 15 developing countries in the 1990-96 period, Montiel and Reinhart (1999) find that their index of capital account regulation is negatively correlated with the share of short-term debt and portfolio investment in total capital inflows, but not with the volume of total inflows. Their index is specifically constructed to reflect regulations that are explicitly aimed at discouraging volatile capital inflows. Their analysis thus confirms that these measures have been effective at altering the composition of capital inflows. But it must be emphasized that the countries that adopted these regulations did so at times when they attracted a lot of foreign capital. Economies that are attractive to foreign investors, such as China, can obviously afford to be picky and maintain substantial controls on capital flows. Countries that are less attractive run a higher risk of losing all capital inflows if they attempt to keep the volatile kind away — yet that may still be the best option for them.

Wei (2000) argues that "crony capitalism", as proxied by corruption indices, has an adverse impact on the composition of capital inflows, as it discourages FDI but not short-term bank loans (link Development policies → Capital flows').

Turning to cyclical changes in the composition of capital inflows, Reinhart and Reinhart (2001) show that the business cycle and macroeconomic policies in the North exert a cyclical effect on the composition of capital inflows into the South (links 'Global real economy → Capital flows' and 'G3 macroeconomic policies → Global real economy → Capital flows'). Economic downturns and loose G3 monetary policies have a bad composition effect on US-South capital flows, increasing debt and decreasing FDI in both absolute and proportional terms. They also show that high short-term volatility of G3 exchange rates is correlated with a positive composition of North-South flows, but that high volatility of G3 short-term interest is associated with bad composition. As to macroeconomic policies in the South, Montiel and Reinhart (1999) find that the accumulation of reserves during surges of capital inflows coupled with the sterilization of their effect on the monetary base (see Section 11) increases the proportion of short-term debt (link 'Domestic macroeconomic policies → National real economy → Capital flows').

Summary

The composition of capital inflows has changed over the past three decades, with bank loans giving way to bonds and equities. FDI remains the major type of capital flow, with a rising component of M&As.

Capital account regulation can effectively influence the composition of capital inflows. Both domestic and G3 macroeconomic policies can have a cyclical impact on it.

5. Determinants of capital flows' volatility and systemic currency crises

The determinants of medium-term swings in North-South capital flows have already been discussed in Section 2. This section investigates financial volatility in more depth at the country level with a special emphasis on systemic on currency crises, times when booms of North-South capital flows are suddenly reversed. It begins with a discussion of volatility emanating from the global private financial sector, then reviews domestic factors that may trigger a currency crisis in one country, and finally discusses four sources of contagion to other countries (see Lowell, Neu and Tong, 1998):

- Heightened awareness
- Trade linkages
- Portfolio adjustments
- Herd behavior

Global financial volatility

Taylor and Eatwell (2000) argue that the cocktail of free capital flows, floating exchange rates, domestic financial liberalization in G3 countries, and unregulated innovations in financial instruments and institutions such as derivatives and hedge funds has dramatically increased financial instability after the collapse of the Gold-Dollar Standard (links Global financial architecture → Capital flows; Global private sector → Capital flows). They base their argument on Keynes' beauty contest analogy, which refers to a game of the British tabloid press in the 1930s, in which readers were asked to look at pictures of women and assess which ones would be judged as the most beautiful by the entire readership. In other words, readers would not win by giving their own opinion about the women's beauty, not even by assessing what others' personal opinions would be, but by guessing what people would, on average, believe average opinion to be. In financial markets, a trader will not bid a price according to what he or she believes an asset's fundamental value to be, but according to what he or she assesses average opinion to be about average opinion of the asset's value. The beauty contest analogy helps understand why market participants tend to engage in momentous trading (i.e., herd behavior) and why market valuations are subject to sudden shifts in "market sentiment".

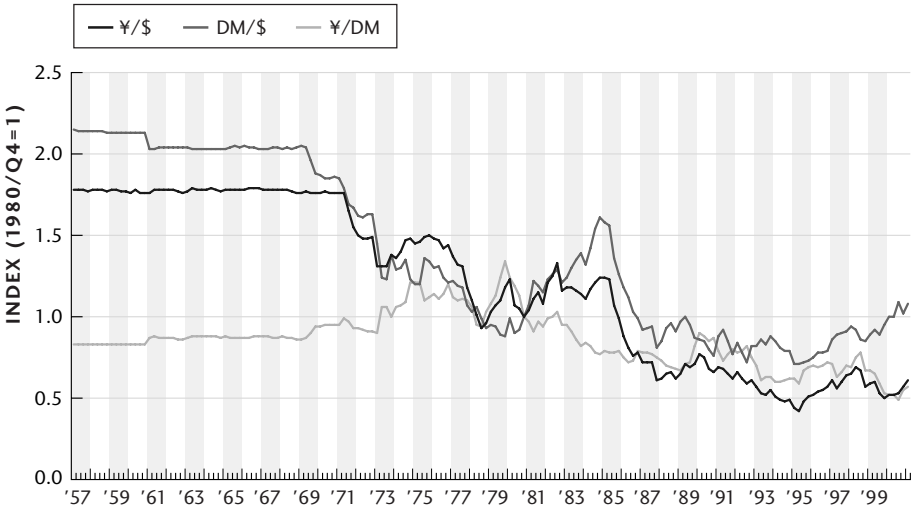
Global capital markets are particularly prone to such inefficiencies because information tends to be more opaque and contract enforcement weaker across borders. There are also very significant barriers to international arbitrage of prices of goods and services. Hence exchange rates fail to equate currencies' real purchasing power and are instead determined on financial markets. As Taylor (2001) argues, spot rates are determined by forward rates and interest rates differentials, but forward rates are anchored onto nothing. They depend upon what average opinion believes average opinion to be.

There is indeed evidence that the volatility of both exchange and interest rates has increased since the end of the Bretton Woods era (see Figure 7).

Domestic vulnerability

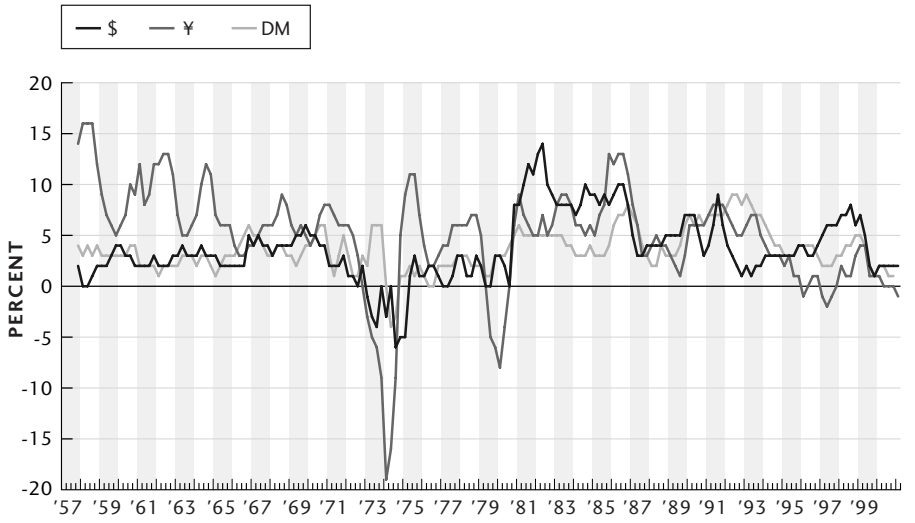
In the context of increased global financial instability, weak domestic policies are more likely to translate into currency and economic crises. Economists now distinguish three canonical types of currency crises (see for instance Krugman, 1999). First generation crises, such as the Mexican crisis of 1982, involve excessive budget deficits yielding unsustainable current account deficits, depletion of reserves and eventually

Figure 7a: G3 exchange rates



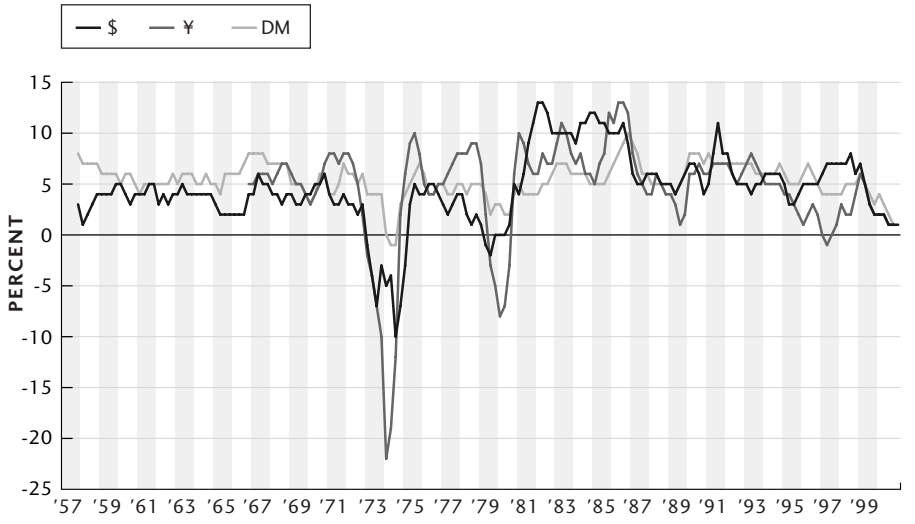
Source: International Financial Statistics (International Monetary Fund).

Figure 7b: G3 real short term interest rates



Source: International Financial Statistics (International Monetary Fund).

Figure 7c: G3 real long-term interest rates



Source: International Financial Statistics (International Monetary Fund).

devaluation. The culprit here is thus clearly the national government (link 'Domestic macroeconomic policy → National real economy → Capital flows') — although global investors must also bear the responsibility of their loans.

Second generation crises, such as the exit of the pound from the European Monetary System in 1992, are characterized by multiple equilibria and self-fulfilling prophecies. Faced to some temporary macroeconomic difficulties (e.g., high interest rates due to the German reunification), a government may respond either by maintaining fixed exchange rates and incur short-term losses of output and employment (as France did), or by devaluing and decreasing interest rates to recover growth (as Britain eventually did). Both solutions may make sense depending on the government's overall development strategy and priorities. But financial markets may bet on one response (e.g., weak British commitment to the European Monetary System). Speculation then forces the government to increase interest rates higher than otherwise necessary, which increases the cost of maintaining fixed exchange rates. Eventually, the government is led to devalue against its will — generating profits for the successful speculators. In such a scenario, the government is the victim and speculators the villains (link 'Global financial companies → Capital flows and 'Local financial companies → Capital flows').

Crises of the third generation, such as the Asian crisis of 1997, involve twin banking and currency crises. They were initially attributed to poor financial regulation and supervision as well as poor monetary policy, thereby putting the blame back on national governments and their "crony capitalist" clienteles (links 'Financial and capital account regulation → Capital flows', 'Domestic macroeconomic policy → National real economy → Capital flows' and 'Domestic financial companies → Capital flows'). It is now recognized that third generation crises are more complex, and may also include multiple equilibria effects, originate from abroad due to contagion effects, or involve "crony capitalism" at the global level, in the form of IMF bailing out Wall Street. Macroeconomic policies of G3 countries can also trigger twin currency and banking crises in the South. Both Esquivel and Larrain (forthcoming) and Reinhart and Reinhart (2001) show that currency crises are significantly associated with the volatility of G3 exchange rates, and Frankel and Roubini (2000) report results showing that dollar interest rates hikes are also significant predictor of crises. However the latter results predate the Asian crisis and may mostly reflect the case of the Mexican crisis of 1994, in which increased dollar interest rates indeed played a key role. Yet Frankel and Roubini (2000) argue that American monetary policy also plaid a role during the Asian crisis, in that decreased dollar interest rates just after the crisis made it more benign than it could have been.

Nevertheless, there is no doubt that G3 macroeconomic policies and contagion effects are more likely to trigger crises in countries that have built macroeconomic and financial imbalances. The main domestic factors of vulnerability are exchange rate overvaluation, non-performing loans in the banking sector, and maturity or currency mismatches on the balance sheets of the banking or corporate sectors (Dornbusch, 2001). In particular, a high stock of short-term foreign debt relative to foreign exchange reserves is a consistent predictor of currency crises, although it also tends to predict crises that do not occur (Edison, quoted in World Bank, 2001). Short-term bank loans are indeed the most hazardous form of capital flows since they can be withdrawn at short notice without loss for investors that withdraw before default. Long-term loans and FDI are much less liquid, while portfolio investments are even more liquid than short-term loans but investors selling in crisis time typically incur a loss.

Exchange rate misalignments are often due to the adoption of fixed exchange rate systems aiming at fighting inflation (see Section 11). Non-performing loans and balance sheet mis-

matches recurrently follow episodes of financial or capital account liberalization, as government regulators typically fail to keep up with the expansion of credit that follows liberalization. Demirgüç-Kunt and Detragiache (1998) present evidence on the link between financial liberalization and banking crises, and Kaminsky and Reinhart (1998) find that banking crises are often associated with currency crises. Montiel and Reinhart (1999) show that controls on capital movements can reduce the proportion of short-term loans and hence decrease a country's vulnerability to crises, Chile being the well-known example. But other types of capital controls can have the inverse effect, such as Korea's decision to allow banks to borrow abroad but to maintain restrictions on foreign equity investments and M&As. Capital controls might also heighten the risk of crisis, by sending a signal of weakness to financial markets. There is some evidence that crises are more likely to occur in countries that maintain controls on capital movements, but the direction of causality is uncertain as the presence of capital controls could simply reflect financial weakness (Eichengreen, 2001). In the end, what matters most is to adopt regulatory changes when the underlying macroeconomic situation is stable and strong institutions exist to implement them.

Heightened awareness

There is strong evidence that currency crises are contagious. The examples of the Mexican crisis of 1994, which put stress on other Latin American countries' financial markets, or the Asian crisis of 1997 are obvious examples. Kaminsky and Schmukler (2001) have established that bond yields and stock market returns of "emerging markets" are significantly affected by downgrades of neighboring countries' sovereign debts. On their side, Edwards and Susmel (2001) show that periods of high stock market volatility are strongly correlated across countries.

A first channel of contagion is heightened awareness (see Lowell, Neu and Tong, 1998). It basically means that when a crisis strikes one country, investors start scrutinizing other countries in more depth for similar and hitherto overlooked weaknesses. Heightened awareness certainly explains the spread of the Asian crisis from Thailand to Indonesia, Korea and other countries in the region. Of course, contagion happened because these countries were indeed plagued by similar weaknesses. Nevertheless, heightened awareness may work in combination with the multiple equilibria phenomenon. Korea, for instance, might have suffered of similar ills as Thailand, but not to the extent that a crisis was unavoidable. Korea, the argument goes, was struck only because investors suddenly became extra-cautious following the Thai devaluation. More generally, the very notion of heightened awareness underscores the adage "it takes two to tango". Both domestic and foreign creditors fully share the responsibility of debtors' unsustainable positions since they should have been highly aware of them at the time of lending.

