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**THE ENVIRONMENTAL EFFECTS OF INTERNATIONAL PORTFOLIO FLOWS**

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## FOREWORD

Shifts in both the volume and the composition of investment activity are expected to be key results of a more globalised economy. The environmental implications of these shifts have risen significantly on the OECD political agenda, especially in view of recent discussions aimed at establishing some sort of multilateral framework for investments among Member countries. However, most of this discussion has focused on foreign direct investments (FDI), given the relatively direct connections which exist between FDI and the environment.

FDI is indeed an important dimension of private international finance, but it is not the only one. For example, portfolio equity investments and debt finance (commercial loans, bonds) made up about 46% of total private capital flows to emerging markets in 1995. Very little emphasis has yet been placed on the environmental consequences of these flows.

This report is a contribution to redressing this imbalance. It focuses on two main themes: (i) the extent to which environmental factors influence the operating decisions of financial analysts, lenders, and development banks; and (ii) the way changes in portfolio flows themselves impact on the environment. It also offers several suggestions concerning how the environmental “performance” of each of the actors in the portfolio investment management process might be improved.

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## THE ENVIRONMENTAL EFFECTS OF INTERNATIONAL PORTFOLIO FLOWS

### Introduction

As the level and impacts of cross-border private capital flows have grown, so too have debates over their environmental implications. Much of the literature to date has concentrated on: (a) the potential for economic growth to lead to increased investment in environmental protection (Dua and Esty, 1997; Schmidheiny and Zorraquin, 1996); (b) the pollution and resource consumption “scale” effects of the expanded economic activity generated by increased flows (French, 1998); (c) the implications of the expanding connections between the public sector and private investors (Gomez-Echeverri, 1997); and (d) the environmental content and effects of two of the three major types of private capital flows: commercial bank lending (Ganzi and Tanner, 1997; Ganzi and DeVries, 1998) and foreign direct investment (FDI) (Esty and Gentry, 1997; Gentry, 1998). Much of this work has focused on the dramatic shift from foreign aid to private investment in developing countries.<sup>1</sup>

The purpose of this paper is to explore the environmental implications of portfolio investment, the third major component of international private investment flows. Not only are portfolio flows the largest area of international private investment,<sup>2</sup> the environmental impacts of these flows are the least well understood. In part, this is due to a lack of data concerning the sources, destinations and effects of portfolio flows. It is also attributable to the lack of a theoretical framework for understanding the complex set of relationships between portfolio capital and environmental impacts.

This paper does not attempt to generate new primary data on these issues. Rather, it surveys the existing financial and environmental literature relevant to the topic, and explores some preliminary (and new) thinking on the links between portfolio investment and the environment. While there is a need for further empirical work in this area, there is a sufficient body of findings already available to suggest ways of channeling more portfolio investments in an environmentally sustainable direction.

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1. While transboundary capital flows have increased world-wide, the environmental debate has centred around the likely effects in developing countries, for several major reasons. First, the rate of increase of private capital flows to the developing world was dramatic through 1997. Second, since 1993, private capital flows have far outstripped official development assistance (ODA). Third, many of the world’s most pressing local, regional and global environmental issues occur within developing countries. Fourth, the most accessible data and analyses of the globalisation of finance have been conducted by development institutions (in particular, the World Bank) which focus their work on developing economies.
  2. For the purposes of this paper, and in the financial sources consulted, the term “private investment flows” does not include currency trading by private firms. The two are closely related, however, as demonstrated by many of the recent financial crises around the world.

The paper begins with a review of trends and patterns in portfolio flows. It then considers the links between portfolio investment and the environment from two perspectives: first, the impact of environmental factors on decision-making by portfolio investors; and second, the impact of portfolio investments on the environment. It also reviews the roles of international private and multilateral development banks in shaping the environmental character of portfolio investment.

Several major implications emerge from this review:

- Portfolio flows, like FDI and commercial bank lending, may contribute to both economic development and improved environmental conditions.
- The greatest opportunities for making portfolio investment a positive environmental factor lie in the links between corporate financial and environmental performance.
- In developing countries, portfolio flows may have positive environmental effects through “engagement” benefits in which foreign investors demand appropriate regulatory frameworks and adherence to the rule of law.

On the other hand, several characteristics of portfolio investments may reduce their value as a driver of improved environmental conditions, including:

- their volatile nature, which can disrupt economies, including environmental projects; and
- the pressure they may put on governments, particularly in economies that are slowing down, to ignore the need for environmental services, or to exploit natural resources beyond sustainable levels.

These and other findings lead to the following suggestions for areas of work to integrate portfolio investments and environmental goals:

- Companies with strong environmental performance should be more attractive to portfolio investors, but often are not because of both information and regulatory gaps.
- The positive environmental effects of portfolio flows can be enhanced, and the negative effects mitigated, by attention to broader issues of institutional reform, leading to stronger economic growth and improved governance on environmental issues.

### *Understanding portfolio flows*

What exactly are portfolio flows, and how do they compare with other forms of private capital? Portfolio capital, bank loans, and FDI are the three major categories of private funds moving internationally. The boundaries between different categories of private capital are becoming more fluid, but in general, the three major categories are usually identified as follows.

World-wide, portfolio flows comprise the largest segment of cross-border transactions — 55 per cent in 1996 (IMF, 1997). The term “portfolio” refers to the combined holdings of diverse financial assets by individuals and institutions. Portfolios may contain a wide variety of investment instruments, but this paper focuses on the most common type of holdings, both equity and debt securities, many of which are

publicly-traded.<sup>3</sup> Equity securities are ownership shareholdings in companies, commonly referred to as stocks. Debt securities are mostly bonds issued by governments or private firms. Portfolio debt instruments also include certificates of deposit and credit paper, mostly promissory notes.<sup>4</sup>

Commercial bank lending is the second largest category of international private investment — it includes funds lent directly to private companies or governments. In 1996, 23 per cent of all international private investment flows took the form of foreign commercial lending (IMF, 1997). In 1997, bank loans exceeded portfolio equity flows to developing countries (16 per cent versus 13 per cent — see figures below for US\$ volumes). Some commercial lending is also used to generate a portion of portfolio flows. International commercial banks frequently “securitize” loans by bundling them together and then selling interests in the pool of loans as securities on the secondary markets. The debt securities then count toward the total level of portfolio investment, since they can be readily bought and sold by parties other than the original holder, just like publicly-traded stocks and bonds.

The third type of transboundary private capital investment is foreign direct investment (FDI) — investments by multinational companies in subsidiaries or joint ventures outside of their home country. FDI accounted for about one-fifth of total global capital flows in 1996, but for over half of private flows to developing countries.

### *Portfolio flows’ links to the environment*

These different types of international private investments each raise different environmental concerns, and are susceptible to environmental influence at different points in the investment process. To date, much of the environmental analysis has focused on FDI. This is because FDI often has the most direct connections to pollution or resource depletion impacts, operating through the types of facilities in which investments are being made (such as mines, lumbering, manufacturing facilities or power plants). Moreover, FDI has relatively long investment horizons, making investors more sensitive to the impacts of environmental issues on their investments. FDI is also relatively easy to track from source to destination.

Similarly, although their time horizons are usually shorter, many commercial bank loans have direct and obvious environmental impacts, depending on the kind of project to which the money is lent. For example, a loans officer considering extending credit for a mineral extraction project is increasingly likely to inquire about the company’s environmental performance and liabilities as part of his/her “due diligence” on risks of loan repayment. The effort to determine material risks and liabilities that may threaten the expected return on a loan therefore provides a key point for environmental leverage.

In contrast, the links between portfolio investments and the environment may be less clear, and more complex. While initial public offerings (IPOs) and bond placements provide capital to companies (and thus may act like FDI), once they are sold, they normally change hands many times in secondary markets (such as stock exchanges). This distance attenuates the link between the investor and the entity in

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3. This paper only considers publicly-traded flows. Equity investments that are private, like venture capital, “act” more like FDI, or direct commercial lending, in that investors participate in the investee entity to a much greater degree than investors in publicly-traded stocks and bonds.

4. In addition to stocks and bonds, portfolios may contain other assets, such as commodities and real estate, which are not considered here. In particular, the rise of “derivatives” (contracts whose value is linked to the performance of some designated financial instrument) have undoubtedly affected portfolio investment strategies in the last decade, but a discussion of their environmental impacts is beyond the scope of this report.

which the investment is held. Moreover, many portfolio investors seek to maximise returns in the short term, so environmental risks, which often occur in the long term, tend to be discounted. The search for quick returns also means that portfolio investors may pull out of a sector or a country overnight, if they lose confidence in it. Finally, accountability for the impacts of portfolio flows, whether environmental in nature or not, is hard to locate. By their very nature, portfolio investment risks are dispersed across a diverse array of holdings, and the transaction costs of obtaining accurate information about the nature of each investment are high.

Yet the opportunities that portfolio flows present as a point of environmental policy leverage are vast. Portfolio investors hold the purse strings to more money world-wide than is available from any other type of investment source, dwarfing the resources potentially available from FDI or commercial loans. In 1996, the world's total market capitalisation exceeded \$18 trillion, far more than total FDI flows of \$320 billion (IFC, 1996; IMF, 1997). While not directly comparable, these figures do indicate the relative scale of the investments that are involved. For developing countries, despite the Asian crisis and the financial retreat it has triggered, portfolio investment in transition economies is expected to persist, albeit at a reduced level. The integration of the developing world into global markets will proceed, as a result of both improved management of the country-level macroeconomy, as well as enhanced transparency and functioning of individual domestic markets. These factors are likely to add to the attractiveness of developing markets, even if low returns to investment in industrialised countries do not continue to "push" investment to the developing world in search of higher returns (World Bank, 1997).