Since the Asian crisis, global financial markets have been in a constant state of heightened awareness. This channel of contagion is therefore unlikely to spread future crises, as the recent default of Argentina demonstrates. On the other hand, all developing countries pay a high price for this constant heightened awareness in more subtle ways. First, national governments' room of maneuver is increasingly constrained by "market discipline" (see Section 11). Second, despite improvements in their macroeconomic and financial situations, the average cost of borrowing for all developing countries has continued increasing in 1999 and 2000 after the hike of 1998 and maturities have been substantially shortened, reflecting investors' higher risk aversion (Figure 2.9 in World Bank, 2001).

At the same time, it seems that financial markets practice "selective heightened awareness", as capital continues to flow in some unscathed countries. Equity investment shifted

from Southeast Asia to China in 1999 and 2000, even though this country has a few financial skeletons in her closet, too. A currency crisis is unlikely in China due to high official reserves and controls on capital movements, but a banking crisis and stock market collapse are not improbable. Global investors are demanding higher returns for higher perceived risk, but are still ready to push capital to the South when macroeconomic conditions in the North allow.

Trade linkages

A second channel through which currency crises can be contagious is the real economy (link 'Capital flows → Global real economy → Trade → National real economy → Capital flows'). Forbes (2001) distinguishes three ways in which trade linkages enter the analysis of portfolio managers:

- Competitiveness effect: Devaluation in crisis-affected countries is expected to reduce the competitiveness of other countries on world markets, hence investors discount the profitability of investments in countries exporting the same kind of products as the crisis-affected countries
- Demand effect: Reduced import demand from crisis-affected countries is expected to reduce growth prospects of countries that export to them
- Cheap import effect: Devaluation in crisis-affected countries is expected to reduce prices of imports from crisis-affected countries, and hence increase growth prospects of countries importing from them

Using industry-level trade data of 56 countries for 16 crises that occurred between 1994 and 1999, Forbes finds evidence that countries that export to crisis-affected countries or compete with them in third markets have significantly lower stock-market returns. The cheap import effect appears not to be robust.

Currency crises can have repercussions through trade beyond trading partners or trade competitors. The Asian crisis of 1997-98 was so severe that it knocked down the oil price and contributed to falling revenues of the Russian government, which precipitated the Russian default — regardless of whether Asia actually imported oil from Russia or from elsewhere.

Portfolio management

A third channel of contagion has to do with the way investors manage their portfolios (link 'Global financial companies ↔ Capital flows' and 'Domestic financial companies ↔ Capital flows'). The idea is that losses in one country force banks and portfolio managers to sell assets of other countries, either to meet their own obligations or to comply with prudential standards. Fratzscher (2000) studies 24 "emerging economies" from 1989 to 1998 using both panel regressions and a non-linear model to track exchange rate pressure. While confirming Forbes' finding on the relevance of trade linkages, he emphasizes that financial interdependence is more important in explaining contagion. He measures financial interdependence with two variables. The first one is the degree to which crisis and non-crisis countries compete for loans from banks of the same creditor country. The second one is the correlation between stock market returns of crisis and non-crisis countries, after controlling for a number of variables. When volatility increases in one market, managers working with variance-covariance matrices of stock returns will tend to upgrade risk estimates on correlated markets, possibly reducing their exposure.

The fact that liabilities of "emerging markets" tend to be held by specialized global financial institutions adds to volatility. Mutual funds of the North tend to be organized geographically (e.g., global funds, emerging markets funds, Latin American funds, country-specific funds). A Latin American mutual fund facing a crisis in Mexico will have nothing to sell but other Latin American assets, accentuating the risk of contagion. Theoretically, other investors should prop up to take advantage of such fire-sales, but lack

of liquidity in certain classes of assets or simply herd behavior may prevent that to happen. It is widely recognized that the Russian default of 1998 affected Latin America and especially Brazil because of portfolio management of global investors (Fernandez-Arias and Hausman, 2000). Ill-conceived regulation in the North can also accentuate the risk of contagion, as some institutional investors are barred from investing in low-rated bonds, which are then concentrated in the hands of specialized, high-risk investors (link 'Global financial architecture → Capital flows).

The use of derivatives is another source of instability. Dodd (2000) explains how derivatives have enabled global and local financial companies to raise their risk-to-capital ratios, dodge regulatory standards, evade taxation, and manipulate accounting rules and hence blur market information. For example, foreign exchange futures and forward allow both domestic and global financial companies to leverage their attacks against fixed exchange rates. Putable loans and bonds help global investors to flee at time of crises, when recipient countries need credit the most. Total returns swaps allow both domestic and global financial companies to profit from interest rates differentials in a fixed exchange rate system, leaving the exchange rate risk to domestic companies. And principal exchange rate linked notes (PERLs) allow domestic companies to circumvent prudential regulation by holding foreign exchange assets which are actually exposed to local currency risk, generating profits as long as exchange rates remains fixed (see Dodd, 2000).

Herd behavior

Herd behavior can not only contribute to building up unsustainable financial imbalances but also worsen a crisis in one country and propagate it to other countries. Momentous trading — the tendency to buy assets of which the prices increase and sell those of which the prices decrease — can be very profitable for investors that are quick to withdraw their bets when a bubble burst. It is also fostered by institutional features of some financial companies. For example, Griffith-Jones (1998) notes that some British pension fund managers get bonuses if they beat the median performance of funds, which induces them to be particularly attentive to what others are doing. This incentive contrasts with American managers who are induced to beat a particular index or Japanese managers who must achieve a certain minimum yield.

Kaminsky, Lyons and Schmukler (2000) provide evidence that American mutual funds specialized in "emerging markets" do engage in momentous trading as well as in contagious trading, selling stocks in one country when prices decline in another. Kim and Wei (1999a and 1999b) exploit a data set of Korean stocks and find that foreign investors engage in significantly more herding than local investors, but that foreign investors based in offshore financial centers do not herd more than those based in the main onshore centers.

But domestic market participants are also prone to herd behavior. In fact, dubious or outright criminal activity is pervasive in immature stock markets, as illustrated by the crash of the Bombay stock market in 2000 (Singh, 2001). Studying stock markets in the South during the 1980s — that is, before their opening to foreign investors in most cases — Singh (1993) notes:

> *"Between 1982 and 1985, share prices on the Brazilian stock market rose five-fold (in US dollar terms); two years later they had fallen to 28% of their 1985 value. In the first nine months of 1987, share prices on the Mexican market rose six-fold. However in October 1987 prices fell to a tenth of their previous level. In Taiwan, Province of China — the largest Third World stock market — between 1987 and February 1990 the share price rose by 330% to reach a peak of 12,600, the index then fell to a quarter of its value (3160) by September 1990."* (Singh, 1993, p.18)

Summary

Much of the debate on currency crises is about who is the culprit: national governments or (domestic as well as global) creditors and fund managers? The answer is that there are few if any crises that do not involve some mistake by national governments, but that the threshold of mistake subject to market punishment has substantially fallen in recent years, and the punishment has become more severe. Although some elements of domestic weakness are now well known, few consistently predict crises without at the same time ringing false alarms. Crises typically occur because of idiosyncratic constellations of domestic and global factors, which point toward the need for a sort of "complexity theory". The Thai crisis of 1997 occurred because of an ill-conceived exchange rate policy and poor financial regulation. It spread to neighboring countries because of the "heightened awareness" effect, perhaps coupled with a double-equilibrium phenomenon. That crisis was so severe that it knocked the oil price down, cutting the Russian governments' revenues and prompting its default. Global investors lost a lot of money in that default and were forced to raise cash elsewhere, forcing Brazil to devalue and putting financial pressure throughout Latin America. Since then, all "emerging markets" must live with higher costs of capital to compensate for higher systemic risk, and the North-South flow of private capital has dried up.

6. Impact of capital flows' volatility on income and wealth inequality

Most studies of the impact of global private finance on poverty concentrate on its impact on long-term growth, and will be examined in the next five sections. Boosting long-term growth is key to reducing poverty. However, keeping income and wealth inequality in check is also essential, since the rate at which growth translates into poverty reduction depends upon inequality (Oxfam, 2000a). The volatility of private capital flows induces important redistribution effects and can therefore bear upon the pace of poverty reduction (link 'Capital flows → National Real Economy → Inequality → Poverty). Moreover, financial crises have very negative impacts on poverty in the short-term, against which any long-term benefits of private capital flows must be balanced. At very low initial levels of income and wealth, further declines in income can lead to immense human suffering and durable damage to productive capacity. Aggregate economic recovery may then fail to improve the lot of the poorest and increase inequality.

The impact of financial volatility on income inequality

The impact of financial crises in Latin America and Asia during the 1980s and 1990s has been documented by the World Bank (1999), Oxfam (2001a) and Baldacci, de Mello and Inchauste (2002). Their uncontroversial conclusions are the following:

- Financial crises lead to sharp declines in average consumption, real wages, and employment in the formal sector in the year they occur, as well as to sharp increases in headcount poverty which typically take several years to be reduced to pre-crisis levels. During the financial crisis of 1997 in Indonesia, real wages in the urban formal sector were almost halved and fifteen million people were pushed under the poverty line. The headcount poverty rate has not yet recovered its pre-crisis level.
- Financial crises have mixed impacts on income inequality. In Korea in 1998, unemployment increased three-fold and the real income of the poorest quintile of the population dropped by a staggering 23.7%, while that of the richest decile dropped by only 2.5%, in part thanks to a jump in interest rates and capital income. By contrast, the crisis reduced income inequality in Indonesia, where the urban middle-class was hit harder than the rural poor were.
- Public and private spending on social services fall together with average consumption, or even faster in the case of education in Indonesia, Korea and Malaysia in 1998 and 1999. School enrollment rates and clinic visits dropped significantly in Indonesia. Hicks (1991) has calculated the sensitivity of different categories of public spending to general fiscal austerity during the 1980s, and finds that capital expenditures is the first budget category to suffer from fiscal downturns, which harms the poor in the long term. Current social spending fare better, though not as well as debt service, military spending and general public administration.

Redistribution effects are not limited to periods of crisis. UNCTAD (2000) analyzes the evolution of real wages and employment throughout the financial cycle in Latin America in the 1980s and 1990s and Asia in the 1990s.

In Latin America, real wages rose faster than productivity during capital inflow booms and growth failed to reduce unemployment. By contrast, real wages rose slower than productivity in East Asia during the 1990-1996 boom and unemployment was reduced, but income inequality rose sharply nevertheless in Indonesia, Malaysia and the Philippines (Oxfam, 2001a). After bust and a two-year recovery, real wages remained below their peaks in most countries of both regions and unemployment remained higher than before the boom.

Wages constitute GDP together with capital income and self-employment income. Diwan (1999) studies the share of GDP accruing to labor in the aftermath of 62 currency crises in 33 developing and 13 industrialized countries between the early 1970s and the early 1990s. He argues that labor has been a shock absorber of financial crises, allowing firms to recover profitability. He concludes that the labor share has almost always declined after currency crises, by an average of six percentage points of GDP over an average of three and a half years, before recovering an average three percentage points over an average of two and a half years. These losses for labor are substantial, given that labor shares average 40 to 50% of GDP and that GDP typically falls in crisis years. Cumulating these losses over the bust-recovery cycle, it appears that labor has lost on average 27 percentage points of one year's GDP per financial crisis, spread over an average of six years following the start of the crisis.[15] For the 32 developing countries with sufficient data alone, we are talking about an income transfer of $545 billion over a twenty-year period, or about $27billion a year.[16] Moreover, about two third of this transfer seems to be permanent, since the labor share typically fails to recover its pre-crisis level. However, these figures fail to take into account the rise of the labor share that is likely to precede financial crises, and to which subsequent "permanent" declines may represent an adjustment. While acknowledging that this is part of the story, Diwan does provide evidence indicating that labor shares have fallen on trend in most countries since the mid-1970s. This decline is particularly marked in Latin America, Sub-Saharan Africa and the OECD with the exceptions of the United States, Britain and Canada. The author speculates that a hysteresis effect may be at work, as terms-of-trade and financial shocks induce an initial decline of the labor share, which fails to be offset by subsequent corrections because industrial relations are permanently transformed.[17] But he also concedes that the combination of capital mobility with labor immobility may have contributed to the slide by shifting the balance of bargaining power in favor of capital owners.

On top of losses to capital, unskilled labor has also lost vis-à-vis skilled labor. Using the methodology of comparative "quantified narratives", Taylor (2000) investigates the impact of capital account liberalization and the ensuing capital inflow boom on wage inequality in 21 "emerging countries". He finds that wage differentials between skilled and unskilled labor increased everywhere after trade and capital account liberalization, except in Brazil between 1994 and 1997, in El Salvador between 1990 and 1998, and in Chile between 1990 and 1997 (but inequality had risen sharply in the initial post-liberalization period of the 1980s). Increased wage differentials were one factor feeding into the deterioration of the overall primary income inequality in most countries. Employment shifted to the non-traded sector and in many cases to informal activities. Unemployment was stable or rose in most countries, but employment of unskilled workers rose in Brazil and especially in Costa Rica and El Salvador. Trade liberalization also increased income inequality in the North (Oxfam, 2001b).

Besides their effects on profit-wage ratios, wage differentials and employment in the formal sector, capital inflows may also have an adverse impact on the informal sector and on small enterprises. Cobham (2001) argues that capital account liberalization may ration credit to small and medium enterprises, especially in

rural areas, and that these companies are more vulnerable to bankruptcy at times of financial crisis. Small farmers and other small enterprises are very sensitive to exchange rate fluctuations, which they cannot edge.

Yet another income redistribution channel is taxation. International tax evasion would simply be impossible under strict international control of capital flows. The poor who do not own financial assets can obviously not benefit from it, and only the very wealthy can afford sophisticated wealth management advice. Oxfam (2000b) estimates that tax evasion through tax havens costs developing countries governments about $15 billion a year. On top of the direct income transfer from taxpayers to tax evaders, tax havens may also exert a downward pressure on corporate and capital income taxes. Corporate tax rates have fallen in many countries during the 1990s, and there are very few cases where they have risen (Hanson, 2001). But lower tax rates may be compensated by broadening the tax base. Quinn (1997) actually finds a positive correlation between effective corporate tax rates and his index of capital account liberalization for a sample of 18 developing countries and another one of 20 industrialized countries between 1974 and 1989. On his side, Garrett (2000) finds no correlation using the same index in level instead of change for 21 OECD countries between 1985 and 1992.[18] However, capital account liberalization is probably correlated with the administrative capacity to collect taxes on capital, which is hard to control for in econometric regressions. Hines and Rice (1994) also explain why tax evasion by American multinational companies through tax havens does not necessarily reduce tax collection in the United States, but rather the revenues of high-tax countries receiving FDI.

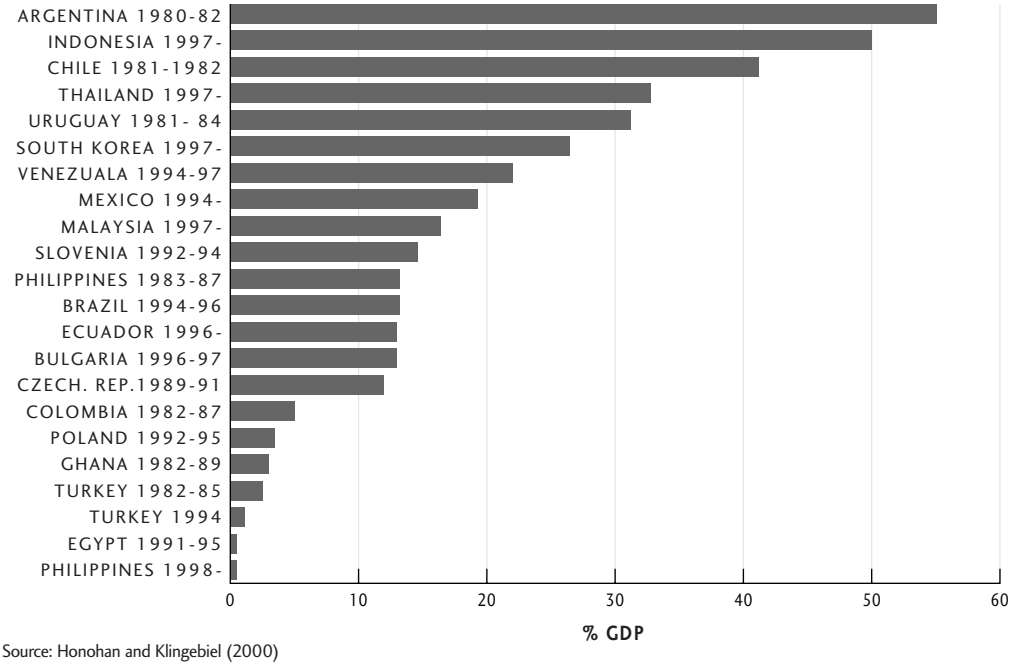
The impact of financial volatility on wealth inequality

By definition, the poor do not own much financial wealth at all, and their net worth is unlikely to be affected by large fluctuations in asset prices. But financial crises tend to swell government debt, which the poor will have to repay either through increased taxation or reduced subsidies and services (see Focus on the Global South, 2000). Honohan and Klingebiel (2000) present estimates of the fiscal cost of 41 banking crises that occurred in 35 countries between 1980 and 1998. Banking crises can happen regardless of foreign capital flows, but Figure 8 and the data presented below focus on twin banking and currency crises in developing countries only (currency crises being defined as a 25% devaluation in a year). The severest crises have cost governments between 20% and 50% of GDP, with a cumulated fiscal cost of $662 billion in 1995 dollars, or about $35 billion a year. This sum represents an astounding transfer from taxpayers and users of public services to banks' depositors, creditors and shareholders. Moreover, these estimates do not include the costs of counter-cyclical fiscal policies, as government revenues decrease and debt servicing costs increase during crises, which may also be detrimental to the poor if taxes and spending are regressive. They also exclude the increased long-term cost of capital resulting from lower creditworthiness and the loss of reserves incurred by central banks when they unsuccessfully defend their currencies.

While all recipients of these huge wealth transfers are rich enough to have some wealth in the formal financial system, the losers are not all poor. Middle-class and rich people also shoulder part of the fiscal costs. However, UNCTAD (1997) argues that swelling public debts have given rise to a new class of rentiers in the South, where wealthy people benefit from double-digit real interest rates paid for by mostly regressive taxes and reductions in public investments.

Besides financial crises in which the government intervenes, financial bubbles and busts redistribute wealth on a large scale among middle-class and rich owners of financial assets. The very wealthy in both North and South are likely to win from financial volatility thanks to their access to sophisticated financial instruments and highly

Figure 8: Fiscal cost of banking crises



Source: Honohan and Klingebiel (2000)

skilled managers. For example, hedge funds, which are only accessible to the very wealthy, have beaten the Standard & Poor's stock market index over the turbulent 1996-2001 period, unlike mutual funds that cater to the middle class in the North (VAN, 2001). For the year 2001 alone, the VAN U.S. Hedge Fund Index gained 1.9%, while mutual finds collapsed by 19.5% on average. Over the longer period of 1983 to 1998, the net worth of the richest 1% American households, including both real estate and financial assets and liabilities, increased by 42%, while that of the poorest 40% remained close to zero (Wolff, 2000).

Financial assets' bubbles and busts have also substantial redistribution effects between generations (Baker, 2001). If the Dow Jones index were to stagnate around the 10,000 mark for several years to come, which is not improbable given that the stock market remains significantly overvalued according to conventional valuation methods, it would mean that workers who retired at the end of the past decade would have dispossessed current working generations from capital gains on their retirement savings.

Little research has been done on the international redistribution effects of financial volatility, but some authors have advanced the hypothesis that investors of the South may benefit from "emerging market" bubbles thanks to their insider knowledge (Griffith-Jones, 1998, p.8). Domestic investors would be the first to know when their country's investment climate improves, as well as the first to flee when bad news accumulates. Kaufmann, Mehrez and Schmukler (1999) find some evidence that Thai and Korean firms anticipated the 1997 crisis better than foreign investors, but Indonesian and Malaysian ones not. If this phenomenon were better established, it would represent a form of transfer from North to South, but only among wealthy people.

Summary and agenda for further research

Worldwide financial instability generates massive transfers of income and wealth from the general public in the South, including the poor, to the rich in both South and North. As summarized in Table 1, three redistribution channels together account for a transfer of an order of magnitude that exceeds the benefits of capital inflows derived

from spurred growth: falling labor shares of GDP, the fiscal costs of banking crises, and tax evasion. Although the part of these transfers born by the poor themselves is unknown, it is likely to be large. Taxes tend to be regressive or at least not very progressive in developing countries, and fiscal deficits are often reduced through cutting spending, which harms the poor. Cuts in real wages are also likely to hurt unskilled workers more than skilled ones. This section has indeed provided evidence that financial instability reduces employment and increases the spread of wages between skilled and unskilled workers both in the South and in the North. A country-by-country analysis would be necessary to determine exactly what is the portion of the transfers born by the poor, and Table 1 provides a back-of-the-envelope calculation in the case of Thailand. It appears that the fiscal cost due to the 1997 twin banking and currency crisis that is likely to be born by the poor.

Very little research has been carried out about the three major redistribution mechanisms, probably because they are assumed to bear a smaller impact on poverty than the presumed positive effects of private finance on growth. But Table 1 challenges that presumption. For the labor share, updated data are needed to see whether the downward trend has continued into the 1990s. Diwan's analysis should also be extended to the full boom-bust-recovery cycle to determine what is the net loss of labor, and whether it is indeed permanent. Then this analysis could be complemented with comparative case studies such as those of Taylor (2000), who did unfortunately not include the labor share among his variables of interest. It is also necessary to refine the fiscal cost estimates of banking crises and tax evasion. A better understanding of the progressivity of government taxes and spending in each country would then be necessary to better appreciate the impact of the cost of banking crises and tax evasion on the poor rather than on the middle class and the rich.

Table 1: Growth vs. redistribution

Benefits of capital mobility for the poor (all developing countries, 1980-98)	
Cumulated income due to capital inflow-induced growth:	$1,198bn[a]
Part of this income that benefited the poorest 20% of each country's population:	$36~120bn[b]
Costs of capital mobility for the poor (all developing countries, 1980-98)	
Cumulated transfers from all taxpayers and workers to the rich due to capital flows:	$947bn
Tax evasion:	$285bn[c]
Bailing out of bankrupt banks after currency crises:	$662bn
Part of these transfers that was born by the poorest 20% of each country's population:	$$6~47bn[d]
Cumulated transfers from all wage-earners to the rich due falling labor share after currency crises:	$545bn[c]
Part of this transfer that was born by the poorest 20% of each country's population:	?

Source: See text.

Notes: All figures in 1995 dollars. a. Based on the estimate of capital inflow-induced per capita growth rate of 0.6%, derived from the World Bank study discussed in Section 7. This figure covers the 1990-98 period only, because the partial correlation coefficient between capital inflows and growth is insignificant (and actually negative!) for the 1980s. Applying this insignificant coefficient to the 1980-89 period would dwarf the total benefits over the 1980-1998 period to $155bn. b. The poorest 20% of the population receive between 3% and 10% of total income in most developing countries. c. Estimate for 1990 multiplied by 19 (1990 dollars). d. Assuming that (i) the whole fiscal cost is eventually paid for by extra taxes without reducing spending, (ii) the ratio of consumption taxes in total government revenues remains unchanged, (iii) consumption inequality remains unchanged, and (iv) the poorest 20% of the population only pay taxes on consumption, in the same proportion as the rich. This is a conservative estimate as tax and spending systems in developing countries are often regressive. e. This figure is underestimated because the data end in 1994, before the Mexican and Asian crises, and because it excludes many developing countries due to lack of data, including Argentina and Brazil. On the other hand, it is overestimated because it does not take into account the increase in labor share that is likely to precede a currency crisis.

7. Impact of capital flows on growth — general analysis

This and the five following sections examine the link 'Capital flows → National real economy → Growth → Poverty' of Figure 1. Sustained inflows of foreign capital can affect the real economy and boost GDP growth in three ways (see World Bank, 2001). First, they allow countries to finance trade deficits. These deficits are useful in early stages of development both because they permit countries to invest more than they save, and hence to accumulate capital faster, and because they provide resources to import intermediate and capital goods that low-income countries cannot produce domestically and that are essential to build a productive capacity. Second, foreign capital can spur productivity by facilitating transfers of technology and know-how. Third, it can be instrumental in improving the allocation of both foreign and domestic capital throughout the economy. On the other hand, the World Bank (2001) identifies one way by which capital inflows can have a negative impact on long-term growth, which is that their volatility transmits instability throughout the economy.

The next sections will investigate each of these four mechanisms in turn. Section 12 will analyze an additional channel through which capital flows can adversely affect long-term growth: the interest payments and profit repatriation that can represent an unsustainable drain on a recipient country's resources. Before turning to these detailed analyses, this section reviews studies that attempt to directly measure the relationship between capital flows and growth, which presumably involve all five channels: investment, productivity, allocation efficiency, volatility, and balance of payments effects. Most studies reviewed here rely on cross-country regressions of long-term growth (i.e., GDP growth rates averaged over a given period). It is important to bear in mind at all times the limitations of that methodology. As discussed by Kenny and Williams (2001), great caution should be exercised in interpreting results from growth regressions, as they often merely identify correlation rather than causation. Failure to establish a robust correlation between capital flows and growth would cast doubt about a causal relationship, but success would fall short of providing a confident proof of causation.

Durham (2000a) has run a battery of panel regressions on a sample of 56 developing countries between 1969 and 1998. His main dependent variable is GDP growth, and he uses both IMF and OECD data on capital flows and a number of control and interaction variables including financial depth and the flows' volatility. He studies short, medium and long-term effects by averaging variables over respectively one, five and ten years. He observes that most significant results between FDI, bank loans, bond, equity and other investments are not robust to different econometric specifications. Growth and capital flows tend to be better correlated in the short term.

By contrast, Soto (2000) analyzes a sample of 44 developing countries, including only eight low-income ones, for the period 1986-1997. He finds that FDI and portfolio inflows are significantly correlated with growth, while short and long-term bank loans have a negative correlation for countries where banks are weakly capitalized. The difference between Soto's and Durham's results are partly explained by differ-

ent choices of control variables and econometric specifications. Soto uses one-year lagged independent variables, while Durham uses panel data averaging both dependent and independent variables over one, five and ten years. Given his specification, Soto's results can be interpreted as meaning that FDI and equity flows are short-term predictors of economic strength, while debt flows are signs of weakness. Both the time frame of Soto's study, limited to the pre-Asian crisis capital flows' boom, and his sample under-representing low-income countries may also contribute to the difference.

The World Bank (2001) finds a significant positive relationship between total capital inflows and long-term growth in a large sample of developing countries between 1970 and 1998. A key feature of the regression is the inclusion of the capital inflows' volatility as a control variable, which has a significant negative impact on growth. The size of the relationship is substantial: an increase of capital inflows of 1% of GDP, without any concomitant increase in their volatility, is associated with a 0.28 percentage point increase in per capita growth on average. The net impact of capital inflows and their volatility on growth has been positive and large in the 1990s, adding about 0.6 percentage points to the average annual per capita growth rates in the South.[19] On the other hand, it has been negative in the 1970s and 1980s, but the coefficients are not significant for those decades except that volatility had a large and significant negative impact on growth in the 1970s. Over the whole 1970-1998 period, the net effect of capital inflows and their volatility on growth has been significant and negative, subtracting about 0.5 percentage points to annual growth rates.

But these results must be interpreted with much caution. First, Durham's findings suggest that they are not robust. One story that seems to be consistent with all three studies is that capital inflows have been better correlated with growth during the 1990s and that short-term effects are dominant. Since private capital poured in large quantities into a handful of countries during the 1990s, one would expect a demand-driven boom in those countries as long as the flow lasts, which turned out to be most of the decade (the data ending in 1998). But such a relationship between capital inflows and growth would be sustainable neither through time, as has been demonstrated by the Asian crisis, nor through space, as there does not seem to be enough mobile private capital in the world to replicate throughout the South the boom from which "emerging economies" benefited.

Second and more importantly, as the World Bank's study itself acknowledges, such cross-country regressions do not imply that capital flows have an independent effect on growth because some relevant variables explaining growth might have been omitted. It is actually likely that the causal relationship between growth and capital flows goes mostly in the other direction. We have seen in Section 3 that the private sector tends to channel funds to successful economies. The countries that achieved the highest growth during the 1990s were mostly East Asian, but they were already growing faster than other developing countries before the 1990s' surge in capital flows. Putting Eastern and Central Europe aside, the countries that experienced the lowest growth during the 1990s were mostly in Africa, and many other factors than their relatively low capital inflows come to mind to explain their poor performance. These factors, such as political instability or deficient infrastructure, are only imperfectly captured by the standard control variables of the World Bank's study. Falling in between the Asian and African extremes, the Latin American growth performance during the 1990s was only marginally better than the South's average despite the large amounts of capital that flowed to the continent. Over the longer 1970-1998 period, the relationship between capital inflows and growth in Latin America probably goes in both directions, which produced the unstable dynamic of booms and busts discussed in Sec-

tion 2. Inflows spurred domestic demand and growth in the short term, which induced more inflows until countries became overloaded with liabilities and were hit by financial crises and the collapse of both growth and capital inflows. History will show whether the Asian financial crisis has laid the ground for a similar dynamic in East Asia.

The World Bank itself concludes by "recognizing the importance of the domestic investment climate in determining both the extent of inflows and their productivity. However, to the extent that poor investment climates are also associated with low incomes, capital flows may well have contributed to a divergence in economic performance across developing countries in recent decades" (p.65).

This conclusion is confirmed by a study that focuses exclusively on low-income countries. Durham (2000b) has carried out time-series regressions for five African and four South Asian countries. The correlation between growth and various kinds of capital flows are insignificant in most cases. But he finds a significant negative correlation between portfolio investment and growth in Zimbabwe, a positive correlation between FDI and growth in Uganda, and a negative correlation between FDI and growth in Pakistan. The notion that capital inflows benefit only to countries that have an adequate "absorptive capacity" is a theme that reappears in several studies focusing on various channels linking capital flows and growth, which will be discussed in the next sections.