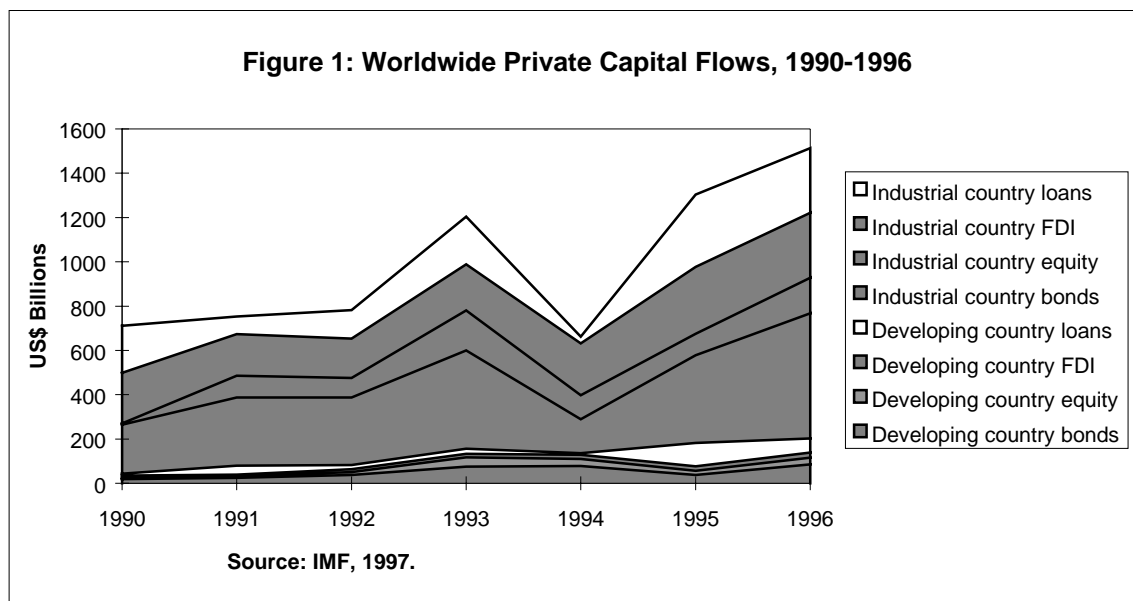
As a result, portfolio investment can – and should – play a growing role in the world-wide search for environmental sustainability. Some suggestions for how it might do so are provided at the end of this report.

### **Trends in portfolio equity and debt flows**

Global private financial flows now represent a significant target for policy leverage, in part because they have grown dramatically in total volume in the last decade. They have also become more international — more of the world is open to foreign capital, and the rate of cross-border transactions has accelerated accordingly. In addition, more private capital has become securitized and, thus, more trading is done in secondary markets. Private international finance has also become more important than official development assistance (ODA) in the growth of developing country economies. This section documents these trends and the factors lying behind them.

#### ***Factors driving the globalisation of private capital***

Total transboundary private capital flows doubled between 1990 and 1996, while amounts to developing countries quintupled during that time (Figure 1). Private capital to developing countries expanded from less than \$50 billion to about \$250 billion between 1990 and 1997. Despite the recent economic downturn in many developing countries, cross-border private capital flows remain substantial, particularly among industrialised countries and transitional economies that are already integrated in the global marketplace. For portfolio flows in particular, international diversification may slow, but it is unlikely to disappear.



While the increase in total private flows has been dramatic, private capital is not monolithic, and neither are its environmental implications. It is important to distinguish FDI from portfolio investment, in order to illuminate how these two types of investments incorporate environmental considerations and, in turn, create environmental impacts. Portfolio moneys flowing into developing countries often go into initial public offerings of extant firms and newly-privatised (formerly state-owned) assets. FDI often comes from joint ventures among companies, or within a company, not necessarily (although it can be) associated with privatisation. For example, portfolio flows to Central and Eastern Europe were three times FDI levels in 1995, in the wake of massive privatisation, whereas they were only one-fourth of the FDI heading to Asia (United Nations, 1996).

FDI investors are heavily involved in the production of goods and services for the long-term. Portfolio investors are most often financial institutions, institutional investors and individuals who care exclusively about increased financial returns, often over brief time horizons. FDI investors expect that short-term losses may occur, due to “up-front” capital outlays and other start-up costs. Ultimately, the FDI investor seeks to improve the competitiveness of the transnational corporate entity (United Nations, 1997). Building competitiveness — a long-term objective — is less relevant to portfolio investors, who, in their search for quick returns, more often seek currently-competitive entities in which to invest.

The returns to portfolio investors consist of capital gains and dividends (for equity), along with interest (for debt) from the local enterprises in which the portfolio investor has committed funds. These investors must have confidence that: (a) they are getting the information they need for determining how well their investment is doing; and (b) their capital is easy to transfer. Thus, the primary drivers of transboundary portfolio investment, apart from macro-economic factors, are transparency (high disclosure standards) and transferability (unconstrained ability to move and repatriate capital).

These drivers are, of course, in addition to the fundamental motivation driving all investment — the need to maximise returns and to minimise risk. In portfolio investment, these conflicting objectives are balanced against each other by diversifying the allocation of assets in the portfolio: investing in



multiple securities that have different amounts of expected risk and return, but which, taken together as a portfolio, meet these underlying objectives. Globalisation makes it possible to satisfy those goals by allowing money to move easily into foreign markets. International investing helps meet the diversification objective of portfolio investment, lowering overall portfolio risk. Emerging markets in particular can contribute to this goal, since they have historically been weakly, and sometimes negatively, correlated with markets in developing countries (World Bank, 1993).

The principal factors taken into account by investors when steering capital into emerging economies are: (a) the country's macro-economic stability, mainly the ability to control inflation and maintain stable exchange rates; and (b) the soundness of the specific target company's fundamentals. These are, of course, the very same factors that any investor would consider when moving money into an industrialised country concern. However, they take on added importance when investing "at the edge," as emerging market investment is sometimes called, because, in general, company returns must be higher to make up for country, market, and currency risks.

Commercial lending reflects a mix of what is important to both FDI and portfolio investors. Commercial loans often flow to FDI projects, but banks will be less concerned with overall prospects for competitiveness than with the short- to medium-term cash flows of the project to which the loan is made. Therefore, the primary motivation for lenders is the creditworthiness of the project under consideration and the ability to extract the value of the loan, plus interest. In this sense, commercial lenders' motivations are often closer to those of portfolio investors.

### *How to account for the growth of portfolio flows?*

Global financial integration is changing the landscape in which debt and equity portfolio instruments operate. Temporary or so-called "cyclical" phenomena (e.g. interest rates) in the international economy, as well as longer-term economic fundamentals at the country level, are both important to portfolio investors. These factors interact to determine whether, and where, international investment flows are "pushed" (out of source countries) or "pulled" (into host countries). The "push/pull" debate is important to understand, because its findings help suggest the best points for environmental leverage over portfolio investment and other vehicles of private capital.

The literature to date suggests that (up to 1993 at least) global macro-economic conditions explained the majority of portfolio flows to emerging markets<sup>5</sup> (Calvo, Leiderman and Reinhart, 1993; Fernández-Arias, 1994). Low interest rates internationally, and an economic downturn in industrialised countries, "pushed" money seeking the best returns overseas. However, good country-level fundamentals like credit rating and security prices of stocks and government debt in secondary markets, also "pulled" portfolio investment to particular regions, particularly Asia (Chuhan, Claessens and Mamingi, 1993). World Bank work conducted just prior to the Asian crisis (Taylor and Sarno, 1997) shows that, for portfolio flows from the United States, country-specific drivers grew in importance starting in 1992-1993. This trend is more pronounced for portfolio equity flows and for Asia than it is for bond flows and Latin America (flows to Central and Eastern Europe were not studied). The finding that global factors have more explanatory power for bond dynamics is not surprising. Bonds are extremely sensitive to international interest rates.

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5. The "push/pull" discussion has focused virtually exclusively on private capital flows to developing countries, although many of the same factors should influence flows among OECD countries.

Barriers to the free flow of capital have fallen around the world in the past decade. Such barriers can block flows directly (through regulation) or indirectly (by deterring investors, for example, if the quality of corporate reporting is poor). Regulatory, institutional and fiduciary impediments to cross-border portfolio flows have been gradually reduced in both host and source countries. These changes have been particularly important in emerging markets, where the number of countries with free (or relatively free) entry of foreign capital has increased substantially since the mid-1980s (IFC, 1996).

In developing countries, the International Finance Corporation (IFC) has played a key role in strengthening stock markets, by setting up emerging market portfolio funds, beginning in the mid-1980s. Although portfolio funds account for only five per cent of capitalisation in emerging markets, the IFC argues that they play a catalytic role in boosting growth, by building liquidity and reducing the cost of capital (IFC, 1996). When the IFC enters a new market, it confers a degree of legitimacy on that market. IFC presence gives other investors the confidence to enter as well, attracting further private international capital, and placing demands on host economies for improved financial governance. Institutional reform accompanied and, in some cases was spurred by, the demands foreign investors made in developing countries for consistent regulation of markets, as well as for high disclosure standards.

Simultaneous with the expansion of IFC emerging market funds, other forces in host developing countries worked to increase the “pull” for portfolio investors. Principal among these was the privatisation trend, which increased the supply of firms in which investors could sink funds. Some countries also established private pension funds and mutual funds to increase domestic savings. Finally, telecommunications advances and financial innovations improved the transfer mechanics, and lowered the cost of investing (World Bank Group, 1996).

In countries that are sources of funds for portfolio investments, technological advances have also been important. Not only do these advances make investment easier, they also expand the amount of information available to investors. This information gives investors confidence that diversifying portfolios internationally can help reduce risk.

Also driving more flows overseas from industrialised countries is the institutionalisation of savings and investment generally, as well as the increased diversity among the institutions managing these funds. The amount of money tied up in savings and retirement is estimated at over \$20 trillion in industrial countries (United Nations, 1997). There is a trend, most pronounced in the United States and Britain, away from “defined benefit retirement plans” and toward “defined contribution plans,” in which individuals have greater responsibility for investing their own money.<sup>6</sup> This shift has increased the market for retail-based retirement vehicles, leading to a greater array of funds with varying investment styles and objectives, including more international and emerging market funds. Much of the growth in mutual funds can be explained by this sea-change in retirement investment strategies.

While macro-economic forces remain a factor, in the last half decade, more country-level forces have helped determine where portfolio flows go. Prior to 1993, it seemed that “cyclical” factors in the global economy “pushed” portfolio investment overseas. The points of leverage over such global forces are difficult to elucidate. Now, however, host countries play a larger role in “pulling” new investments toward their own shores: their governments have generally improved financial governance, and host-country firms submit more reliable information to the marketplace than before. These factors attract portfolio investment. This is good news for the environmental community, because it is now easier to

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6. In the US, regulations — and the tax code — were changed to allow individuals to accumulate money for retirement tax free in self-managed accounts not sponsored by employers.

identify a set of actors — host country governments and local firms — with whom to engage concerning the environmental aspects of investment.