Impact of capital account liberalization on growth

Before closing this section, it is useful to mention a few papers that have studied the relationship between capital account liberalization and growth. In terms of Figure 1, this relationship involves two links: 'Financial and capital account liberalization → Capital flows' and 'Capital flows → National real economy → Growth'. We have seen in Section 3 that the former link is weak compared to other determinants of the allocation of capital flows across countries. Countries that liberalize international capital movements do not necessarily attract more capital. Hence one should doubt that capital account liberalization has an independent effect on growth.

That is indeed the finding of Rodrik (1998a), using data for about 100 industrial and developing countries over the period 1975-1989, and of Grilli and Milesi-Ferreti (1995) who add a number of indicators of political and economic instability in their regressions as well as regional dummies. However, their measure of capital account regulation is based on the IMF's summary definition of capital account status. It is a binary variable that fails to capture the array of more or less effective regulations that governments use to control international capital flows.

With a more gradual indicator and focusing on changes rather than levels of regulation,[20] Quinn (1997) observes that there is a significant and positive relationship between capital account liberalization and long-term per capita growth for 66 industrialized and developing countries (including fewer low-income countries than in Rodrik's study) during the 1960-1989 period (which is longer than Rodrik's period centered on the 1980s debt crisis). Again, however, the direction of causality is problematic. Most Latin American countries moved toward more restrictions on capital movements during the period and their growth rates deteriorated (see Figure 2 of Quinn, 1997). But they had started the period with very open capital accounts, and we have seen that unstable capital inflows may actually have contributed to their poor performance. By contrast, East Asian countries started with high degrees of restrictions that were progressively eased. Quinn's results must therefore heavily rest upon the diverging growth paths of Latin America and the East Asian tigers after the 1970s (see Section 11).[21] But capital account liberalization cannot be the decisive policy that produced these diver-

gent paths since Latin America actually received more capital inflows during that period than East Asia. Note that Kraai (1998) uses Quinn's index of capital account regulation in level instead of change. Regressing per capita growth over the 1985-97 period on the degree of capital account controls in 1988, he does not find any significant correlation.

A flurry of recent papers have taken the analysis in more details, including Bekaert, Harvey and Lundblad (2001), Edwards (2001), Arteta, Eichengreen and Wyplosz (2001), and Quinn, Inclan and Toyoda (2001). The two first papers establish a significant correlation between liberalization and growth. However, they also find that adding an interaction term between liberalization and initial GDP per capita (in the case of Edwards) or between liberalization and secondary education (in the case of Bekaert, Harvey and Lundblad) produces significant results as well. That means that a certain threshold of development needs to be reached before liberalization becomes beneficial.

Bekaert, Harvey and Lundblad focus on stock market liberalization alone, and analyze a sample of 95 developing and industrialized countries between 1980 and 1998. They use panel regressions with 5-year averages of growth as dependent variable and the liberalization year as independent variable, together with a battery of control variables. Since most industrialized countries had already liberalized their stock markets by 1980 and a majority of developing countries have not liberalized them yet by 1998, this econometric set up is essentially a test of whether the liberalization carried out by 24 "emerging economies" (including some late liberalizers of the North) in the late 1980s and early 1990s has paid off. For countries with secondary education enrollment higher than median, liberalization has had a large and significant impact on growth, adding 1.65 percentage points to annual GDP growth. For countries with secondary enrollment below median, half of them by definition, liberalization has not had any significant effect. The overall significant relationship is driven mostly by Malaysia, Thailand, Indonesia, Portugal, Spain and, to a lesser extent, all Latin American countries, which had recorded very low growth prior to liberalization due to the debt crisis of the early 1980s. This list corresponds to the main recipients of the capital inflow boom of the early 1990s, and the significant relationship between stock market liberalization and growth may therefore reflect a temporary demand-driven boom rather than a sustainable effect. Henry (2000), also focusing on 11 emerging countries at the end of the 1980s and early 1990s, confirms that stock market liberalization has been followed by a temporary investment boom.

Edwards uses Quinn's indicator with a sample of 65 countries between 1980 and 1987. Adding both the liberalization coefficient and its interactive term with initial GDP per capita, he computes that only two "developing" countries, Singapore and Hong Kong, have benefited from liberalization. Israel, Venezuela and Mexico have the right sign, such that their move toward greater restrictions on capital flows was accompanied by decreased growth rates during the 1980s. All other developing countries display the wrong sign, suggesting that their move (on average) toward greater restrictions paid off. However, this result must be interpreted with caution if the relationship turned out to be simply insignificant for the South.

Arteta, Eichengreen and Wyplosz scrutinize Edwards' data and find that the difference between North and South as to the link between capital account liberalization and growth is actually not robust to different econometric specifications. Overall, they conclude that "while we find some evidence of a positive association between capital account liberalization and growth, that evidence is decidedly fragile. The effects vary with time, with how capital account liberalization is measured, and with how the relationship is estimated. In our view,

the evidence is insufficiently robust to support unconditional policy recommendations" (p.3).

But that is not the last word. Quinn, Inclan and Toyoda (2001) present the most convincing data in support of capital account liberalization. They run panel regressions using 5-year averages over the 1960-1998 period for a sample of 76 countries and another of 54 developing countries only. Among independent variables, they include Quinn's index of capital account regulation in level lagged twice (10 years) as well as its contemporaneous and once lagged change. Capital account liberalization appears to lead per capita GDP growth, although results are slightly less robust for the sample of Developing countries. They further test the relationship by interacting the capital account liberalization index with a series of (lagged) economic and socio-political variables. None of these interactive terms turn out significant, meaning that capital account liberalization has an autonomous impact on growth, except an indicator of democracy. Non-OECD countries that have been continuously democratic have not benefited from capital account liberalization. When two countries with strong welfare states, Costa Rica and Israel, are taken off the sample, capital account liberalization has even harmed democratic countries in the South. This finding leads the authors to suggest that capital account liberalization becomes beneficial in Southern democracies only when adequate social safety nets are in place. But this may hinge on the limited number of continuously democratic countries for which data are available result — and indeed sample selection biases due to lack of data plague all cross-country regression results.

Quinn, Inclan and Toyoda have thus established that capital account liberalization has typically preceded growth, but it does not necessarily imply that it has an autonomous causal effect. The remark made about Quinn's (1997) study remains valid. The correlation between capital account liberalization and growth is fully consistent with the diverging growth paths of Latin America and the East Asian tigers, but it is hard to believe that it explains it, especially considering the weak correlation between capital account liberalization and capital flows (at least in terms of Quinn's index).

Summary and agenda for further research

The empirical studies summarized in this section leave the reader with a sense of confusion. In the past decades, capital account liberalization may have, on average, had an independent and causal positive effect on growth — or maybe not. Anyway, looking toward the future, few economists would recommend rapid and across-the-board liberalization throughout the South, because there are some indications that ill-sequenced reforms can be harmful. It is therefore necessary to research further which partial liberalization reforms can be helpful under which circumstances. This effort will involve country case studies instead of econometrics, as well as more attention to different types of capital flows and the different ways in which they can each promote or harm growth.

The correlation between actual capital inflows and growth is equally problematic. It is not robust to different econometric specifications, country samples and time periods. It does seem that the capital inflow boom of the 1990s temporarily boosted growth in the countries that benefited from it. In the longer time frame of 1970-1998, however, one World Bank study produces a significant negative relationship. More importantly, no econometric study of capital inflows and long-term growth has yet convincingly accounted for likely reverse causality. The lack of robust correlation between capital inflows and growth, together with the weak correlation between capital account liberalization and capital inflows, sheds some doubt about the causality of the relationship between capital account liberalization and growth.

8. Impact of capital flows on growth via investment

The first way in which capital flows can spur growth is by accelerating capital accumulation, that is, by increasing the share of investment in GDP. That variable is the one that is consistently significant in cross-country regressions of long-term growth (see Levine and Renelt, 1992).[22]

The World Bank's (2001) cross-country study discussed in the previous section finds that an increase in private capital inflows equal to one percent of GDP has increased domestic investment by an average 0.72 percentage points of GDP in the South over the past three decades. This result is based on a more sophisticated econometric method that attempts to deal with the problem of the causality's direction, which was underscored in the previous section.

However, the same study shows that this positive effect has substantially weakened in the 1990s compared to the 1970s and 1980s (see Figure 3.3 in World Bank, 2001). This trend coincides with the dramatic increase in capital outflows discussed in Section 2. It also corresponds to the rise of M&As in the 1990s, which was partly due to privatization programs. Unlike the other component of FDI, greenfield investments, M&As consist of a transfer of property of existing capital and do not necessarily involve the creation of physical capital.

Different kinds of capital inflows have indeed different impacts on investment (see Figure 3.1 and Table 3.A1 in World Bank, 2001). An increase in FDI by one percentage point of GDP is associated with an increase in investment by 0.84 over the whole 1970-1998 period. The impact of portfolio investment and short-term bank loans on investment is much weaker, and that of long-term loans stronger. Bosworth and Collins (1999) have carried out a similar analysis with a different data set and obtained the same result for FDI, as well as a significant coefficient of 0.5 for bank lending, including both short and long-term loans.

The effect of capital inflows on investment also varies across regions (see Figure 3.2 in World Bank, 2001). This phenomenon reflects the differences in capital inflows' composition across regions. As much as 40% of private flows into Sub-Saharan Africa have been FDI. Most of that FDI has probably been greenfield investment, which is the form of capital that is most directly passed through investment. Hence capital inflows path through investment very well in Africa. By contrast, a large portion of capital flowing in the other regions has never been transformed into domestic investment.

There are two ways in which capital inflows fail to pass through investment one to one. First, part of the foreign capital can be consumed instead of invested. That is obviously problematic because consumption does not generate the hard currencies needed to pay back the foreign capital with interests. One reason why this might happen is through the process of sterilization of reserves by the central bank, since it increases domestic interest rates and may therefore reduce domestic investment (see Section 11). According to the World Bank's study, only portfolio flows have a significant impact on consumption, and it is a negative one, that is, they increase domestic saving. On the contrary, Bosworth and Collins find a significant and large (0.77) negative impact of FDI on consumption, and a significant positive impact (0.22) for bank lending, with no significant effect of portfolio flows. As to regional break-

downs, going back to the World Bank's results, foreign capital has spurred consumption in Latin America by about 0.2 percentage points of GDP for every capital inflow of 1% of GDP. By contrast, capital inflows have been correlated with reduced consumption in East Asia, by about 0.35 percentage point of GDP, which has mitigated their impact on current account deficits. In Sub-Saharan Africa, the effect on consumption has been negligible, and capital inflows have been fully used for investment.

Second, private capital inflows can fail to finance any additional imports in excess of exports, whether these imports are used for consumption or investment, and hence fail to affect the current account. That happens if they are compensated either by capital outflows, including increases of official reserves, or by reduced official capital inflows. This may or may not have damaging consequences in terms of paying the foreign capital back, as will be discussed in Section 12. The World Bank's study shows that outflows were quite important in East Asia and Latin America, resulting in current account deficits smaller than the capital inflows (see Figure 3.2 in World Bank, 2001). By contrast, private capital inflows have generated more than proportional current account deficits in Sub-Saharan Africa, which implies that they have "crowded in" additional foreign resources, whether official aid or unrecorded repatriation of flight capital – although the causation probably works in the other direction. Given that capital inflows have not increased consumption in Sub-Saharan Africa, those additional resources have also been harnessed for increased investment.

Beyond looking at countries' different composition of inflows, little research has been carried out to explain why foreign private capital passes through investment better in some countries than others. The World Bank's study examines whether the recipient countries' "absorptive capacity" matters. It finds some evidence that the impact of FDI on investment increases with schooling, that the impact of short-term debt on investment increases with political stability, and that the impact of portfolio flows on investment increases with financial depth according to a U-shaped relationship.

Summary

Capital inflows in general and FDI in particular have spurred investment in recipient countries but with an incomplete passthrough, which raises concerns about the eventual reimbursement of these flows. Moreover, while we saw some evidence that capital flows spurred growth during the 1990s, the effect of these flows on investment has actually weakened during that period, mostly because of increased capital outflows and the increasing share of M&As. Hence some analysts including the World Bank now emphasize the other channels through which foreign capital can boost growth: productivity and allocation efficiency.

9. Impact of capital flows on growth via productivity

FDI, whether greenfield investment or M&As, is believed to stimulate total factor productivity of the recipient economy. Numerous studies demonstrate that foreign companies are more efficient than domestic ones, because they benefit from global economies of scale or simply because the fact that they have become multinational companies is a sign that they are successful enterprises (Hanson, 2001). Unless it decreases domestic firms' productivity, the presence of foreign firms will therefore by itself raise average productivity. But there are reasons to believe that FDI can also stimulate the productivity of domestic firms through transfers of technology and management skills. Such transfers can happen in a number of ways (see Hanson, 2001):

- Training of employees who can carry their new knowledge to other companies by changing jobs (although multinational companies have an incentive to retain well-trained employees)
- Competition and emulation by domestic companies within industries where foreign firms are present
- "Forward and backward linkages" with other industries, that is, the sale of foreign firms' products to domestic companies or their purchase of inputs from domestic companies under more favorable terms than imports and exports.

On the other hand, foreign firms can also harm competing domestic firms and drive them out of business rather than stimulate them, which may sometimes result in reducing total industry size. Yet again, this might be beneficial in cases where domestic companies are very inefficient and deprive other sectors of scarce resources such as capital and skilled labor (for instance, if they form cartels).

A lot of research remains to be done to determine under which conditions the positive effects outweigh the negative ones. It does seem that recipient countries need a certain "absorptive capacity" to benefit from technology and management skills transfers. Using cross-country regressions for 69 developing countries over the 1970-1989 period, Borensztein, De Gregorio and Lee (1998) find that FDI inflows are significantly correlated with growth only when interacted with schooling — the total impact of FDI on growth being negative in countries with average male schooling below about one year of secondary education. Moreover, they show that this relationship holds even when aggregate investment is added as independent variable, which suggests that FDI has a positive impact on growth (where education is adequate) beyond its effect on investment, or in other words, because of its effect on productivity.

But useful evidence on this matter is likely to come from microeconomic studies. For the balance of positive and negative impacts of FDI on productivity depends upon the particular industries where FDI takes place, and upon the existence and competitiveness of domestic firms in those industries and in the industries that trade with them upstream and downstream. Hanson (2001) quotes a number of papers establishing a correlation between average industry productivity and the presence of foreign firms in the industry. But he warns that causality may be

reversed, as foreign firms are attracted by recipient countries' most productive industries. Only few papers have attempted to measure the impact of the entry of foreign firms on the productivity of domestic enterprises in the industry, and even fewer provide evidence of backward and forward linkages. In some cases, the productivity of domestic firms declines, in others it increases. The World Bank (2001) asserts that "absorptive capacity" explains the difference. Among the factors constituting such capacity, it mentions secondary education, infrastructure, inflation and trade openness. Even some middle-income countries (i.e., Venezuela, Uruguay, Morocco and the Czech Republic) are quoted as having experienced negative impacts of FDI. This underscores the conclusion that FDI should not be assumed as being always beneficial or at least benign, particularly for low-income countries.