### *Destinations, sources, and composition of portfolio flows*

#### *Destinations*

The bulk of private investment, whether in industrial or developing countries, is financed by domestic savings. In terms of capital flowing internationally, transactions between industrialised countries dominate. Still, foreign sources of private capital are also becoming a more important part of investment (as a portion of GDP) in developing countries (Glen and Suminski, 1995 and 1998). Most of portfolio flows to the developing world, like most FDI, go to just a handful of countries (Table 1).<sup>7</sup>

**Table 1. Top Developing World Portfolio Recipients (1996)**

Rank	Country	Portfolio Flows (US\$ Million)	% Equity	% Bonds	Cumulative rank, 1990-95
1	Mexico	15266	26	74	1
2	Argentina	9809	8	92	3
3	Brazil	8615	46	54	2
4	Indonesia	6843	46	54	6
5	Malaysia	6415	68	32	8
6	Thailand	5325	29	71	7
7	Russia	5029	99	1	
8	China	4656	53	47	4
9	India	4398	100	0	11
10	Peru	2740	100	0	14
Total % developing nations		75.5	73	77	

Source: World Bank (1998).

#### *Flows to developing countries from international capital markets<sup>8</sup>*

International bond issues from developing countries grew in volume until the onset of the Asian crisis. Since then, they have fallen sharply, as credit ratings dove. Historically, developing countries have relied more heavily on commercial lending, since banks are less constrained in dealing with borrowers with low (or no) credit ratings than institutional investors are. Thus, while bond issues averaged \$38 billion from 1993 to 1995, loan volumes averaged \$75 billion. Before the Asian crisis, bond issues were catching up with lending volumes as more countries received investment-grade ratings, with averages in 1996-1997 of \$85 billion and \$115 billion, respectively. Sovereign borrowers issue nearly

7. The figures for total flows may be misleading, since a key indicator of the importance of foreign flows in an economy is these flows' contribution to GDP, or possibly, the flows on a per capita basis. However, calculating these figures for portfolio flows is a questionable undertaking, given the unreliability of portfolio flow data, particularly for small economies where they may be playing a larger role than is apparent from "total flows" data. See Seymour (1998) for the top recipient countries for overall private flows according to GDP and population.

8. This section is drawn from World Bank (1998).

half the bonds in developing countries, although the private sector share of bond issues increased throughout the 1990s.<sup>9</sup> Private bonds are particularly important in East Asia and the Pacific, where they comprised 65 per cent of all issues in 1997. Bonds are most important in Latin America, which accounted for 60 per cent of developing country issues.

International portfolio equity activity in developing countries takes two forms: (a) placements of shares by host country firms in international markets; and (b) foreign investment in domestic markets. Developing countries' share of global international equity issues rose from about 15 per cent in 1996, to 25 per cent in 1997. Privatisation accounted for about 10 per cent of placements in 1997, with the rest taking the form of initial public offerings targeted to international investors. Often, such placements consisted of global depository receipts (GDRs) and American depository receipts (ADRs), which are shares of foreign companies listed on exchanges in the United States and other countries. The GDR/ADR instrument allows investors to buy shares of foreign companies directly on exchanges in their own countries, instead of buying them in the market of the country of origin. Central and Eastern European countries are particularly active in this area. International placements originating in developing countries grew to \$18 billion in 1997.

Foreign participation in developing country stock markets fell by more than half in 1997, dropping from \$33 billion to \$14 billion, due to the crisis in Asia. In the recent past, Latin America has been the largest recipient of foreign portfolio equity investments, followed by East Asia, and then Central and Eastern Europe.

### *Origins*

OECD countries are the dominant source of equity and debt portfolio investment, led by the United States and the UK (Table 2). Overall, the top ten source countries provide 85 per cent of total global portfolio outflows. At the same time, some newly-industrialising countries that are not in the top ten also have significant outflows, notably Singapore, with about \$8 billion in equity assets abroad in 1996 (IMF, 1997), on par with Sweden. Many holding companies with operations elsewhere in Asia are incorporated and listed on the Singapore exchange because of that country's advanced financial services infrastructure.

**Table 2. Top Country Sources of Portfolio Capital, 1996 (US billions \$)**

Countries	Equity	Bonds	Total
United States	59	49	108
United Kingdom	17	79	96
Japan	8	80	88
France	2	43	45
Belgium-Luxembourg	-6	44	38
Germany	18	15	33
Netherlands	3	24	27
Italy	1	22	23
Switzerland	12	8	20
Sweden	8	6	14

*Source:* IMF (1997).

9. This report focuses on the implications of the trend toward more private sector issues, which are generally considered to be more volatile than portfolio flows into government securities.

The investors whose money is involved in these outflows include individuals and, increasingly, institutions – especially mutual funds (investment trusts in the UK), pension funds, insurance companies and financial firms (including banks). Since 1987, institutional investors have become a more important player in international capital markets, controlling more than \$14 trillion in the United States alone (Reed, 1998*a*). Mutual funds were barely on the scene in foreign investment in 1987. Today, US mutual funds own 12 per cent of their net assets in long term global or international equity and bond funds. US pension funds now hold an average of about 10 per cent of their portfolios in non-US assets (Tesar and Werner, 1998). Overall, US residents' holding of foreign equity has tripled in the last ten years.

As a group, institutional investors are conservative. They are required to maintain specified percentages of assets in liquid accounts, so they will buy and sell holdings quickly in response to changing expectations. Competition among institutional investors leads them to seek high returns in the short term. This also leads them to “quick release” some types of bonds (Correa, 1997). These “fiduciary duties” (discussed in greater depth below) are one of the factors limiting the incorporation of environmental considerations in portfolio investments.

### *Sectoral distribution*

Sector-specific information on portfolio flows is extremely limited. Data on global flows disaggregated by sector appears not to exist (Bloomberg, 1998; Institute for International Finance, 1998; Seymour, 1998; United Nations, 1997). The absence of reliable data — or in some cases any data at all — presents a serious obstacle to analysis. More efforts need to be made at both the domestic and international levels to collect better data and improve its accuracy, in order to determine the best policy directions related to portfolio flows. The IMF has committed to co-ordinating this effort, but co-operation at all levels will be needed to ensure its effectiveness (IMF, 1998).

In a few cases, limited and somewhat dated breakdowns are available for the sectoral distribution of shares in some developing country stock markets (Emerging Markets Analyst Supplement, 1995).<sup>10</sup> The data is not broken down by foreign or domestic ownership, however, so little can be said about specific sectors that might be favoured by foreign shareholders. To the extent that sector distribution of stocks might correlate with foreign shareholdings in particular markets, equity holdings appear to be concentrated in manufacturing, communications, and financial services.

This picture correlates somewhat with world-wide trends in privatisation, which is a major target of portfolio investment, and an important source of the growth in global equity issues. Since 1990, more than 75 countries have privatised at least some holdings. The most frequent sectors are telecommunications, financial services, oil and gas, and infrastructure. The trend is not limited to developing countries, as Western European issues are a major share of world-wide privatisations in dollar amounts (Tesar and Werner, 1998). Domestic investors in industrial countries absorb most of the new issues and more advanced emerging markets also pick up a growing share. Overall foreign participation in privatisation issues from emerging markets was 44 per cent in 1996 (see Box 2 on ADRs and privatisation).

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10. The supplement is no longer published, due to the inconsistency and unreliability of the data.

### *Summary of trends*

Many barriers to the free flow of international capital have been reduced over the last decade, “pushing” greater volumes of private capital out of source countries, and “pulling” more into host countries. As the institutions and regulations governing finance improve in host countries (particularly in the developing world), global cyclical factors have also become a less important determinant of flows than conditions in recipient countries — such as productivity improvements at the firm level, or innovations in security markets or finance.

This is good news for those wishing to inject environmental considerations into portfolio investment behaviour because the points of leverage are increasingly local in nature, involving clearly identifiable institutional actors in local governments, as well as managers of private enterprises operating within the country (some of which could include multinationals).

However, and as noted earlier, unreliable or absent data on the distribution of portfolio investments hampers analysis of their various environmental impacts. Furthermore, portfolio investment analysts have only recently begun to take environmental considerations into account at all. The challenges involved in building up the environmental content of portfolio investments are further explored below.

### **Environmental dimensions of decisions made in the portfolio investment community**

How do analysts of publicly-traded securities receive and use information on financial risks and opportunities, including environmental factors? Similarly, how do underwriters and commercial bankers — whose products may become securitized and end up being traded on secondary markets — decide to value the issues they underwrite, or the loans they make? To what degree do environmental considerations enter into these decisions? This section describes how environmental factors are employed in these valuation processes, first from the perspective of security analysts, then from that of underwriters and lenders.

### ***The impact of environmental considerations on analysts of portfolio equity and debt***

#### *The challenges of portfolio flows*

As discussed earlier, the largest potential pool of global private investment capital is contained in the portfolio equity and debt markets. Two aspects of the portfolio investment process in particular weaken the link to environmental variables and reduce the opportunities for policy leverage — investors’ fiduciary duties<sup>11</sup>, and the lack of clarity about the relationship between environmental factors and share prices.

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11. “Fiduciary duties” refer to the array of obligations to which fund managers are bound as stewards of other peoples’ money.

First, fiduciary duties require most portfolio fund managers to minimise risk, to maximise returns, and to preserve capital.<sup>12</sup> For example, such constraints are written into the US law governing corporate and government pensions called ERISA — the Employer Responsibility and Investor Security Act. ERISA is generally interpreted to mean that only economic factors can be considered when choosing investments. “Green investing” (admittedly, a very small portion of the portfolio investment market — see Box 1 below) is not precluded, if those investments match the profits of competing opportunities over a given time frame. In practice, however, conservatism is valued over flexibility, and conventionally, fund managers have eschewed taking a stand on the environment. There has been some limited progress on injecting environmental considerations into decisions concerning pension funds, usually in the form of assisting shareholders to exercise their power through proxy voting, for example, to sponsor resolutions encouraging adherence to principles of “good corporate environmental behaviour”.

The second challenge — the indirect link between environmental performance and share price — is a larger and more fundamental issue. The lack of a clear connection between environmental actions and corporate valuation affects all portfolio investment, as well as the vast majority of fund managers, not just the portion covered by ERISA or similar laws. Portfolio investors face few incentives to take the environment into account because environmental factors are rarely considered to be “material” — significant enough to affect the bottom line — by the analysts who price or rate the stock or the bond. This division between environmental performance and financial value means that portfolio investors have little incentive either to understand, or to address, the environment in their asset allocation choices. However, as discussed below, steps are now being taken to help bridge this gap and to make environmental issues more central to decision-making by portfolio investors.

#### *Environmental factors and corporate valuation*

How do mainstream<sup>13</sup> portfolio investors decide where to invest? These investors depend above all on the advice of financial analysts in investment houses, mutual funds, and rating agencies. Financial analysts conduct research on companies to determine how they should be valued in the marketplace (a process called “corporate valuation”). Several recent surveys of the financial community in the United States and Europe shed light on this process and suggest how the environment is (or is not) currently being taken into account (Blumberg, Blum and Korsvold, 1997; Gentry and Fernandez, 1997; Business in the Environment and Extel Financial Ltd., 1994).

Five points stand out (Descano and Gentry, 1998):

*Environmental factors have had little impact on the valuation process.* The environment is considered immaterial in most cases. The top quantitative factors used to assess value are earnings growth, cash flow and margins. On the qualitative side, they are company management and business reputation.

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12. It is true that the growing number of self-directed retirement plans in the US and the UK, as discussed earlier, reduce the “hurdles” that fiduciary duties pose for a certain portion of the portfolio fund market. However, half of investment and retirement savings in the United States, and most of those in Europe, are still managed by employers and/or governments.
  13. “Mainstream” is used here to distinguish the traditional pools of money invested in the capital markets from those managed under “socially responsible” investment principles.

*When the environment is considered, it is viewed as a liability, cost, or risk.* Historically, spills, violations and accidents have negatively affected financial performance. Such dramatic costs contrast with the more nuanced and less immediate rewards for positive environmental performance.

*Proactive environmental practices are not well-understood.* “Beyond compliance” pollution prevention and energy efficiency investments receive scant attention because the financial implications are unclear. Such measures are often viewed as “lost costs” instead of as productive investments, even though analysts increasingly recognise that they may add to competitive advantage.

*The business rationale for corporate environmental practices and spending are poorly communicated by firms.* Companies rarely discuss environmental issues relevant to the firm when they meet with analysts (other than major liabilities). As a result, analysts have a poor understanding of how corporate environmental strategies might bear on commercial success.

*The environment is typically considered irrelevant by analysts’ clients.* Since the work analysts do is client-driven, the environment becomes an even lower priority in the assessment process.

Many analysts, however, expect environmental factors to become more important in the next five to ten years. This view is born out by numerous recent studies demonstrating positive links between improved corporate environmental performance and increased financial value, as summarised below.

#### *Research, initiatives and funds linking environmental performance with financial success*

The London-based Center for the Study of Financial Innovation (CSFI) was an early innovator in developing a methodology that allows financial analysts to compare environmental risk in a standardised way across companies. The ratings consider the environmental risks to which a company is vulnerable, balanced against the managerial capacity and financial strength to contain these risks. Building on this, CSFI designed a commercial rating that also took into account ‘residual risk’ — financial risk not covered by management systems, financial positions or insurance — that can be expressed monetarily, in terms of total stock market capitalisation for example (Business and the Environment, 1998). One limitation of this approach is that it focuses on environmental risk, not on strategic opportunities achieved through environmental actions.

Increasingly, however, research is showing that there may be financial gains to be obtained from exploiting environmental opportunities, not just from mitigating risks. A recent review of 70 studies that explored the link between environmental and financial performance found that companies with the best environmental practices were rewarded with higher stock market returns than their peers, by up to two percentage points. Moreover, positive environmental performance *never* translated into negative returns (Earle, 1998). Another study showed that sound environmental management may be a good proxy for an effective overall management culture — a qualitative factor that analysts *do* care about — and may be an important indicator of reduced risks to the firm. If so, it should translate into higher stock prices (Feldman, Soyka and Ameer, 1996).

Much of this research has been limited to exploring the environment-financial value link in domestic markets of industrial countries. One new study touches on the environment-finance link of companies operating globally (Dowell, Hart, Yeung, 1998). The authors found that transnational corporations adhering to high environmental standards in all the economies in which they operate, including emerging markets, have higher market values. One implication is that countries choosing to



apply weak or unenforced environmental regulations do not stimulate investment by the best quality (and perhaps, most competitive) firms.

All these studies point to a tangible connection between corporate value and corporate environmental “best practices.” There are a myriad of new initiatives in the environmental and public interest communities, both domestic and international, to utilise this information to persuade the financial sector of the relevance of the environment to their analytical, lending, and underwriting work. Prominent among these efforts (too numerous to describe here<sup>14</sup>) is the UNEP Financial Services Initiative, which has played a significant role in convening environmental activists and environmentally-aware financial professionals in international venues to work out environmental principles to which the financial industry can subscribe. Another significant, though far less formal effort, is sponsored by the New York Society of Security Analysts (NYSSA). It organised a speaker series in 1998, bringing together analysts and corporate financial officers to discuss particular firms’ environmental practices, and how these are reflected in the financial valuation process. The NYSSA series was notable because it brought together experts in *finance* from the corporate side and *financial analysts* from the valuation side to talk about the environment.

The growing articulation of a link between environmental practices and firm value has not just been academic or activist in nature. For example, two new European funds are taking an innovative approach to environmental investing. Eschewing investments in “green” companies, these funds pick “best of class” stocks that pass both financial and environmental screens in resource-intensive basic industries, like pulp and paper or oil. Although the funds are too new to draw firm conclusions, they have so far outperformed international capital indices. These new environmental funds contrast with other types of environmental portfolio investments, where results have been mixed (see Box 1).

In sum, the financial analyst community is learning to recognise how environmental practices may reduce financial risks and lead to competitive advantage. However, few valuation models explicitly reflect environmental risk and competitive advantage factors (Reed, 1998b). The lack of standardised environmental data presented in financial terms compounds the problem. This limitation is being overcome by innovations within the environmentally-interested part of the financial community itself, although the methodologies finding the closest connections are proprietary (Kiernan, 1998).

Overall, the efforts outlined above suggest that the influence of environmental considerations (especially the positive, or “beyond compliance” efforts of companies), on the corporate valuation process is limited, but growing. With different nuances, as explored below, the same could be said of the international banking industry.

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14. Other initiatives include: the World Resources Institute’s Leverage for the Environment Program; Friends of the Earth US’ Campaign for Responsible Private Investment; the Global Environmental Management Initiative (GEMI); and the World Business Council on Sustainable Development’s Finance/Investment Working Group.

**Box 1. Do Environmental Investments Beat the Market?**

Study after study examining the impact of “environmental screens” on an investment portfolios’ financial performance point to the same conclusion: there is no penalty for picking stocks of companies that are “good” environmental performers and leaving out “bad” performers — returns may, in fact, be slightly better. “Applying an environmental screen” does not always have the same meaning, however. There are three basic types of portfolio “environmental investment” and the history of returns for each type is different.

*Eco-efficiency “best of class” funds in basic industries.* Pioneered in Europe, these funds include only those firms that first pass a financial fundamentals screen and, on top of that, a screen for environmental performance. They are generally marketed not as “green investments”, but as limited risk financial return funds. The Norwegian insurance firm Storebrand launched the Storebrand Scudder Environmental Value fund with US\$70 million (and US\$150 million under management by the end of 1998). The Union Bank of Switzerland launched two more funds with a similar approach, picking mostly large-cap blue chips. The two funds managed more than CHF200 million in mid-1998. All have outperformed the Morgan Stanley Capital International World Index since their inception, but all are still in their early days.

*Environmental sector funds.* This is what is usually understood as “green investing,” an approach that emphasises companies providing environmental goods and services (like pollution control technology or waste management). These funds overall did well in the 1980s, when many of the firms in which they invested were in the start-up stage and were not yet fully valued. Environmental stocks have lagged behind the market comeback that started in 1991. Many funds focusing on them have therefore performed poorly since then.

*Socially-responsible investment (SRI) funds.* Such funds keep an eye on social impact as much as on the financial return on assets — sometimes such funds also screen for environmental performance, or have an exclusively environmental focus. Overall, about four percent (over \$500 billion) of all managed funds in the United States — and an additional ECU 1.4 billion in Europe — are screened using social criteria. Whereas social investors used to accept lower returns as a matter of course, they have become more demanding over time, and some “ethical” funds have superior return histories. Generally, though, results have been mixed, given the competing goals. An additional factor is that SRI managers have high research costs because they investigate social/environmental factors as well as financial ones. This leads to higher fees or “loads,” reducing overall returns since less money is available to invest, once fees are paid.

All these environmental investment funds are international to some degree, although they tend to focus on industrial markets. SRI investors have lagged behind the mainstream in the extent to which they have “gone international”, partly because social information about foreign companies is harder to get. In a pioneer effort, Walden Capital Management in Boston launched the first ever socially-screened international index fund in June 1998. The fund tracks markets in industrial Europe, the Far East, and Australia. As part of its social focus, it excludes companies with poor environmental records.

*Sources:* Chan-Fishel (1998); Delphi International Ltd. (1998); Deutsch (1998); Fenn (1998); Ganzi et al. (1998); Norris (1998); Walden Capital Management (1998).

***The integration of environmental factors into decisions made by international commercial, investment, and multilateral development banks***

Portfolio investors in general have little formal leverage to obtain special information or to influence the behaviour of the firms in which they stake a claim.<sup>15</sup> Lenders (or underwriters, in the case of

15. Collectively, investors send very powerful and swift signals to the market about the value of different “events,” including environmental events. For example, the market reacted negatively to firms with large toxic releases, once this information was released by USEPA in 1989 (Hamilton, 1995). Also, the Mexican stock market reacted negatively to various announcements of increased environmental regulation (French, Herrera, and Tanski, 1996). However, the extent to which these market devaluations persist over time is not clear.

investment banks), on the other hand, have direct contractual means, through the conditions on which the loan or issue is made, to extract information and to influence firm decisions (Ganzi and DeVries, 1998).

This section examines the environmental leverage of two broad categories of financial institutions: (i) investment banks and international commercial banks (to the extent the latter have taken on many of the tasks previously executed exclusively by the former); and (ii) multilateral development banks. Since the thrust of this report is on portfolio flows, the discussion below is less focused on the integration of environmental considerations into commercial lending and underwriting per se, than on how these institutions might influence the environmental content and environmental impacts of portfolio equity and debt securities.

#### *International Commercial/Investment Banks*<sup>16</sup>

The distinctions between the functions of commercial banks and investment banks are becoming increasingly blurred. It used to be that commercial banks extended credit and held the debt instrument until the borrower repaid. Nowadays, banks spread the risks of the loans they transact by securitizing them (bundling them together) and reselling interests in them on secondary markets to third parties, such as institutional investors. The one area in which this is not usually done is project finance<sup>17</sup> — in this case, banks tend to retain direct interest and influence over the borrower's activities — although even this is changing.