The social and environmental impacts of FDI

In many low-income countries, FDI is sought not so much for transfers of technology and management skills but for employment of low-skilled workers (mostly in low-technology manufacturing activities) and for foreign exchange (in either natural resources sectors or manufacturing industries). For cash-strapped countries with masses of underemployed workers, both reasons make perfect economic sense. Nevertheless, tax relieves and subsidies aimed at attracting FDI have real economic costs too, and should be used only after careful economic analysis (see Hanson, 2001). In the absence of such analysis, it is best to treat FDI at par with domestic enterprise and seek to improve the investment climate for both through public investments in infrastructure and human resources, fighting corruption and other measures discussed in Section 3. In industries where there exists some domestic capacity, production by domestic companies is actually likely to be more employment-intensive and have a lower import content than FDI production (Cobham, 2001).

Besides economic considerations, governments should also be mindful of the social and environmental impacts of FDI. Although wages paid by Western multinational companies are generally higher than earnings of subsistence farming or informal urban activities, working conditions and higher costs of living may be such as to decrease the overall welfare of workers. Many Western multinational companies rely on outsourced manufacturing financed by domestic companies or by FDI from "newly industrialized countries", of which the social standards are even lower. Millions of workers employed in low-technology manufacturing industries in export-processing zones, most of whom women coming from rural areas, are trapped in appalling working environments. Interviews with those women reveal that they are not in control of their fate (Roberts & Bernstein, 2000; Kernaghan, 2000). Workers should be allowed to organize to ensure that FDI enhances their welfare, which is the goal of development policy.

FDI in natural resources sectors can also adversely impact the environment and the welfare of communities. For example, a large share of FDI received by oil importing countries of Sub-Saharan Africa is invested in the agricultural sector, and part of it is used to purchase land from subsistence farmers. Given the social problems existing in South Africa and Zimbabwe, it is far from obvious that FDI in Mozambique by wealthy landlords of these two countries will benefit Mozambican farmers (Mutefpa, Dengu and Chenje, 1998). Multinational extractive industries similarly tend to harm communities without producing many local benefits, and to harm the environment and manage natural resources in unsustainable ways (Oxfam, 2001c).

Finally, when FDI takes the form of the purchase of privatized companies, there is a concern that ensuing deregulation of public services will hurt the poor by discontinuing explicit or implicit subsidies to people who cannot afford to pay or to distant and sparsely populated areas (Cobham, 2001).

Summary

FDI has the potential to contribute to growth and development by transferring technology and management skills. From an aggregate perspective, there are some indications that this potential is realized only in countries that have a sufficient absorptive capacity, especially sufficient human resources and infrastructure. But it is actually necessary to look in detail at each industry in each country to assess whether FDI is likely to enhance productivity or not. In the absence of careful economic analysis, it is best to adopt a neutral stance vis-à-vis FDI, treating foreign companies like domestic ones, and to concentrate on improving the investment climate for both domestic and foreign companies.

FDI in natural sectors can do real harm to local communities and the national interest should be balanced with local interests. Unsustainable management of natural resources can also produce short-term benefits at the expense of long-term growth. FDI in manufacturing activities that are intensive in unskilled labor often harms workers, who should be allowed to organize to defend their interests.

10. Impact of capital flows on growth via financial development

The previous section focused on the effects of greenfield investments and M&As on industry productivity through transfers of technology and management skills. Another way in which the openness to foreign capital can increase economy-wide productivity is by improving the allocation of capital across industries and across firms within industries, selecting the most productive ones. The hypothesis is that capital will be better allocated in countries of which the financial sector is more developed, as measured by large ratios of liquid liabilities to GDP, credit to the non-financial private sector to GDP, stock market turnover or capitalization. The World Bank's (2001) argument runs as follows:

> *"Greater financial sector development is expected to be associated with faster economic growth, and larger international capital flows are associated with improvements in financial sector depth and liquidity. However, an inflow of foreign capital does not in itself guarantee improvements in the financial sector. The short-term consequences may well be unfavorable, given the volatility of capital flows, which can have negative implications for output and employment." (p.70)*

We will come back to the third part of the argument, about volatility, in the next section. The World Bank quotes many studies supporting the first part, the correlation between financial development and growth (see also Cobham, 2001). It seems that the effect of financial development on growth really hinges on allocation efficiency because there are no robust effects on investment and savings. Moreover, Jung (1986) finds some evidence supporting the notion that financial development leads growth in the South, and not the other way round. Durham (2000c), focusing on stock markets development, strikes a more skeptical note. He argues that the relationship between stock market development and growth does not hold with samples including only low-income countries and that interacting stock market development with the level of GDP produces very significant results, suggesting that promoting financial development through stock markets is not a very good idea in low-income countries.

The World Bank (2001) also establishes the correlation between capital inflows and financial development, the second part of the argument. But it provides evidence that it holds only for middle-income countries. The World Bank also suggests that, where it holds, this correlation is probably mostly due to the removal of financial regulations affecting transactions among domestic agents, which typically accompanies or precedes capital account liberalization. Moreover, the direction of causality is again problematic, as global capital is likely to flow into countries with well-developed financial markets (see Section 3). The World Bank shows that portfolio inflows are well correlated with stock market capitalization (coefficient of 0.55). Durham (2000a) also finds that capital inflows are better correlated with growth when financial development is added as a control and interacting variable, particularly as far as equity flows and stock market capitalization and turnover are concerned.

Focusing on capital account regulation indicators rather than flows of capital, the evidence is disputed. Klein and Olivei (1999) confirm that the correlation between openness to foreign capital and financial development holds only

beyond a certain threshold of development. They analyze a sample of about 90 developing and industrialized countries between 1986 and 1995 with the IMF's (weak) measure of capital account regulation (see Section 7). They find a significant relationship between liberalization and the ratio of bank lending to GDP. However, this relationship does not hold for a sub-sample of Latin American countries, and too few Asian and African countries liberalized their capital account to carry out the analysis for the South as a whole. On the contrary, Bekaert, Harvey and Lundblad (2001) conclude that liberalization stimulates financial development and growth in the South as well, but their result is based on stock market liberalization alone and focuses on the experience of "emerging countries" in the 1990s (see Section 7). On their side, both Kraay (1998) and Arteta, Eichengreen and Wyplosz (2001) observe that the interaction of capital account liberalization with financial depth is insignificant in explaining growth.

Researchers have suggested a number of reasons why openness to foreign capital would not necessarily improve the allocation of capital in low-income and some middle-income countries. The most common explanation is the absence of strong regulatory frameworks to supervise financial actors and enforce contracts. Arteta, Eichengreen and Wyplosz provide some evidence to that effect based on cross-country regressions. Beck, Demirgüç-Kunt, Levine and Maksimovic (2000) and Wurgler (2000) use country, industry and firm-level data to show that the benefits of developed financial markets depend upon the protection of minority investors and other regulations. The recent stock market crisis in India, provoked by criminal brokers, and anecdotal evidence of "casino trading" by small holders in China illustrate this view (see the quote of Singh, 1993 in Section 5).

A second explanation, grounded in general equilibrium theory and reminded by Rodrik (1998a) and Eichengreen (2001), is that low and middle income countries tend to have more price distortions, such that removing controls on capital movements alone is not necessarily efficient. Foreign capital flowing into industries that are heavily protected by tariffs or where real wages are rigid may actually decrease growth. Evidence on this hypothesis is scant.

Brownbridge and Gayi (1999) suggest two other explanations, based on case studies of eight low-income countries that underwent financial liberalization. First, macroeconomic instability is pervasive in many low-income countries and prevents financial liberalization to bear fruits in terms of allocation efficiency. Second, foreign finance is largely absorbed by governments in many low-income countries, or by a few large companies in natural resources sectors, which implies that increased capital inflows do not necessarily open opportunities for better capital allocation.

Summary

There is good evidence that financial development improves the allocation of capital across industries and enterprises, and hence boosts economy-wide productivity and growth. However, the evidence supporting the view that openness to foreign capital increases financial development is much weaker. To the contrary, there are reasons to believe that capital account liberalization can worsen the allocation of resources in low and middle-income countries, including the lack of adequate financial supervision, the existence of price distortions, or the narrowness of capital markets. Macroeconomic instability can also harm the allocation of financial resources. As we shall now discuss, it can both be caused by financial volatility and exacerbate it.

11. Impact of capital flows on growth via financial volatility

The fourth channel through which capital inflows influence growth is their volatility. There seems to be a consensus about the negative impact of capital flows' volatility on growth (an exception is Durham, 2000a, who finds no robust relationship except for equity flows' volatility). The questions are whether the effect is transitory or permanent and, in the latter case, whether it outweighs the positive impacts of capital inflows on growth examined in the previous three sections or not. Hence some see volatility as a short-term impediment that is important but should not divert attention from the positive long-term perspective. For others, "in the long-term, we are all dead", as Keynes once said, and countries get indefinitely stuck with the short-term impediment.

The Mexican and Asian crises of 1994 and 1997 provide ammunition in support of the first view. Recovery was swift after both crashes. Park and Lee (2001) generalize the optimistic view by analyzing 160 crisis episodes over the 1970-1995 period, defining crisis as a 25% depreciation of the currency within a quarter. They find that the Asian crisis followed a normal pattern, as growth resumed thanks to large real depreciation, expansionary fiscal and monetary policies, and an improvement in the global economic environment. Yet both the depth of the initial contraction and the speed of recovery were particularly strong in Asia because the crash was mainly a liquidity crisis. Once the liquidity constrained relaxed, domestic demand rebounded. Using a cross-country regression, they also show that average growth over the 1985-1995 period is uncorrelated with the number of crises in the 1975-1985 period. But this methodology is very crude to capture the impact of financial instability on long-term growth. Even in the case of East Asia, it remains uncertain whether countries will recover their pre-crisis growth rates which, adjusted for the normal decline in their catch-up potential, should be about 5% per year according to Park and Lee. Only Korea is on track, while Indonesia remains in dire straits. Barro (2001) confirms Park and Lee's conclusion about the absence of long-term growth effects of financial crises, as past crises have been associated with one-off reductions of per capita growth of 2% per year over five year periods without any further significant declines in subsequent periods. But he also notes that the failure of investment and stock market valuation to rebound in East Asia does not augur well of the future (again, with the exception of Korea).

The World Bank presents a more balanced analysis. First, it recognizes the fact that even temporary contractions can be very detrimental to poor and marginalized people.

> *"A decline in per capita income tends to have a negative effect on poverty that is much greater than the improvement generated by an equivalent increase. [. . .] Crises and recessions can result in irreversible negative effects on the poor through their impact on health, schooling, and nutrition."* World Bank (1999), pp.47-48

Second, based on a series of theoretical studies, the World Bank (1999 and 2001) concludes that the volatility of capital inflows can adversely affect long-term growth. It also shows that volatility of capital inflows has increased in the 1990s, but only in East Asia and Eastern Europe and Central Asia — it was already high in Latin America. However, using cross-country

regression analysis, it claims that the impact of capital inflows' volatility on growth has actually decreased in the 1990s. Coupled with the boom in capital inflows in the South, that finding explains why the net impact of capital inflows and their volatility has been positive in the 1990s, contrasting with previous decades (see Section 7). It mentions similar arguments as Park and Lee (2001) to support the idea that financial crises have become more benign in the long run — albeit also more frequent and more severe in the short run.

Global financial architecture and the decline in worldwide growth

Taylor and Eatwell (2000) are the most articulate champions of the more pessimistic view (see also Eatwell and Taylor, 1998, and Eatwell, 1996). They claim that there is a link between the increased financial volatility that emerged with the collapse of the Gold-Dollar Exchange Standard system in 1971 and the lower growth rates experienced worldwide since the late 1970s compared to the 1950s and 1960s. Their argument can be summarized as follows:

1. Flexible exchange rates are prone to major misalignments in the medium term. It is hard or impossible to hedge currency exposures in the medium term and enterprises' investment decisions can be misguided, which harms growth (see Huizinga, 1994 and Erdal, 1997). Short-term exchange rates fluctuations can be hedged, but at a cost.

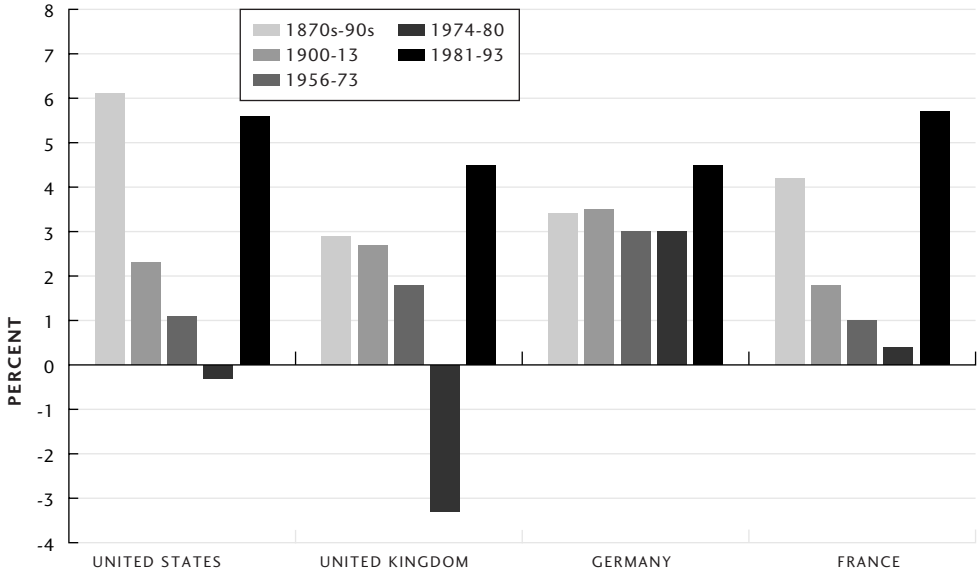
2. Volatile exchange rates feed the volatility of interest rates (see also Blecker, 1998).

3. The volatility of both exchange rates and interest rates increases long-term real interest rates (see also the discussion on interest rate management in the next sub-section). Debtors must pay higher risk premia to cover the increased likelihood of financial crisis, financial crisis contagion, or mere over- or undershooting of exchange rates. This happens not only in the South, but also in the North (e.g., Scandinavia, Japan and the European currency zone in the late 1980s and early 1990s).

4. High and volatile interest rates reduce investment and hurt enterprises, particularly firms with high debt ratios and small companies that do not have easy access to credit. This results in high rates of corporate bankruptcies, which dampens economic growth. High default rates on corporate bonds justify high long-term interest rates, generating a vicious cycle.

Some facts corroborate Eatwell and Taylor's thesis. First, it is undeniable that growth rates have declined since the mid-1970s. In the South, Weisbrot, Naiman and Kim (2000) calculate that the unweighted average of cumulated growth rates of GDP per capita fell from 83% between 1960 and 1980 to 33% between 1980 and 2000. Growth has slowed down even in Southeast Asia, and has turned negative in Africa. China and India are two notable exceptions to this trend, and their improved performance goes a long way in explaining the lack of concomitant explosion in world headcount poverty rates. Growth rates have declined in the North as well. Second, Figure 9 shows that long-term interest rates are at a historic high, matched only during another period of financial globalization — albeit with fixed exchange rates — the 1870s-1890s. Third, we have seen in Section 5 that the short and long-term volatility of both exchange and interest rates have increased since the end of the Gold-Dollar Exchange Standard. Finally, Eatwell and Taylor (2000) highlight the fact that default rates on American corporate bonds were extraordinarily low throughout the existence of the Bretton Woods system, shot up at its demise before falling back thanks to the low real interest rates of the 1970s, and ballooned again throughout the 1980s (p.114-115).