More and more, commercial banks are involved as intermediaries, channelling money from one set of sources, repackaging it, and then reselling it. This pattern has much in common with the principal investment banking function — helping entities who need money to attract capital. Investment banks are agents who structure transactions between firms or governments seeking to raise capital, and investors who, in exchange, obtain debt or equity security interests in the enterprise. Investment banks bring initial public offerings (IPOs) to market for firms in the process of “going public”, and they underwrite bond issues by firms and governments. Their role in brokering the privatisation process is critical.

Investment banks thus play a major role in conveying new securities to international markets — a role that international commercial banks are taking on as well by securitizing their assets. What attention is paid by these banks to environmental issues when they bring these securities to the marketplace (where the securities become part of portfolio flows)?

Both types of bank engage in “due diligence” procedures to determine company or project risks. However, the extent to which disclosures are sought, and environmental matters are scrutinised, varies considerably. In the United States, since 1990, Superfund liability laws have forced commercial banks to evaluate environmental risks when real estate is used as collateral for a loan. Since then, the US government has mandated that domestic lenders establish formal environmental risk management procedures. Vigilance of environmental risk (at least in real-estate backed loans) has now been adopted by many banks, especially the larger ones in Europe and some other industrial countries (Ganzi and DeVries, 1998; Delphi International Ltd., 1997).

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16. This section draws on three key reports: Delphi International Ltd. (1997); Ganzi, Seymour and Buffet (1998); and Ganzi and de Vries (1998).

17. Project finance involves large long-term loans for capital intensive projects, such as dams or power plants.

Since investment banks do not extend credit, their legal exposure is potentially not as serious as that of commercial banks whose loans are usually backed by tangible collateral — assets to which environmental risks may be attached. However, as part of bringing new securities to market, US investment banks submit a prospectus to the Securities and Exchange Commission (SEC). The prospectus contains SEC-mandated disclosures estimating the risk exposure (including environmental concerns) facing the issuer — risks the investment bank would then have an interest in allaying. Fewer incentives to examine environmental risk may exist for investment banks underwriting issues of foreign companies offering securities on US markets (Box 2).

**Box 2. ADRs and Privatisation: Reduced Incentives to Scrutinise for Environmental Risks?**

Shares in foreign companies are often offered for sale in US markets through a vehicle called American Depository Receipts (ADRs). Technically, these are certificates for foreign company shares held in banks. (Global Depository Receipts or GDRs are also available to list on US and other markets.) ADRs and GDRs attract a broader range of investment dollars and allow firms to avoid domestic limits on foreign ownership of shares.

There are various classes of ADRs, each requiring a different level of disclosure to the SEC. One type eschews SEC disclosure requirements altogether through private placement offerings. The “level 1” program has the least restrictive requirements, and is very popular with foreign companies who want to sell shares in US markets, but have difficulty meeting more stringent SEC registration mandates. Given the lower level of disclosure required for some ADRs, the investment bank agents and the companies they help privatise may face few incentives to scrutinise or correct environmental risks, although they are still subject to anti-fraud protections, if the risks are understated.

The fact that ADRs seem to require less disclosure is a concern because the bulk of privatisation (where ADRs are often used) are in infrastructure, manufacturing and commodity extraction, where there is potential for environmental problems in ageing power plants, factories, and obsolete mining processes. Since 1990, 82 percent of privatisation in developing countries occurred in these sectors. For example, all of Indonesia’s five major mining companies are publicly-traded, and 16 - 49 percent (depending on the company) of the shares are foreign-owned.

As more countries participate in international capital markets, portfolio investment in privatisation has become more important. Whereas in 1990 portfolio investment provided less than 1 per cent of foreign exchange revenues from privatisation in developing countries, it represented half by 1996 (FDI provided the rest of foreign participation, which totalled 44 per cent in 1996). Portfolio investors have less connection to (and easier exits from) the firm whose securities they hold than do FDI investors, so accountability for (and interest in solving) environmental problems is usually less.

*Source:* Irwan (1998); The World Bank (1998).

Investment banks also take the lead in underwriting government bonds issued by developing country central banks, which accounted for almost half of the \$95 billion in all bond issues from the south in 1997 (World Bank, 1998). Leverage over this type of security is hard to find indeed, since investors’ criteria for buying them are based mainly on the country’s credit rating. Sometimes, though, pressure from multilateral lenders with strong environmental guidelines can cause investors to hesitate, as has been the case for investment banks considering raising capital for the largest infrastructure project in the world, the Three Gorges dam in China (Box 3).

As a result of their key role in bringing securities to market (and their advisory capacity as financial analysts described in the first part of this section), investment banks — and to a growing degree commercial banks — have crucial potential to influence the environmental content of securities available

to investors. To date, however, the banks' attention to environmental matters has been driven largely by liability and regulatory compliance issues. Furthermore, the analysis is limited to investigating and mitigating the "downsides" of environmental performance. This is especially true at investment banks, as some commercial banks have started to value the "upside". For example, as of 1997, NatWest Group in the UK offers below-market rate loans to firms with "best of class" environmental management practices. Sumitomo Bank provides low-priced loans for investments in Japanese firms that improve the efficiencies of raw material and energy use (Ganzi and DeVries, 1998). Again, as with the financial analyst community, the idea that environmental performance can add value is new, and determining exactly how to reflect it in loan rates and security offerings is complex and much debated. The role multilateral development banks might play in this effort is explored below.

**Box 3. China's Three Gorges Dam — Part of the Fund Market Just Says "No"**

China's initiative to build a 60,730 hectare dam on the Yangtze River at a scenic spot called Three Gorges for hydropower production and flood control has created significant international opposition on environmental grounds, including a "cold shoulder" from the World Bank, which would usually be involved in a project of this scale. A vice-president at the global investment company Merrill Lynch in Hong Kong pointed out that "the controversy surrounding the project would make it a more difficult issue to market." Other analysts are aware that some international investors will not touch the issue because of environmental concerns or mandates. Even so, an international bond issue is under serious consideration. The investment bank China International Capital Corp, which is 35 per cent owned by Morgan Stanley Dean Witter, is working with the state company overseeing the project on plans to list shares on New York and Hong Kong exchanges.

*Source:* Harding (1998).

*Multilateral Development Banks*

Like commercial banks, multilateral development banks (MDBs) have little direct influence in shaping portfolio flows from a financing angle. Yet, as the world's most important lenders to developing countries, the standards they set for extending their own credit have significant influence with other financing institutions whose own resources are often leveraged by MDB involvement. As is well-known, World Bank environmental guidelines, which became official in late 1997, have been widely adopted, often formally, by other public institutions. The IFC also recently updated its Environmental Appraisal Checklist. These standards, as well as others along the same lines from the European Bank for Reconstruction and Development and the Asian Development Bank, are commonly referenced by both public and private financiers, especially in developing "due diligence" protocols (Ganzi and DeVries, 1998). The new World Bank guidelines provide environmental standards for over forty industrial sectors, and also recommend environmental monitoring and reporting systems. Therefore, in theory at least, MDBs address both environmental risks and opportunities, although the emphasis is clearly on risks.

More private sector finance is amenable to MDB influence because of the growing role of MDBs in providing insurance and guarantees. The World Bank's Multilateral Investment Guarantee Agency (MIGA) and the US Export-Import Bank lend relatively little or no money directly, but they leverage a great deal of private international investment by insuring primary lenders' recourse against political and currency risks, for example. The IFC, the private sector arm of the World Bank, leverages a significant amount of private money as well (\$11.2 billion in 1997 — almost twice as much as what it financed directly [IFC, 1997]).

In terms of the MDBs' role in portfolio investment, the IFC has undoubtedly played the most important role so far. As discussed earlier, the IFC helped open up developing countries to foreign portfolio investors by establishing country funds, starting in the mid-1980s. Until recently, IFC's involvement has compounded the bias of foreign investment towards the already-strong emerging markets. The IFC now seeks to "extend the reach" of its leverage in enabling the entry of foreign portfolio investment, by setting up funds in less developed parts of the world (IFC, 1997). In addition to investment activities, the IFC also provides technical assistance for building effective financial institutions to oversee capital market development. IFC's "catalytic" role also encourages environmental investments.

The IFC has launched several environment-specific funds to boost environmental investment in developing countries. IFC helps to leverage private capital for grant funds available from the World Bank/UNDP Global Environment Facility (GEF) for biodiversity preservation, climate change mitigation, and water pollution. The funds are small in relation to the average size of IFC capital involvement, which is typically in the \$20 million range. Nevertheless, IFC's environmental funds do open up opportunities for portfolio investment by leveraging other funds, as IFC rarely commits more than 25-35 per cent of its own resources (equity and credit) to any project (Box 4). IFC starts the funds working with outside fund managers, who then recruit private investors. It usually exits the fund after a number of years, by selling its equity interest (IFC, 1998). The IFC's influence on environmental content is critical, because it will not invest its own funds if a project does not meet environmental guidelines. In cases where projects would not move forward without IFC's involvement, this is heavy environmental leverage indeed.

**Box 4. Recruiting Portfolio Investors for the IFC/GEF Terra Capital Fund**

With a \$5 million grant from GEF to launch the Terra Capital Fund, also called the Biodiversity Enterprise Fund for Latin America, the IFC hired outside fund managers to operate it. The grant will leverage funds from bilateral agencies, and up to \$5 million from the IFC directly. Most of the fund will be capitalised with \$20-\$40 million from private sector investors, including institutional portfolio investors, such as pension funds. These funds will then be invested in projects of small and medium scale enterprises, for a total commitment of up to \$100 million.

*Source:* IFC (1997). "Latin America Terra Capital Fund." Project Document, June.

However, MDBs may have less leverage than they used to, since private capital flows have grown substantially in recent years, in relation to development lending (although among the least developed countries, MDB involvement and ODA remain the most significant sources of foreign capital, and any environmental rules imposed may therefore still be important). In countries where the private capital boom is occurring, some projects that are on "shaky" environmental ground have been funded with private capital. In those cases, MDB power to require certain social and environmental standards is lost. Sometimes borrowers avoid the "environmental conditionality" of MDB loans by never seeking funds from that source at all, as occurred in Three Gorges dam project in China (Box 3). In other cases, borrowers begin by using MDB funds, then accept the loss of those funds on environmental grounds when other financing has been obtained. For example, on the Bío-Bío River in Chile, a private utility originally accepted an IFC loan, only to prepay it when the IFC identified violations of social and environmental conditions (French, 1998). Accepting and then prepaying credit from multilateral lenders creates particular environmental (and social) concerns, since initial IFC involvement helps raise other private sector funds which may not be in a position to pull out their investment at a later date.