Figure 9: Long-term real interest rates in historical perspective



Source: Eatwell (1996).

The general rise of long-term real interest rates in the North at the end of the 1970s are a key intermediate variable in Eatwell and Taylor's thesis. There may be alternative explanations for it. Blanchard and Summers (1984) assert that budget deficits cannot be the cause of this rise. They argue that tight monetary policy is certainly responsible for the initial rise but cannot explain its prolonged nature either. They suggest that the rise in returns to physical capital could explain higher interest rates, although they are unable to explain what would have brought them about. Using both cross-country and time-series econometric analysis for OECD countries, Orr, Edey and Kennedy (1995) show that past inflation, returns on physical capital, current account balances, budget deficits, and exchange rate movements all explain variations of long-term interest rates. As to the general increase at the end of the 1970s, the authors conclude that "to the extent that this rise is not fully explained by inflation expectations inertia and the rise in the rate of return of capital, the residual most probably reflects financial liberalization, a phenomenon which is not accounted for in our specification" (p.14).

While Eatwell and Taylor's proposition fits the data on growth, investment, interest rates and exchange rates, the timing correspondence between the end of the Gold-Dollar Exchange Standard and the lower worldwide growth rates does not imply causality. The 1950s and 1960s were characterized by growth rates unparalleled in history, in both North and South. Besides the change in global financial regime, several factors that affected all countries in the 1970s may have interrupted that era. Such factors include the following:

- The oil crises of 1974 and 1979 fuelled inflation, then stagflation and eventually forced governments to adopt deflationary policies that hurt growth. But the world had already experienced other commodity price shocks without similar consequences, the counter-oil shock of 1986 did not produce reversed results, and it is hard to see how the effects of the oil shocks could be so prolonged. Inflation in the United States had already crept up since the late 1960s and plaid an important role in the collapse of the Bretton Woods system, which itself paved the way for more unstable monetary policies.

- European countries reached the end of their "catch up" potential vis-à-vis the United States, the leader in productivity, in the 1970s. It is therefore normal that their productivity growth declined. But the "catch up" hypothesis does not explain why productivity growth declined in the United States as well, nor why it declined in the South, where the "catch up" potential remains vast.

- Productivity-enhancing technological progress slowed down in the 1970s, and may have recovered thanks to the information technology revolution of the late 1990s.[23] This hypothesis is a good candidate to complement or replace the global finance conjecture. But it begs the question of exactly what happened to technological progress in the 1970s, given that inventions constantly increase unabated. Moreover, this hypothesis does not explain why growth slowed down in the South as well, despite the "catch up" potential.

- Rodrik (1998b) defends an alternative hypothesis for the South. He argues that social conflicts prevented many developing countries to adapt to external shocks in the 1970s. Only a handful of countries, mostly in East Asia, did adapt and caught up with the North. He uses a battery of indicators of social cohesion and conflict management institutions that significantly affect the difference in growth rates between the 1960-1974 and 1975-1989 periods across a large sample of countries. Those variables dwarf the impact of external shocks on growth, which becomes insignificant. But external shocks are proxied by terms of trade variations only. More importantly, external shocks still play the role of trigger in his model, since the social and political variables only capture the countries' different reactions to economic instability. These social and institutional variables are fairly constant throughout the 1960-1990 period, such that something else must have happened in the 1970s to make them suddenly determinant. Finally, Rodrik (1998b) does not explore whether global financial markets have compounded social and political factors in constraining national governments to cope with external shocks.

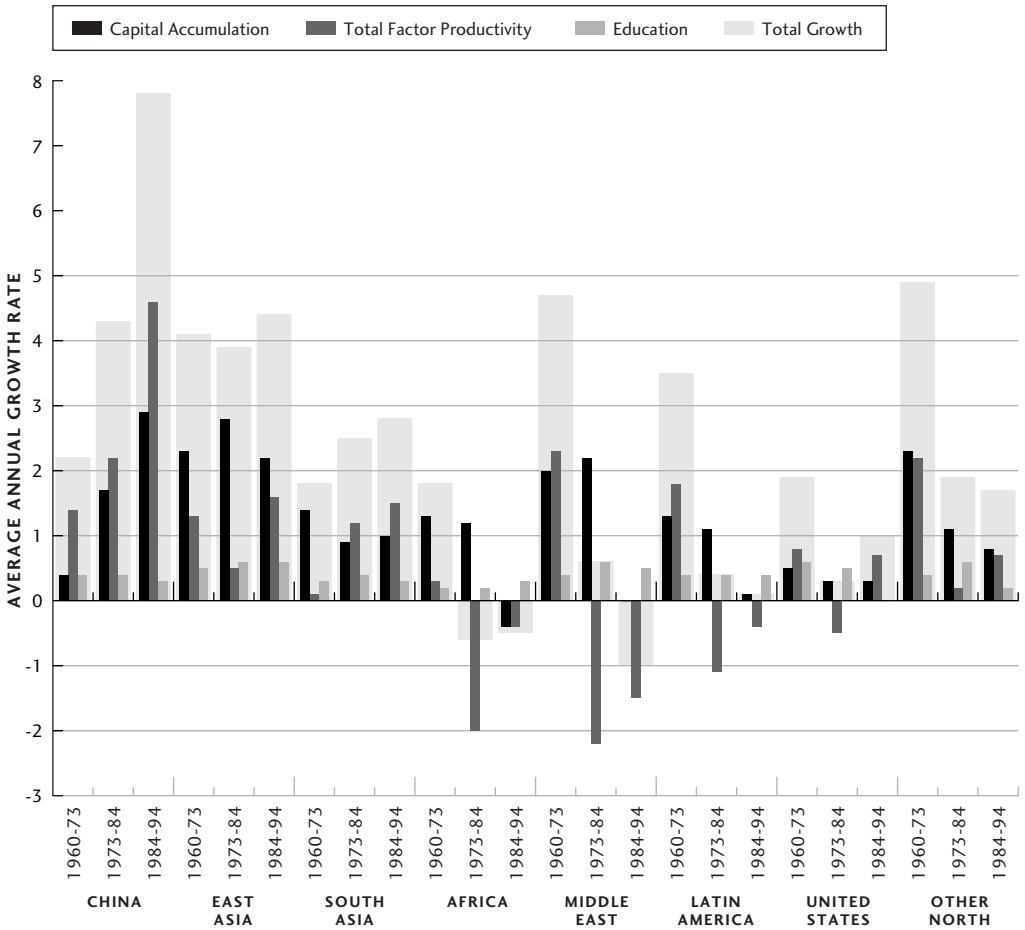
Collins and Bosworth (1996) have carried out a growth accounting exercise that allows a first sorting of these various hypotheses (see Figure 10). They study the three sources of growth of labor productivity:[24] capital accumulation, education, and total factor productivity, which measures the quality of capital (i.e., technology) as well as the efficiency with which both labor and capital inputs are used. We have seen that financial instability is likely to work mainly through capital accumulation, although it is by no means the only factor that affects capital accumulation. On the other hand, the technology hypothesis would work mostly through total factor productivity. However, one should keep in mind that total factor productivity is calculated as a residual factor and its interpretation is subject to arguments.[25] In particular, total factor productivity growth is often attributed mostly to technology, but improved management within firms and capital allocation across firms are also major sources of such productivity. And the latter element can be influenced by global financial instability.

Three observations can be drawn from Figure 10. First, labor productivity growth due to capital accumulation declined in almost every region after the demise of the Bretton Woods system. China is the big exception, and in the rest of East Asia capital-induced productivity growth first rose in the 1970s and early 1980s, explaining a large part of the Asian miracle, before falling back to its 1960s level. Second, total factor productivity growth collapsed everywhere in the mid-1970s except in China and South Asia (dominated by India). It recovered fully in East Asia and the United States since the mid-1980s and, consistent with the

catch-up theory, only partially in other industrialized countries. This temporary shortfall of total labor productivity squares better with the interpretation of capital misallocation and high bankruptcy rates during the instability period of the 1970s than with an exogenous sudden drop and sudden recovery of technological progress. Third, education-led productivity growth does not seem to have changed much through time, except for a steep decline in the North since the mid-1980s. Overall, China's improved growth performance has been due for two fifth to accelerated capital accumulation and three fifth to total factor productivity. South Asia's improved performance has been driven entirely by total productivity growth, which more than compensated the slowdown of capital accumulation. In East Asia, productivity growth has remained fairly constant but the role of total factor productivity has increased since the mid-1980s at the expense of capital accumulation. In Africa, the Middle East and Latin America, the three regions of the South where productivity has collapsed since the mid-1970s, capital accumulation and total factor productivity are to be blamed about equally. The former plaid a more important role in Africa and in the last period (mid-1980s to mid-1990s).

These results leave ample room for further research, but they certainly challenge the common view that the worldwide growth decline is all about an (unexplained) decline in technological progress. Attributing at least part of the decline in productivity to the change of global financial architecture, whether directly or in

Figure 10: Labor productivity growth and its components



Source: Collins and Bosworth (1996).

combination with other factors such as terms of trade shocks and political instability, seems more reasonable.[26]

Eatwell and Taylor's thesis should concentrate the minds of researchers and policy-makers who consider reforming the global financial architecture. It implies that global finance has decreased long-term growth in both South and North. It also means that the methodology that has thus far been used to study the impact of global finance on growth, cross-country regressions with long-term growth as dependent variable and capital inflows or liberalization as independent variable, may not be appropriate for two reasons.

First, this methodology cannot capture the worldwide decline in growth rates. At best, further research along the cross-country methodology might robustly establish that capital account liberalization is good for growth given the post-Bretton Woods global financial architecture, for example because attempting to control capital movements when major financial centers let them move freely may prove counter-productive. But that result would be compatible with the claim according to which all countries, on average, have suffered from the emergence of that system. Liberalization of national markets in the South might then only be a second best policy, compared to revamping the global financial system as a whole with a new Bretton Woods compact combining increased financial regulation and supervision at the global level — Taylor and Eatwell propose the creation of a World Financial Authority — with some sort of arrangement limiting the fluctuations between the dollar, the euro and the yen.

Second, Eatwell and Taylor's argument implies that global finance adversely affects even countries that do not seek or receive much private capital inflows at all. For the mechanisms described above involve variables such as international interest rates and exchange rates misalignments between the three main currency blocks, which affect all nations that have foreign official debts or that trade — that is, literally all nations. Actual flows of private capital or indices of capital account liberalization are therefore not the only independent variables of interest. In terms of Figure 1, the direct effect 'Capital flows → National real economy → Growth' works in parallel with indirect effects 'Capital flows → Global real economy → Trade → National real economy → Growth'. For example, the Asian crisis was so severe that it has had an impact on world demand and hence commodity prices. UNCTAD (1999a) documents this impact and how it adversely affected low-income countries that did not benefit from the 1990s boom of capital inflows. Despite the fact that Sub-Saharan Africa trades little with East Asia, it lost 2.4% of GDP in 1998 due to a 9% decline of her terms of trade.

Reinhart and Reinhart (2001) have started to explore the relationship between financial volatility emanating from G3 countries and growth in the South. They show that the volatility of the yield of three-month treasury bills has been associated with lower growth in the South over the 1973-1999 period. Moreover, this phenomenon affects even regions that receive comparatively little private capital inflows, albeit to a lesser extent. By contrast, they conclude that the volatility of the exchange rates between the three main currencies (dollar, mark, and yen) has been associated with higher growth in the South, contradicting Eatwell and Taylor's claim. However, they define volatility as the yearly average of the absolute value of the monthly changes in exchange rates. Medium-term measures of volatility, or "exchange rates misalignments", would be more appropriate because investment decisions are taken in longer time frames. Besides, Esquivel and Larrain (forthcoming) show with panel regressions that short-term G3 exchange rate volatility is negatively correlated with export and import growth in the South. In years of high volatility, exports can fall by as much as 8% and imports by 12%, which means that G3 exchange rate volatility hurts exports of the North, too.

Impact of capital flows on domestic macroeconomic policies

The volatility of interest and exchange rates directly affects enterprises (link 'Capital flows → National real economy → Growth'). But the impact of capital flows on that volatility can be either mitigated or exacerbated by national governments' macroeconomic management (link 'Capital flows → Domestic macroeconomic policies → National real economy→ Growth'). Many authors have argued that liberalized global capital flows have complicated the task of central bankers and finance ministers to create the conditions for stable growth. Financial markets are applying an increasing "discipline" on governments, which reduces their room of maneuver in three areas: exchange rate management, interest rate management and fiscal policy.

There is no doubt that macroeconomic stability is important to development. Market sanctions on irresponsible government policies can help achieve it when macroeconomic conditions are otherwise stable. But irresponsible policies such as fiscal laxity are by no means the only source of macroeconomic instability that developing countries face. Financial crises, deterioration of terms of trade, or simply natural disasters are all shocks requiring appropriate macroeconomic policies. Paradoxically, market discipline often exacerbates macroeconomic instability by curtailing policy options to cope with those exogenous shocks. Former World Bank Chief economist and Nobel prize winner Joseph Stiglitz notes that "ironically, macroeconomic stability — as envisaged by the Washington consensus — typically downplays stabilizing output or unemployment" (Stiglitz, 1998, p.11). Eatwell (1996) also emphasizes that market discipline is beneficial only if the market imposes the right policy in any given circumstance, that is, only if the underlying economic theory of financial actors is the "right one" and if they carefully examine all relevant data. Unfortunately, financial actors regularly act upon oversimplified economic models and fail to adequately consider local conditions. The impact of global finance on macroeconomic policies in the South is very important because we have seen that the inability to adapt to macroeconomic shocks is probably a major reason of the growth collapse in Latin America, Africa and the Middle East.

Exchange rate management

As far as exchange rate management is concerned, the new conventional wisdom imposed by the markets and relayed by the IMF is the "corner solutions": avoid the once-popular fixed but adjustable exchange rates and opt either for an unadjustable fixed regime (e.g., currency board, dollarization or monetary union) or for flexible exchange rates. This choice is based on the observation that open capital accounts increase the occurrence of "second generation" financial crises (see Section 5).

However, neither corner solution is promising for development in the long term. Numerous recent papers point to the disadvantages of these solutions (see for instance Velasco, 2000; Rodrik, 2000; Calvo and Reinhart, 2000a and 2000b). As to flexible exchange rates, the disadvantages are:

- Small national economies have thin currency markets, which are more volatile. There is some evidence that the volatility of real effective exchange rates hurts both trade and growth in the South.
- The passthrough from exchange rate movements to prices is larger in the South because imports represent a larger percentage of GDP. Hence appreciation leads to consumption booms, and depreciation yields inflationary pressures, especially in countries where the credibility of monetary authorities is weak or where wages are indexed on inflation. Nominal depreciation may thus fail to translate into real depreciation, such that exchange rate flexibility does not necessarily facilitate adjustment to

external shocks or the conduct of countercyclical monetary policy.

- Large depreciation can prompt bankruptcies and threaten the banking system in countries that have large debts denominated in foreign currencies.

The IMF has actually advised fixed exchange rates for a long time in order to fight inflation by creating an external anchor to domestic prices. Recently, observers have noted that countries which have shifted to floating exchange rates after the Asian crisis manifest a "fear of floating" by using their foreign exchange reserves and interest rates to substantially reduce the actual fluctuation of their currencies. Lahiri and Végh (2001) explain why such a strategy may well be the optimal way to minimize the combined costs of nominal exchange rate variability, interest rates increases and maintaining a sufficient stock of reserves.

Unadjustable fixed currency regimes are not promising either because:

- Necessary adjustments in real exchange rates are harder to achieve through income and price policies than through devaluation. Measures aiming at reducing wages and profits in the non-tradable sector (e.g., public administration, social services, financial services) relative to the tradable sector (e.g., manufacturing industries, agriculture) can be very sensitive politically. The cases of Argentina and Brazil after the Asian crisis illustrate this point, as the former was not able to devalue to regain competitiveness.

- A fixed exchange rate may become unsustainable whenever international macroeconomic shocks affect the domestic economy differently than the economy of the currency with which the domestic currency is fixed. This problem is less serious for small nations that trade mostly with the nation with which they fix their currencies. But, given that emerging Asian countries trade a lot with both Japan and the United States, the peg they maintained with the dollar did prove to be unsustainable when the dollar appreciated vis-à-vis the yen in the mid-1990s.

- Currency boards and outright dollarization render central banks unable to fulfil their role of lender of last resort in case of banking crisis. Alternative solutions exist to deal with such crises, but either they offer less protection, such as international rescue agreements, or they are very costly, such as a liquidity war chess fed with fiscal resources.

In conclusion, Rodrik (2000) asserts that most of the growth booms during the last two decades have been associated with significant real depreciation at the outset. Controlled real depreciation was achieved through fixed exchange rates with occasional devaluation or through "crawling pegs". That option is now out of fashion for two reasons. First, increased capital inflows over the past decade mean that enterprises have more debt denominated in foreign currencies than they used to. Hence occasional devaluation or crawling pegs can be as dangerous as freely depreciating exchange rates. Second, the insistence on liberalizing the capital account has made it harder to engineer controlled depreciation, as financial actors can speculate on forward exchange rates and defeat the central bank's moves. That is a first way in which global finance reduces the scope for a macroeconomic policy geared toward stable growth.

Interest rate management

According to the "impossible trinity" law, countries that choose to fix their currencies and open their capital account lose control over their short-term interest rates. They must tailor their monetary policies on those of the economies with which they peg their currencies, which may not be appropriate to their own needs. Moreover, we have seen in the previous sub-section that even countries with floating exchange rates may lose some control over monetary poli-

cy, either because the passthrough from exchange rate movements to domestic prices is very high or because they fear to float.

Drawing on the Keynesian view of financial markets as "beauty contests" (see Section 5), Eatwell (1996) emphasizes that deregulated global finance has also reduced the ability of governments to control long-term interest rates, in the North as well as in the South. Long-term bond yields reflect the market's projections of future short-term interest rates, augmented by the relevant maturity and risk premia. If market actors are convinced that any attempt of the central bank to lower short-term interest rates are doomed and will therefore be reversed, long-term interest rates will remain high. Eatwell (1996) asserts that financial markets exercise an asymmetric response to the central bank's moves. When it attempts to decrease short-term interest rates, financial markets fear that it will fuel inflation, and creditors keep demanding high nominal long-term rates to protect themselves. Investment fails to pick up due to rigid long-term rates, but liquidity swells because of the lower short-term rates. Hence inflation creeps up, and the markets' projection becomes a self-fulfilling prophecy. On the other hand, long-term bond yields fail to symmetrically decrease when the central bank increases short-term interest rates, because the markets welcome the hike as an appropriate move to preempt a rise of inflation above what current long-term yields anticipate. Hence economic activity slackens, inflation is kept low, and real long-term interest rates remain high to the benefit of creditors.

The problem here is thus not so much the globalization and expansion of private finance, but the beliefs and behaviors of financial actors. Bearish sentiments can plague even relatively closed economies with antique financial systems, and has done so in the past. Nevertheless, the ability to move capital abroad magnifies the power of market sentiments. That is true for large economies such as the European Union, which has invested heavily in the United States instead of at home over the past few years. But the sheer size of large economies protects them from the most severe forms of capital flight simply because capital has nowhere else to go: if all European investors wanted to move their wealth to the United States, they would simply not find enough profitable investment opportunities. The South is much more vulnerable to sudden and steep capital flight, which greatly reduces the scope for expansionary monetary policy. As put by economist Fernando Carvalho:

> *"Interest rates [in Brazil] tend to be on average higher than is considered sustainable, because the repeated experience with increasing rates feeds a kind of bearish sentiment in terms of interest rates. Everybody knows that at any time interest rates can be raised again if you have a serious crisis in Argentina or in any other place. So you tend to have a situation where either interest rates are kept too high or maturities are kept too short because nobody will commit resources at low interest rates to longer periods if you know that you are subject to this kind of volatility"* (Wood, 2001, p.4)

Financial markets do not forecast exchange rate movements well and demand currency risk premia on interest rates even in the North (see Blecker, 2000). For developing countries, currency premia on interest rates can be very high indeed. Brazil has spent years to build her reputation of "good student", and preserving this confidence capital prohibits even minor challenges to orthodoxy in the face of market jitters (Financial Times, 4/26/2001).

Government budget management

Expansionary fiscal policies are similarly defeated by market fears of private investment being crowded out, of bigger current account deficits, and of higher inflation. Bond markets quickly react to news of larger budget deficits by augmenting yields, which depresses growth. Using cross-country regression analysis for 56 countries

and a dichotomous measure of capital account liberalization during the 1950-1990 period, Kim (2000) shows that liberalizing countries do indeed have lower budget deficits by as much as 2.3% of GDP and his methodology supports the view that the link is causal. This effect is positive in the long run, since high budget deficits are hardly sustainable. But it may constrain macroeconomic policy in the short run. In particular, private capital inflows tend to dry up especially at times of crisis, precisely when expansionary counter-cyclical fiscal policies are advisable. Economist David Woodward rebukes the Bretton Woods institutions' recommendations in this way:

> *"In practice, rather than being used as instrument for evening out the economic fluctuations associated with variations in capital flows, the process envisaged seems to be a ratchet effect, whereby fiscal policies are to be tightened in order to attract inflows, tightened further to avoid overheating while capital is flowing into the economy, and then tightened still further when the capital flows back out."* (Woodward, 1999, p.32)

To be fair, the IMF has recognized that its prescription for tight fiscal policy at the beginning of the Asian crisis was mistaken and did reverse that policy. Counter-cyclical fiscal policies proved to be essential to the recovery together with devaluation, resulting in swelling public debts. But financial markets are less discriminating, which is why governments of countries that have a history of fiscal laxity fear to conduct counter-cyclical policies as they may be interpreted as signs of political weakness instead of adequate economic policies.

Grunberg (quoted in Wood, 2001) also underscores that the free movement of capital may jeopardize macroeconomic stability by draining government resources. Although foreign capital offers an alternative means to finance budget deficits and hence allows governments to avoid monetization and inflation, this alternative is by no means free of costs. Interest payments often represent a very high proportion of government budgets. Financial liberalization can also deprive governments from other resources, such as cheap bonds from domestic banks or proceeds generated by multiple exchange rates. Rodrik (2000) adds the administrative costs of enhanced financial supervision, which must accompany capital account liberalization. These costs of liberalization may not outweigh the related advantages, but the need for affordable alternative fiscal resources should be taken into account when liberalization is planned.

Summary and agenda for further research

Eatwell and Taylor's thesis linking the worldwide growth decline since the mid-1970s to the post-Bretton Woods global financial architecture withstands a primary investigation and seems more reasonable than alternative explanations. Given its paramount importance, it is imperative to research it further. Research avenues include analyzing the relationship between financial instability and terms of trade shocks, the effect of G3 interest rate volatility and exchange rate misalignments on growth in the South, as well as documenting the effectiveness of counter-cyclical macroeconomic policies in various regions of the South throughout the last decades. More fundamentally, this thesis goes at the heart of economic theory and empirical research of long-term growth. It calls for a better understanding of the relationship between technological progress and productivity growth, which is the main rival explanation of the worldwide decline in growth rates, and of the determinants of long-term real interest rates and their impact on growth in a historical perspective.

Even if it has not actually decreased long-term growth, it is widely acknowledged that the volatility of capital flows reduces their positive impact on growth.

12. Impact of the costs of capital inflows on growth

Private capital inflows are not free money. Estimating their benefits in terms of improved investment, productivity, and financial development is only half the story, even if consideration is paid to the negative "side-effect" of volatility. The other half of the story is whether those benefits outweigh the direct costs of interest payments on foreign debt and profit remittances on FDI. The difficulty of establishing a robust relationship between growth and capital inflows averaged over many years may well be due to their high cost, which drains recipient countries' resources.

To service capital denominated in foreign currencies, it must (i) be invested rather than consumed, (ii) generate foreign exchange, that is, be invested in export industries or in projects that indirectly enhance the export capacity, and (iii) generate a return that matches or exceeds the interest or profit rate demanded by foreign investors. With bonds and bank loans, interests must be repaid regardless of whether these conditions are met, and new loans must be sought if they are not, generating unsustainable debts. FDI is generally considered safe because foreigners bear the investment risk. If FDI projects are not productive, profit remittances are likely to be small and will not represent a burden on the balance of payments. That may not always be true, however. A part of FDI consists of M&As and hence may boost consumption or capital outflows rather than productive investment. FDI may also be used to fuel real estate bubbles and hence fail to generate foreign currencies. Multinational companies may also displace local companies. Although such displacement is likely to be accompanied by at least some gains in productivity, these gains may be more than compensated by reductions of total industry size and exports, or by transfers of rents from domestic enterprises to multinationals, draining domestically generated resources out of the country.

Woodward (1999) examines World Bank estimates of interest payments and profit remittances and concludes, soon after the Asian crisis, that "only a handful of developing countries can regard commercial borrowing as potentially sustainable over the next decade, based on the World Bank's projections" (p.24).

bin Atan (1996) develops an empirical framework to assess the impact of foreign capital on growth in a time-series econometric setup that pays particular attention to balance of payments effects. He finds that both total capital inflows and FDI have had a negative impact on Malaysian growth between 1960 and 1986, but admits that this result must have improved substantially since Malaysia shifted toward an export-oriented development strategy in the late 1980s.

More empirical research is required to take fully into account balance of payments effects on growth. Coming short of such comprehensive analysis, the present study provides some data on the rates of returns paid to foreign investors for all types of capital flows combined, including official flows and reserves. Data on investment income payments and receipts have long been available in balance of payment statistics. Lane and Milesi-Ferretti (1999) have recently vastly improved and extended the data pertaining to the stocks of foreign assets and liabilities held by residents of 22 industrialized countries and 45 developing ones, during the 1970-1997 period. However, the quality of these data remains poor. They combine actual observations that are known to be subject to large measurement errors with estimates derived from these observations. Dividing the investment income flows by the previous year's assets

or liabilities stocks yields income returns. Taking the change in assets and liabilities and subtracting contemporaneous investment flows yields capital returns. Income returns include interest payments and profit remittances on FDI. As explained in Lane and Milesi-Ferretti (1999), capital returns reflect exchange rate variations (for all types of assets and liabilities), inflation rates (for FDI), and stock market valuation (for equity investment).

A negative net foreign wealth is not harmful if, over the long run, the sum of income and capital rates of return is inferior to the rate of growth of the debtor country's nominal GDP expressed in foreign currency.[27] When this condition is not met, a debtor country's ratio of net foreign wealth to GDP continues to deteriorate even after its trade balance is brought back to equilibrium. Lane and Milesi-Ferretti (2001) adapt this rule in case the rates of returns on assets and liabilities differ, and propose the concept of "adjusted returns" to appreciate the effect of capital flows' rates of return on the balance of payment in the long run. An adjusted return of -1% means that a country must sustain a trade surplus equal to one percent of GDP to service its net foreign wealth while maintaining it constant as a ratio of GDP, that is, assuming that there is no further capital inflows nor principal amortization.[28]

Table 2 shows rates of returns on capital inflows and outflows as well as adjusted returns for countries with sufficient data. To the extent that the data can be trusted, it clearly appears that most developing countries have suffered from a negative adjusted return. South Korea in the mid-1970s and 1980s and Chile in the 1990s stand out as exceptions thanks to their rapid growth. At the other end, Argentina, Côte d'Ivoire, Ecuador, Indonesia, Jordan and Mexico have experienced a drain of resources superior to 3% of GDP due to excess borrowing – and that is despite debt restructuring programs from which some of these countries benefited.[29] Interestingly, Lane and Milesi-Ferretti (1999) observe that the net foreign wealth is positively correlated with growth among industrialized countries but negatively among developing countries.

Among industrialized countries, the United States' net foreign wealth turned negative in 1983 but her adjusted return remained positive until 1996 thanks to returns on outflows significantly higher than returns on inflows. Japan has also benefited from a positive adjusted return, but for the opposite reasons: she has a large net foreign wealth that more than compensate adverse returns. Except for the United Kingdom, most other industrialized countries have negative adjusted returns (only G7 countries are listed in Table 2). Godley and Milberg (1994) show that the source of the favorable returns differential of the United States is the very low returns earned by foreigners on FDI in the United States. For non-FDI assets and liabilities, rates of returns on liabilities are slightly higher than on assets. They advance three conjectures to explain this mystery:

- Poor quality of data, with profits of foreign companies in the United States appearing in the trade account because of transfer pricing;
- Recent foreign FDI in the United States compared to mature and hence more profitable FDI by American companies abroad;
- Different strategies of American and foreign companies, the latter seeking expansion of market shares rather than profits.

Table 2 also reveals that the United States and the United Kingdom are almost the only countries that earn a rate of return on capital outflows superior to the one they pay on capital inflows. While FDI seems to be the source of the different performances of the United States compared to continental Europe and Japan, the public sector may be contributing to that phenomenon in the South. A substantial part of South-North capital outflows consists of the purchase of foreign exchange reserves by central banks aiming at cushioning the domestic economy from sudden capital flow reversals. This practice is thus equivalent to an insurance policy purchased by national governments to protect national and global investors.[30] Several authors have noted that the

interests earned on official reserves must be much lower than the interests foreign investors earn on commercial lending or portfolio investments. For instance, Rodrik (2000) estimates that excess foreign reserves cost Korea about 0.7% of her GDP in 2000.[31] He concludes "for all that we know about the benefits of capital mobility, this single item on the other side of the balance sheet could exceed the likely economic gains from openness on the capital account" (p.5).