As discussed earlier, MDBs (except for the IFC) have limited direct involvement in portfolio flows. Their influence in improving the environmental character of private finance generally is more in the realm of the influence and “know-how” they bring to the table in financing deals. Their environmental guidelines also have “ripple effects” with their private sector partners in project finance, or with financiers who turn to the MDBs to insure or guarantee other deals. In addition, MDBs have considerable power to help shape financial governance mechanisms in developing countries. This technical assistance role is critical in ensuring that foreign private capital inflows are used most efficiently to drive sustainable development.

In summary, environmental considerations have a limited effect on most portfolio investors, although these linkages are growing. The next section of the report looks at portfolio flows and the environment from the opposite direction: how portfolio investment decisions, once made, may affect the environment.

### **Environmental impacts of expanded portfolio flows**

Portfolio investment can affect the environment in a variety of complex, and often contradictory, ways — positively and negatively, directly and indirectly. Generally, free flows of private capital should lead to the most efficient allocation of assets. In the search for the highest returns, money will flow to where it has the best chances of promoting real growth. Such growth can lead to environmental benefits such as increased spending on environmental infrastructure and more efficient (less polluting) industrial processes. It may also, however, lead to substantially increased consumption. In economies experiencing a downturn, rapid switches in market sentiment, which portfolio flows are both responsible for and vulnerable to, can magnify the effects of financial crises. Economic crises can slow industrial output, thereby reducing emissions. However, economic collapse is not the preferred solution to environmental problems. Responding to financial crises may also reduce both government spending on the environment and investment in environmental technologies. In addition, financial stress can lead to the overexploitation of natural resources, where environmental regulations are not set at (or enforced to) socially-appropriate levels.

The environmental impacts of portfolio flows are likely to be more significant in developing countries because of the generally greater instability in both their capital markets and their environmental regulatory systems. When stock markets drop in OECD countries, portfolio investors generally keep their money in the economy, although they may shift to bonds or other investments perceived to be more secure. In emerging markets, however, portfolio investors are far more likely to exit the country’s economy altogether, causing potentially serious upheavals. In addition, the institutional mechanisms governing investment and the environment are more mature in OECD countries, further mitigating the impacts of portfolio flows’ volatility in those countries, relative to the developing world.

When considering the environmental effects of portfolio flows, it is important to recognise two limits on the analysis. First, not enough empirical work has been done in this area (although there has been relatively more effort made to understand the scale effects). Second, the absence of aggregated data breaking out the sources and sectors for portfolio flows makes it difficult to even start such an analysis. As such, this section represents an early (and largely theoretical) attempt to identify and analyse the environmental effects of portfolio investment.

It is also important to note the different phases that are possible in the life cycle of a portfolio security: initial issuance; trading in a well-functioning market; and trading in a market in crisis. Each of these phases raises different issues in both the economic and environmental arenas. These differences are

important to explore when setting out an analytical framework for assessing the links between portfolio investment and the environment.

***Initial issuance of portfolio securities: potential for investments to contribute to improved environmental performance***

When portfolio securities are first sold in the markets — through an initial public offering of shares or issuance of bonds — the money goes directly to the issuing entity (whether company or government). That money is then theirs to use as they see fit. Sometimes it is applied in ways that are bad for the environment. This may include the construction of new facilities in sensitive areas or increased emissions from expanded operations.

As with FDI, however, proceeds from sales of portfolio securities can also be applied in ways that improve environmental performance. Even where local governments do not enforce environmental requirements, companies face growing commercial incentives to make progress on environmental matters (Gentry, 1998). By improving their environmental performance, firms can also: (i) improve efficiencies in raw material use, hence their competitiveness; (ii) expand access to export markets; and (iii) address the more general pressure from customers, neighbours, shareholders and the media for environmentally-responsible operations and products. In some cases, such as the privatisation of the Argentine national oil company (YPF), improved environmental disclosure and care also helped the company access the US stock market. These commercial benefits can lead to investments in cleaner production technologies, environmental management systems and product eco-labels.

Government or private bonds can also be used to finance environmental infrastructure, such as water systems. With the decline in urban environmental services in many parts of the world, at the same time that government budgets are shrinking, efforts to attract private investors are increasing. While commercial banks may provide much of the funds that are needed, there is also great interest in finding ways to tap the portfolio bond and equity markets as well.

Finally, firms offering environmental goods and services (such as water filtration equipment) or “environmentally friendly” products can themselves tap the capital markets for funds to expand their (frequently) environmentally-beneficial businesses.

***Trading in a well-functioning market: access to capital, growth and “engagement benefits”***

Well-functioning markets also spur economic growth. Such growth comes about as capital markets, particularly stock markets, become more open, increasing the financial liquidity in host countries. Such liquidity makes more capital available for economic growth. To the extent that wealthier countries invest more in environmental protection, this economic development will improve environmental quality. It can have the opposite effect, however, if the economic growth leads to greater industrial emissions and increased consumption. Indeed, some economists suggest that the negative “scale effects” of greater economic activity, leading to increased levels of pollution and unsustainable levels of resource consumption, are likely to emerge before governments and firms increase spending on environmental protection (Grossman and Krueger, 1995).

The presence of foreign portfolio capital may also lead to a variety of “engagement” benefits, as the countries receiving the portfolio flows become more tightly-linked with the industrialised world. First, the more advanced capital markets that are likely to emerge where portfolio investment occurs may



well lead to pressures for more sophisticated legal regimes and regulatory structures — including those addressing environmental issues. Second, tighter North-South investment relationships may provide countries which receive portfolio investments with greater information about (and access) to environmental management systems, training programs, and technologies. For example, prior to the recent crisis, the Thai Stock Exchange was considering using its listing regulations to promote the adoption of the ISO 14,001 environmental management system (UNEP, 1997).

Once issued, sold, and inside the market, shares or bonds will then be traded among portfolio investors. If these “secondary” markets are functioning well, they will also provide a continuing source of available and (presumably) relatively inexpensive capital for issuers, should they decide to seek more funds in the future. The environmental effects of these “secondary” market transactions will then operate in the same way that they operate in the primary markets.

***Trading in a market in crisis: volatility, reduced consumption, government responses, and institutional reform***

In a market in crisis, the environmental impacts of portfolio flows are even harder to trace, and to place in a coherent framework. Not surprisingly, many of the effects are the opposite of those seen in well-functioning markets.

*Volatility*

Most analysts agree that portfolio investment is inherently more volatile than the other major forms of private investment (i.e. commercial bank lending and FDI (Claessens, Dooley, Warner, 1995; Barger, Carter and Kuczynski, 1996; Singh and Weisse, 1998).<sup>18</sup> In contrast to bank creditors and foreign owners, portfolio investors are prone to “withdrawal contagion”, and can exercise their exit option more quickly and cheaply.

The threat of exit by portfolio investors is not an idle one. In December 1994, when the Mexican peso lost almost half its value against the dollar, many stock and bond holders pulled their money out of the country and took it elsewhere. Foreign investment in Mexican bonds and ADRs of Mexican companies fell by more than half between June 1994 and January 1995 (Correa, 1997). This scenario has been repeated with the October 1997 crash in South Asia, and the August 1998 collapse of the Russian economy. When the promise of short-term gains that first attracted the investment evaporates, the money gets spirited away to safer locations.

One impact of such sell-offs is to limit the availability of investment capital, including funds headed for environmental projects. The environmental effects were immediate in Mexico, for example, where municipal waste water infrastructure plans were put on hold in the wake of the peso devaluation. While many factors were at work, projects that had been bid in pesos but were to be financed in dollars became too expensive (Gentry, 1998).

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18. It bears repeating here that, with the increased securitization of bank-debt, this debt potentially becomes part of “portfolio investment”. For more details, see earlier discussion of “Understanding Portfolio Flows”.

### *Economic growth*

The striking volatility of portfolio flows, particularly in emerging markets, has also led to a more general debate over whether portfolio capital actually contributes to real growth. Some argue that such interruptions in the availability of investment capital, including for environmental improvements, are generally short-term in nature. In their view, the contribution of local capital markets to a country's long term growth makes up for such temporary downturns.

Others, however, see the costs associated with the volatility of portfolio flows – and their role in economic crises – as potentially outweighing the benefits of open capital markets, fueling arguments for placing controls on capital flows. The globalisation of the securities markets magnifies the “contagion” to which portfolio flows are prone, inducing large outflows from emerging economies (Mendoza and Calvo, 1998), potentially interrupting growth.

World Bank research suggests that the countries that have lowered the barriers to foreign finance the most are also those most likely to suffer a financial crisis, with serious adverse effects on growth (Stiglitz, 1998*b*). Anecdotal evidence also suggests that countries that have placed extensive controls on how money flows in and out, including China, Chile, and Japan, have nevertheless achieved strong growth (Bhagwati, 1998). Some statistical evidence also suggests that economic growth (according to standard measures such as per capita income) is *not* influenced by the freedom of capital flows (Rodrick, 1998*a*).

These debates about portfolio capital's links to volatility and growth are important to the analysis of environmental impacts as well. As discussed above, economic growth under well-functioning capital markets can increase both investment in environmental improvements and overall consumption. Economic downturns can reduce some forms of consumption, while increasing others, and reducing investment. Tracking the debate as it proceeds will shed additional light on which of these sets of environmental impacts — both good and bad — predominate.

### *Declines in output and consumption*

As economies slow in the wake of falling markets, industrial output and consumption of natural resources also tend to fall. Such declines can lead to reduced pressures on the environment — at least in the short term. For example, a recent review of the environmental aspects of the Asian financial crisis concluded the following:

“In the simplest terms, the immediate effects of the crisis have been beneficial for the environment. Sharp declines in incomes and industrial output have substantially reduced air and water pollution caused by vehicles and industrial enterprises. World market prices for timber and many other natural resources have collapsed, reducing the profitability of current production and increasing the return that may be obtained by postponing production into the future. These short-run adjustments are entirely consistent with what is known about the impact of previous economic crises on the environment...” (Pacific Basin Economic Council and the World Bank Group, 1998)

The longer-term environmental effects, however, are likely to be less beneficial – and the social costs of a sustained economic downturn are extremely high. Pressures on natural resources are likely to increase. Urban residents may be forced to return to rural areas, increasing the stresses on land, forest and water resources. Even with low prices, the need to generate cash may lead to overexploitation of timber or mineral resources. Whatever near-term environmental benefits may accrue from the withdrawal of

capital in times of financial crisis, they are more than offset by the longer-term harms: from reduced public expenditure on environmental concerns; from declines of investment by governments and firms in environmental infrastructure; and from the loss of funds for the development of environmental technologies.

#### *Government responses*

How governments respond to markets in crisis can also have major environmental implications. For example, the debt service obligations they face on bonds can create a drain on capital, potentially reducing spending for social and environmental programs. Reduced public expenditure on environmental services like waste management, water, and sewerage causes further deterioration, especially in urban areas. With cuts in social spending, households may feel pressure to engage in the unsustainable exploitation of resources, in order to generate income (Woodward, 1992). Interestingly, however, there is little evidence yet of excessive cuts in environmental spending among governments in the Asian countries affected by the recent crisis (Box 5).

#### **Box 5. The Effect of Recent Financial Crises on the Environment and Portfolio Flows**

Bubbles, busts, crashes, surges, reversals, backlashes and setbacks. These are the terms being used to describe the recent financial crises that have most affected emerging markets. They are probably fairly accurate for near-term flight in volatile portfolio flows, although less so for overall private capital flows. The currency crises deflating values and prospects in emerging markets in the last two years are predicted to cut net private capital inflows to developing countries in half by the end of 1999 (i.e. back to mid-1993 levels). Although this is a huge drop, private flows to emerging markets in 1993 had tripled from three years prior. Put in a longer term perspective then, most of the gains to emerging markets made in the 1990s will *not* be lost.

However, the picture for portfolio flows as a percentage of overall private capital is bleaker, because it is in the secondary markets, where portfolio assets are bought and sold, that investors' loss of confidence spreads most rapidly. The "contagion" among investors caused overnight flights from Asia and Russia back to US treasuries and other "safe" securities. Capital flight has raised the costs of borrowing overall in the developing world, slowing growth. However, it is doubtful that in the long run, the affected economies are worse off than if no portfolio investment had occurred in the first place.

Consistent with the environmental effects of previous economic crises in emerging economies, the verdict so far in East Asia is that the scale effects of the slowdown have so far been beneficial for the environment. But large real depreciation in exchange rates may drive governments to deplete natural resource stocks sold abroad in order to finance the levels of investment that had been supported by foreign borrowing. In addition to depleting natural resource capital, the crisis also delays replacing older plants with cleaner, more efficient technologies.

In East Asia, the fast pace of growth in capital flows and lending far exceeded the development of governance mechanisms to oversee the financial sector and the environment. While the crisis has caused severe reversals, in the long term, it is probably just an interruption in continued growth. It remains to be seen whether the opportunity the crisis presents to reform economic and environmental institutions will be seized.

*Sources: The Economist (1998); Glasgow (1998); Pacific Basin Economic Council and The World Bank (1998).*

Furthermore, when a country is in the throes of a financial crisis, it faces severe constraints on external borrowing and its debt obligations begin to drive investment decisions. When this happened during the Latin American debt crisis of the 1980s, developing country governments expanded exports to earn hard currency to make their bond payments. Since few resources were available for investments to boost manufacturing exports, governments turned to exporting raw materials and commodities,

i.e. natural resources (such as timber, minerals and fish). As a result, mineral extraction and deforestation rates both rose in Latin America in the wake of the 1980s debt crisis (Murphy, 1994; Sen, 1993).

Portfolio investors may also create macro-economic pressures that generate environmentally-harmful effects. For example, between 1988 and 1994, macro-economic policy in Mexico focused intensely on global financial integration. To attract foreign capital, interest rates on short-term government debt were kept very high, as were exchange rates (Grabel, 1996). Starting in 1990, Mexico therefore experienced significant net portfolio investment inflows, which continued until the 1994 currency crisis. During this time, the real wages of small-scale farmers and industrial workers declined — a process which accelerated after the currency crisis, when maintenance and investment in capital improvements were also postponed. Some of these investments could have been expected to generate environmental improvements. Furthermore, many rural people were forced to migrate out, cancelling the “environmental stewardship” services they had been providing in preventing soil erosion and maintaining forests (Barkin, 1998). Thus, the way portfolio investors engage with host economies, may also be important from both social and environmental angles, at least on the macro-economic level.

#### *Institutional reform*

The volatile nature of portfolio flows exacerbates financial crises, and may lead to both environmental benefits and problems. This volatility does not, however, argue for stanching the flow of portfolio capital. Rather, it points to the need for a deeper commitment to institutional reform — strengthening the integrity of the institutions overseeing financial systems to ensure proper supervision and regulation of mobile capital and to create transparency (Ortiz Martinez, 1998; Dooley, Fernández-Arias and Kletzer, 1994). Such reform is also likely to redound to the benefit of the environment.

One goal of such reforms is to facilitate the flow of the information critical to investor decision-making. Better information should help overcome the tendency among institutional investors to treat all emerging markets as a single asset class (Aitken, 1996). Investors will be better able to differentiate between markets, dampening the “herd” instinct that set off the contagion of August 1998 when, in the wake of losses in Russia, investors also fled Latin America, despite the better fundamentals which existed there (Stiglitz, 1998a).

The countries with the least economically-disruptive experience integrating into the global market seem to be those that have effective domestic institutions for managing the strife such interconnectedness provokes (Rodrik 1998b). Something of a “chicken and egg” question ensues: which comes first — financial integration or effective institutions? The interplay of market integration and institution strengthening suggests in any case the power foreign capital has to “engage” host economies in dialogue aimed at improving the governance structures in the countries receiving the flows.

The combination of improved information and strengthened institutions should also support the development of improved frameworks for environmental protection. In industrialised countries, the demand from portfolio investors for macro-economic stability, for regulatory consistency, and for transparency have largely been met. These countries' environmental regulatory frameworks share similar traits, helping to mitigate the potentially-harmful effects of portfolio flows' volatility.

In developing countries, the demands of foreign investors for such institutional reform are part of an ongoing dialogue that has become ever more intense in the late 1990s. Foreign investors (increasingly including portfolio investors), have brought pressure on host countries to create a climate

that is attractive for business. Host countries have responded, recognising that private capital flows can be an important source of economic growth.

An increasing number of foreign investors are demanding clarity on both investment and environmental regulatory frameworks. For example, transnational corporations, from the United States in particular, were wary about investing in Central and Eastern Europe before environmental laws and regulations clarified their risk exposure (Esty, 1997). Similarly, a recent dialogue between private investors in East Asia and their government counterparts emphasised the need for transparent, predictable and effective environmental regulatory systems (Pacific Basin Economic Council and the World Bank Group, 1998).

Legal reform — creating effective financial and environmental regulatory structures — thus represents a critical policy step countries need to take to continue to benefit from private capital flows (Esty, 1997). Eliminating corruption, which creates serious disincentives for foreign investment (because foreign companies do not wish to pay bribes and then find they are still in competition with other firms which have “connections” in government), stands alongside creating a functioning regulatory structure as a key element of legal reform. Important subsidiary environmental benefits also accrue as companies begin to invest in pollution controls, rather than in simply paying off environmental agency inspectors. A commitment to transparency is also important. Plainly understandable laws, which make it clear that contracts will be enforced impartially, and liability rules that are even-handed and clear, boost the confidence of foreign investors.

### ***Conclusions on the environmental effects of portfolio flows***

Portfolio flows produce contradictory environmental pressures in host countries. In concert with other instruments of private investment, they may promote economic growth with all the recognised potential for environmental gains. However, portfolio flows may also add to macro-economic instability, thereby reducing some consumption, while creating pressures for unsustainable resource use. Finally, capital flows in stocks and bonds — because of the demand for clarity and consistency in the functioning of secondary markets — may also create incentives to establish and maintain a strong, well-regulated financial sector and general institutional reform, generating further environmental benefits.

### **Integrating portfolio investment practices and environmental goals**

Portfolio flows offer some prospects (as do FDI and other types of private investment) to support economic growth, thereby creating both environmental challenges and opportunities. However, given the current scarcity of data on many aspects of the linkages between portfolio investment and the environment, firm conclusions are difficult to draw. Instead, this section offers two hypotheses around which to build future efforts to better understand the linkages, and to capture the opportunities presented. One focuses on increasing the environmental content of the decisions being made by portfolio investors. The other focuses on addressing the environmental effects of portfolio investments. Based on these two hypotheses, suggestions are then made for steps many different actors can take to increase the positive environmental aspects associated with portfolio flows.

**Hypothesis 1: decisions by portfolio investors** -- *Companies with strong environmental performance should be more attractive to portfolio investors, but often are not because of both an “information gap” and a “regulatory gap.” If the link were clearer, the positive effects of portfolio flows would be greater and more evident.*

In the opinion of many portfolio investors, the connection between strong environmental performance and strong corporate financial performance has yet to be proven. As a result, companies with superior environmental performance are not rewarded for their efforts by the markets. This appears to be due to gaps in both information and regulation.

The *information* gap has two dimensions. First, environmental factors are rarely considered relevant by financial analysts because they have never received information on them in a financially-relevant language. Environmental data is rarely translated into the terms normally used by their analysts, such as cash flow, margins, earnings growth. Although some companies put out environmental reports, these reports are aimed mainly at environmental audiences. Analysts generally view them as public relations efforts, and ignore them for valuation purposes. Most CFOs rarely speak about environmental performance when they meet with analysts, underscoring the divide which exists inside companies between financial and environmental operations. Second, more of the growing body of evidence which demonstrates a link between environmental performance and financial success needs to reach mainstream financial analysts. This is particularly true for the funds using “eco-efficiency” screens aimed at outperforming market indices.

In addition, in many countries there remains a *regulatory* pricing gap. Companies do not fully pay for the pollution damage they cause or the natural resources they consume. This gap allows firm activities that cause external environmental harms to go un- or under-punished. The possibility that environmentally-irresponsible firms will not have to pay for the damages they cause reinforces the conventional view that positive environmental performance does not yield economic returns. When regulators *do* force the internalisation of environmental costs — that is, require firms who damage the environment to pay to clean it up, or impose substantial charges on resource use — financial institutions pay attention. The US Superfund program — imposing clean-up costs on toxic waste dumpers — represents a classic example of this phenomenon. As long as a gap exists between the costs to the firm and the costs to society of firm-induced environmental problems, the materiality of environmental factors in company valuations will be understated.