Summary and agenda for further research

Original data presented in this section suggest that capital inflows in the South typically fail to produce revenues sufficient to cover their costs. Hence they drain resources from the domestic economy which slows down economic growth. Part of the problem is that a substantial portion of capital inflows in the South are re-invested in the North, including by central banks' accumulation of reserves to cushion financial instability. The interests and capital gains that developing countries earn on their foreign investments are typically lower than what they must pay on their foreign debts.

Balance of payments data need to be improved to reduce the estimation and measurement errors that plague this type of analysis, and further research is needed to analyze the causes of returns differentials in various countries or groups of countries.

Table 2: Rates of returns on capital flows

Country	Period	Net foreign wealth (annual average, %GDP)	Nominal US$ GDP growth (annual average, %)	Return paid on inflows (annual average, %)	Return received on outflows (annual average, %)	Adjusted returns (annual average, %GDP
United States	1971-98	-11.3%	7.8%	8.7%	13.0%	0.6%
Japan	1977-98	16.3%	9.9%	15.8%	10.2%	0.1%
Germany	1971-98	10.2%	9.9%	13.1%	8.3%	-0.6%
France	1983-98	-0.2%	6.8%	9.8%	9.0%	-0.5%
United Kingdom	1971-98	5.3%	9.5%	13.9%	14.9%	1.0%
Italy	1971-98	-0.7%	9.6%	9.5%	7.2%	-0.6%
Canada	1977-98	-26.2%	5.2%	8.3%	7.1%	-1.2%
China*	1983-98	0.7%	10.6%	3.8%	2.8%	-0.6%
Brazil*	1975-98	-26.9%	9.6%	9.2%	4.0%	-1.2%
Mexico*	1979-98	-30.8%	8.7%	9.7%	4.4%	-3.3%
India*	1975-98	-14.6%	6.1%	4.5%	2.8%	-0.1%
Argentina*	1976-91	-18.8%	10.9%	11.9%	2.6%	-3.7%
Argentina	1992-98	-20.2%	9.9%	6.9%	5.7%	0.0%
Korea*	1976-89	-20.2%	18.9%	8.9%	10.2%	1.6%
Korea	1990-98	-5.9%	4.7%	5.7%	6.9%	-0.9%
Turkey*	1974-89	-20.0%	10.1%	9.6%	2.5%	-1.5%
Turkey	1990-98	-17.6%	8.7%	7.9%	3.0%	-1.5%
South Africa	1995-98	5.2%	-0.7%	5.1%	3.2%	0.1%

Country	Period	Net foreign wealth (annual average, %GDP)	Nominal US$ GDP growth (annual average, %)	Return paid on inflows (annual average, %)	Return received on outflows (annual average, %)	Adjusted returns (annual average, %GDP
Venezuela*	1971-91	13.1%	8.3%	12.6%	2.5%	-4.0%
Venezuela	1992-98	28.9%	11.2%	8.3%	2.1%	-6.4%
Indonesia*	1981-98	-27.2%	3.1%	11.4%	3.5%	-5.6%
Colombia*	1971-93	-21.9%	9.5%	8.7%	4.2%	-1.1%
Colombia*	1993-98	-27.6%	11.2%	7.9%	3.3%	-0.8%
Chile*	1975-92	-52.8%	9.9%	7.6%	6.3%	-1.8%
Chile	1992-98	-36.5%	11.1%	6.8%	3.3%	0.2%
Egypt*	1977-98	-36.8%	8.8%	4.2%	2.1%	1.6%
Algeria*	1977-91	-22.7%	7.5%	11.0%	2.5%	-2.7%
Morocco*	1975-98	-57.6%	7.2%	6.2%	12.0%	-1.1%
Tunisia*	1976-98	-61.6%	7.7%	7.1%	4.3%	-0.6%
Ecuador*	1976-98	-49.9%	7.7%	10.8%	1.4%	-5.6%
Guatemala*	1976-86	-23.7%	6.0%	6.8%	8.1%	-1.0%
Cote d'Ivoire*	1975-93	-93.4%	7.6%	10.3%	4.7%	-6.2%
Cote d'Ivoire	1994-96	-153.3%	3.7%	2.7%	5.5%	-2.4%
Jordan*	1972-96	-58.1%	10.5%	4.1%	1.4%	-4.1%
Bolivia*	1976-98	-48.3%	6.1%	5.9%	1.6%	-1.5%

Source: Calculated with data provided by Philip Lane and Gian-Maria Milesi-Ferretti and complemented with data from the IMF's International Financial Statistics and Balance of Payments Statistics and from the World Bank's Global Development Finance database.

Note: Capital returns of industrialized countries excludes capital returns from debt assets and liabilities and, in the case of Italy, from equity liabilities. Capital returns of developing countries excludes capital returns from debt assets and, in the case of countries marked with a star, either equity assets or FDI assets or both. For some developing countries marked with a star, no data is available for capital returns on equity liabilities either, but they are likely to be small as cross-border equity investment was restricted in most countries through most of the period. Countries that are known to have received substantial equity investment (e.g., the "emerging economies" in the 1990s) and that lack data for capital returns on equity liabilities have been dropped out of the sample.

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Endnotes

[1] World Bank (2001). See discussion in Section 7.

[2] Eatwell and Taylor (2000). See discussion in Section 11.

[3] Taylor (2001). See discussion in Section 11.

[4] Rodrik (2000), p.3. The Financial Stability Forum has reviewed "codes and standards" in many other financial domains.

[5] Figure 2 includes all the countries for which data on flows and GDP are available in the World Bank's Global Development Finance database. The number of countries differs for each year and series depending on data availability. Private capital flows are transactions in which the creditors are private companies (but debtors can be either private companies or governments). Official capital flows are transactions in which creditors are governments. Net inflows refer to disbursements of loans by foreigners to residents, minus principal repayments of such loans (or purchase of domestic firms' equities by foreigners minus sales of domestic equities by foreigners). Net outflows refer to disbursements of loans by residents to foreigners, minus principal repayments of such loans (or purchase of foreign firms' equities by residents minus sales of foreign equities by residents). Net flows equal net inflows minus net outflows. In this report, "net inflows" is used interchangeably with "inflows", and "net outflows" with "outflows". In Figure 2, private inflows refer to FDI, portfolio equity and bond flows, long and short term bank loans, and loans from "other private creditors" (e.g., trade credit). Official inflows refer to government loans, private loans guaranteed by governments, and IMF purchases and repurchases. Official outflows refer to the change in the stock of international reserves, which includes valuation change of the existing stock as well as reserve flows as such. Net flows are the opposite of the current account. Private outflows is the accounting residual of net flows, official outflows and private and official inflows.

[6] This sample includes all countries for which the index is available except Hong Kong, for which no reliable FDI data are available, and OECD countries.

[7] The control variable is the share of the industrial sector in GDP minus that of manufacturing, as in Morrisset (2000). It is not significant for the sample of "emerging countries", and has the right sign and is significant for the African countries, though not once the outlier Angola is taken off.

[8] Angola is an outlier, as it is ranked last in terms of competitiveness but has attracted a lot of (oil-related) FDI. Nevertheless, the correlation remains negative and insignificant when Angola is taken off the sample. The same analysis was carried out in changes rather than levels for the African countries' sample, with the improvement competitiveness index over the 1992-97 period. Its coefficient is not significant either.

[9] Restrictions include control on foreign exchange transactions, exclusion of foreign firms from sensitive industries such as media and defense, exclusion of foreign firms from non-sensitive industries, and limits on the share of foreign ownership. Incentives include special incentives for foreigners to invest in particular regions or industries, tax breaks specific to foreign firms, subsidies specific to foreign firms, and export promotion incentives available to all firms.

[10] Quinn's index is relevant to all forms of capital inflows, not just FDI, and is based on the IMF's "Exchange Arrangements and Exchange Restrictions" reports. It takes a value of 0 to 4 by increments of 0.5. Half the score pertains to controls on capital inflows and the other half to controls on outflows. A score of 0 is attributed if capital inflows or outflows are subject to licenses that are rarely awarded, 0.5 if licenses are sometimes awarded, 1 if they are usually awarded or if capital flows are not subject to licenses but are heavily taxed, 1.5 if they are reasonably taxed, and 2 if they are unrestrained.

[11] Quinn (1997) provides his capital account regulation index for the years 1958, 1973 and 1988, but too few observations are available for FDI and total private capital flows to compute the change between 1958 and 1973. Quinn's sample includes 45 developing countries but 8 have been dropped due to a lack of capital flows data.

[12] Figure 5b excludes India because it is a clear outlier. The growth in capital inflows in India has been enormous in spite of a move toward more capital account restrictions during the 1973-88 period. Including India in the regression yields a negative but still insignificant correlation. Edwards (2001) proposes a graph similar to Figure 5 and concludes that there is a clear correlation between capital account liberalization and capital flows, but he does not test the significance of the correlation and the relationship also hinges on a few outliers. Unreported results show that the lack of significant correlation between capital account liberalization and changes in FDI or total inflows holds in every region. Focusing on levels instead of change, other unreported results show that capital account openness is barely correlated with FDI inflows at the 10% significance benchmark for the year 1988 once three outliers are taken off the sample (Singapore, which received a lot of FDI, and Liberia and Nicaragua which received none).

[13] This statement does not show up in Figure 5, but total capital inflows include bank loans on top of portfolio inflows and FDI.

[14] FDI consists of "greenfield" investment, when a foreign firm creates a new subsidiary, and of "mergers and acquisitions", when a foreign firm acquires more than 10% of the stock of a domestic company. Purchases of less than 10% of a company's equities are considered as portfolio investment.

[15] The situation has been much worse in some countries where financial crises occurred repeatedly or were particularly bad for labor. From 1975 to 1995, workers have lost around or over 90% of a year's GDP to capital owners in Chile, Mexico, Zambia, Turkey.

[16] This figure has been calculated with 1995 dollars. The sample does not include Argentina and Brazil, two countries that would probably boost the total. It does also not include crises that occurred after 1994, such as the Mexican crisis of late 1994 and the Asian crisis of 1997-98.

[17] The hysteresis hypothesis has been developed by Blanchard (1997) in the case of continental Europe. The marked decline of the labor share in that region is attributed to the oil shocks of the 1970s, which triggered a prolonged crisis during which labor refused deep wage cuts. Firms adjusted by cutting employment and adopting labor-saving technologies, which caused the drop in labor shares.

[18] However, Garrett finds that capital tax rates fell in the United States and the United Kingdom. They rose everywhere except in Germany among the members of the (then) European Union, as well as in Canada, but significantly less than taxes on labor, despite the fact that labor taxes were initially much higher than capital taxes in these countries. The opposite is true for Japan, Australia, New Zealand, Finland, Sweden and Switzerland. These countries had initially high capital tax rates, which further increased more than labor taxes. It may be that continental European and North American countries are closer substitute destinations for foreign investment and hence face stronger tax competition, or at least that politicians perceive stronger pressure to lower capital taxes.

[19] The World Bank does actually not report the exact figure of the net effect of capital inflows and their volatility. It has been estimated for this report by multiplying the coefficients reported in the World Bank's study Table 3A.2 by the means of capital inflows and their volatility using data from the Global Development Finance database. There may be slight discrepancies between the countries and years used by the World Bank to compute the coefficients and those used here to compute the means.

[20] See Endnote 10 for details on the capital account measure.

[21] Adding regional dummy variables decreases the significance of the correlation although it still passes the 5% conventional threshold. Note that the sample's only non-OECD countries that moved towards more openness of their capital account during the 1958-1988 are South Korea, Japan (considered here as non-OECD!), Indonesia, Iran, Israel, Pakistan, the Philippines and Uruguay. Foreign private capital did not play an important role in the rapid development of Korea and Japan.

[22] For instance, Rodrik (1999) calculates a partial correlation coefficient of 0.11 for 83 developing countries between 1975 and 1994, after controlling for region, initial GDP per capita and secondary schooling. That means that a one-percentage point increase in a country's investment to GDP ratio is linked to an increase in annual per capita GDP growth of 0.11 percentage points. As benchmarks, the maximum gap of investment ratios has been between Singapore and Madagascar, at close to 30 percentage points.

[23] There is no consensus about the permanence of the productivity rebound in the late 1990s – nor even about its source (see Financial Times, 10/17/2001).

[24] They measure labor productivity as GDP per worker. GDP per hours worked is a more correct measure but data are lacking for most countries. Hours worked have declined on trend in many industrialized and newly industrialized countries and hence GDP per worker overstates the decline in labor productivity. Note that the impact of labor productivity growth on economic growth per capita is mediated by the proportion of the population at work, which is a function of unemployment, female labor force participation, population aging and labor force participation of youths and the elderly.

[25] Capital accumulation is computed on the basis of actual data of investment spending since the 1950s, estimates of the initial stock of physical capital, and a rate of depreciation of capital which is assumed to be 4% and constant through time and across countries. The education per worker or labor quality growth is based on measures of the proportion of the adult population that has completed seven degrees of formal education and a return to schooling which is assumed to be 7% for each additional year of schooling and constant through time and across countries. The weights aggregating capital accumulation and labor quality are 0.35 and 0.65 for all years and countries, which is (very) roughly equal to the capital and labor shares of GDP. Total factor productivity growth is simply the difference between observed labor productivity growth and the two other weighted components. It reflects not only errors of measurement and estimation of these two other components but also assumptions as to the underlying national production function (in this case, the weights). These assumptions are still hotly contested (see for example, Felipe, 1999 and Temple, 1999). Total factor productivity is interpreted as the impact of technological progress and improved firm-level management or economy-wide allocation of resources.

[26] The better performance of China and India is also consistent with that story. Both countries had a vast catch-up potential to exploit, and their size and capital controls protected them from both terms of trade and financial shocks better than smaller developing countries. But there is no doubt that selective trade and FDI liberalization contributed to their performance, too, especially as far as China is concerned.

[27] The foreign currency of reference is the dollar, since most foreign assets and liabilities are denominated in that currency. The growth of nominal GDP expressed in dollars is of course equal to the country's real growth rate multiplied by the rate of appreciation of its currency vis-à-vis the dollar and by the United States inflation rate.

[28] The adjusted transfer equals the lagged net foreign wealth multiplied by the difference between the rate of return on capital outflows and the nominal growth rate (in US dollars) and divided by the nominal growth rate, minus the lagged gross foreign debt multiplied by the difference between the rate of return on capital outflows and the rate of return on capital inflows and divided by the nominal growth rate. See Lane and Milesi-Ferretti (2001).

[29] Venezuela has also a very negative adjusted transfer, but with a positive net foreign wealth. The poor performance of Indonesia is strongly influenced by the disastrous years of 1997 and 1998, as well as by poor growth and adverse returns in the early and mid-1980s.

[30] Another motivation of reserve accumulation is to protect domestic exporters by preventing the appreciation of the domestic currency generated by capital inflows.

[31] This estimate is based on defining excess reserves as more than three month worth of imports and assuming a spread of 6% between the yield on foreign reserves and the cost of external borrowing, which is roughly the spread between emerging market sovereign debt over United States Treasury Bills.

Main Office
26 West Street
Boston, MA 02111-1206 USA
800/77-OXFAM
info@oxfamamerica.org

1112 16th St., NW
Suite 600
Washington, DC 20036
202/496-1180
oxfamdc@oxfamamerica.org

Worldwide Offices
Dakar, Senegal
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