**Hypothesis 2: environmental effects** -- *The positive environmental effects of portfolio flows can be enhanced, and the negative effects mitigated, by attention to broader issues of institutional reform, leading to stronger economic growth and improved governance on environmental issues.*

Portfolio investment is one of the most internationally-mobile financing vehicles. Overnight, portfolio investors switch countries, not just sectors or firms. An investor that has an “exit” option is one that is less likely to exercise the “voice” option.<sup>19</sup> Many thus argue that portfolio investment has destabilising effects on economies with weak financial institutions — effects that outweigh the advantages of giving free access to these investments.

However, recent evidence suggests that, sometimes, portfolio capital does not “exit”, but instead becomes engaged in responding to economic troubles. For example, since the fall of the rupiah in Indonesia, local issuers have defaulted on \$1.27 billion of publicly-traded, dollar-denominated, debt.

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19. This is borrowed from Dani Rodrik’s observation about employers in the global economy, who find it easier to “outsource” than to discuss how to revitalise a local economy (Rodrik, 1997).

Investors who had bought these bonds resist driving debtors to bankruptcy because they do not want to end up holding direct stakes in Indonesia's immature banking system ("no exit"). Banks, involved in both direct and securitized loans, hold three times more debt and are active in restructuring talks (Gopinath, 1998). The IMF negotiations, pushing for more information disclosure by private corporations and regulatory agencies, are including portfolio investors in the process ("more voice").

In the end, globalisation is here to stay, and the basic rules of portfolio investment dictate diversifying assets to reduce risk. This means that portfolio investors will need to find their "voice" and enter into negotiation with the rest of the international capital community to improve transparency and legal frameworks in the financial sector.

The deeper engagement of portfolio investors with the economies which host their money should have two positive environmental effects. First, improving the frameworks for foreign investment is directly linked to improving environmental governance, since an increasing number of multinational investors will not invest unless their full liabilities are clear. Institution-strengthening thus creates incentives for both improved financial *and* environmental management.

Second, institutional reform, to the extent that it reduces volatility in financial flows, will help to ensure that portfolio capital contributes consistently to growth. In the long term, growth can be channelled so as to be more sustainable. Moreover, increasing wealth frequently translates into greater environmental concern, improved controls on some types of pollution, increased government spending on environmental protection, and expanded private investment in environmental improvements (Komen, Gerking, and Folmer, 1997; Grossman and Krueger, 1995).

### **Conclusion: Recommendations for action by governments and other parties engaged in portfolio investments**

Acting on these two hypotheses is not just a matter for governments, but for all those engaged in some way with portfolio investments. Governments have a dual role, both as issuers of securities and as regulators of financial markets. Companies issuing securities, as well as the private investment community, are also in the best position to help use portfolio capital to promote sustainable development. International financial institutions perform a critical intermediary function. Each of these parties can take steps to increase the linkages between portfolio investment and environmental improvements, as described below.

#### ***Governments as regulators and issuers***

Governments can best encourage the appropriate reflection of environmental considerations in financial decision-making, if they act to:

- *Improve environmental governance.* Predictable and consistent legal frameworks will attract foreign investment. The goal — whether in an OECD or a developing country — is for governments to establish and implement environmental performance standards and economic incentives which maximise the flexibility of company response and enhance the benefits of eco-efficient behaviour. In some countries, a first step will be just to enforce some of the environmental requirements that are already on the books. In others, a more searching review of priority local issues, as well as barriers to companies' efforts to gain competitive advantage through improved environmental performance will be necessary.

- *Maintain and refine incentives for the internalisation of environmental costs.* If the financial impacts of well-analysed and properly communicated environmental factors are insignificant, they will have no impact on analysts' decision-making. While pressure from consumers and environmental groups are important to the materiality of environmental matters, governments play the central role in ensuring that otherwise externalised environmental costs are brought back to the parties best able to reduce them — the companies and other actors responsible for them in the first place.

The goal — whether in an OECD or a developing country — is for governments to establish and implement environmental performance standards and economic incentives which maximise the flexibility of company response and enhance the benefits of eco-efficient behaviour. In some countries, a first step will be just to enforce some of the environmental requirements that are already on the books. In others, a more searching review of priority local issues, as well as barriers to companies' efforts to gain competitive advantage through improved environmental performance will be necessary.

- *Ensure that investor disclosure requirements are established, and that these requirements encourage the reporting of both environmental risks and opportunities.* Accurate and timely information is critical to investor decision-making. The existence of clear and effective disclosure frameworks — whether established by governments or industry organisations — are critical to the fair and efficient functioning of markets. Such frameworks can also be used to encourage the release of relevant environmental information.

Governments — particularly those in developing countries — should ensure that the disclosure frameworks for their growing capital markets: (a) require the reporting of material environmental costs and risks (as with the SEC requirements); and (b) allow the communication of opportunities for enhanced competitiveness through improvements in environmental performance. A further step would be to require companies to report more broadly on the financial risks and opportunities facing their businesses from environmental factors.

- *“Package” privatisation sales with environmental issues in mind.* Governments take the lead in setting the structure and terms of privatisation transactions, including the nature of any securities to be sold to portfolio investors. As a result, governments have the power to determine the quality and durability of environmental performance during and after privatisation. Doing so is consistent with the need to provide certainty to potential investors. Governments should identify priority environmental issues facing the entity to be privatised *prior to sale*, and ask for plans to optimise environmental goals as part of the bidding process, leaving it up to bidders to decide on the best approach(es). A transparent privatisation process, and inclusion of environmental authorities from the beginning, are key to maximising environmental gains as part of a successful private investment. Over the long term, continued oversight of the private company's environmental performance will ensure that such gains endure (Gentry, 1996).



### ***Companies offering stocks and bonds***

Companies are the primary sources of information used by financial analysts and portfolio investors. They are thus in the best position to change investors' thinking on environmental issues. They should:

- *Develop a consistent internal position on how the environment adds value to their business.* To convince analysts that a broader view is necessary, companies themselves must come to a common understanding among executive management, finance, and environmental affairs about how environmental matters affect their businesses — particularly how the environment adds shareholder value.
- *Link environmental performance data to key financial valuation criteria.* Cash flow, margins, earnings growth and quality of management are the key valuation criteria for analysts. As such, they should be the targets for company efforts to translate environmental performance into the financial data analysts will use.
- *Do a better job collecting data on the financial implications of environmental risks and opportunities.* In most companies, environmental and financial data is collected, assembled and communicated in completely separate channels and organisations. Financial and environmental personnel must work together to identify and collect good quality data.
- *Develop better techniques for quantifying and comparing the financial impacts of environmental risks and opportunities.* Expanded co-operation between the environmental and finance functions within companies on data collection should also help spur the development of better tools for expressing that data in financial terms. For example, estimates of “savings” or “costs avoided,” or even expected increases in gross revenues, arising from proactive environmental programs need first to pass muster with company auditors and other internal financial reviewers.
- *Place relevant environmental financial data into the mainstream of corporate communications with analysts and investors.* Interviews with senior management, finance and investor relations, SEC filings, and annual reports — communications in each of these channels must include the company's best arguments as to why its improved environmental performance means better value for investors. They should build from the quantified data mentioned above.
- *Disseminate standard methodologies for collecting and reporting data on environmental and financial performance.* The greatest impact of these company efforts will be felt when large numbers of firms and analysts are looking for the same data — thus allowing comparisons across companies and sectors.

### ***The investor community, including analysts and rating agencies***

A few investors and financial analysts are beginning to value positive action taken by companies on the environmental front. However, the mainstream investor community does not generally consider environmental factors to be very relevant to asset values. When the environment is taken into account, it is usually considered a risk, despite a growing body of evidence suggesting that the environment is germane to financial valuation.

Purely as part of their search for better investments, financial analysts and rating agencies should take two actions:

- *Consider seriously the relevant information on financial and environmental performance developed by companies.* If the companies that believe improved competitiveness and environmental performance go hand in hand are right — as it increasingly appears they are — analysts who understand and act on that information will perform better than those who do not.
- *Actively work with company officials to make environmental information even more useful for corporate valuations.* This is true both for individual companies, as well as for industry-wide measurement systems. Already, analysts are refining existing valuation methodologies (and developing new ones) to incorporate factors that drive competitiveness. Since environmental performance is considered a key dimension of competitiveness, these new methodologies should help make the environment-financial value link more widely-accepted.

In their search for quality investments, investors themselves should:

- *Press companies and analysts for financially-relevant environmental information.* This is true both for fund managers, as well as for institutional and individual investors. They should also be willing to work with companies to understand and help communicate the ways in which environmental performance builds shareholder value. Building the demand for such information from the ultimate target audience of both companies and analysts — investors — will lead directly to changes in the level of importance analysts assign to environmental issues.

### ***International financial institutions***

International financial institutions shape private capital flows directly by acting as co-financiers on projects, and indirectly by advising governments on financial policy. They are often in the best position of all international actors to influence how environmental concerns are incorporated into private capital flows generally. However, they are less important in influencing portfolio flows, where the real point of leverage is with investors themselves.

Multilateral Development Banks do have a role in setting environmental guidelines that become the standard for other lenders to follow. Also, MDBs help advise governments on setting up legal frameworks for financial institutions and investments, including stock markets. As part of this process, they can suggest steps to help increase the environmental character of portfolio investment. To further encourage the positive environmental effects of portfolio flows (and reduce the harms), MDBs should:

- *Consistently incorporate and enforce environmental criteria in lending.* The World Bank has taken the greatest strides in incorporating environmental criteria in lending. More could be done at regional MDBs to adopt similar conditions, notably at the European Investment Bank (EIB), which lends more than the World Bank each year (Gutner, 1998; Delphi International Ltd., 1997). Environmental conditionality in MDB lending must be stepped up, followed by consistent enforcement.

Commercial banks also have roles to play in improving the links between portfolio investment and the environment. They should:

- *Work with company officials to make positive environmental practices material.* Thus far, banks have integrated environmental considerations in order to minimise risks. More can be done on this front. For example, a recent study done for the European Commission recommends mandatory environmental risk management and disclosure standards for commercial banks, to “level the playing field”, so that risky borrowers do not obtain “cheap credit” from banks with poor environmental procedures (Delphi International, Ltd., 1997). However, stimulating firms to exploit environmental opportunities, as well as to mitigate risks, will do the most for the environment. As a first step, some forward-looking bank lenders have begun to lower rates for good environmental practices; more should do so.

Investment bankers’ — and to a lesser degree commercial bankers’ — views about the importance of environmental factors hinge on the policies governing international business practices. Thus, the power of governments to internalise environmental externalities, and of companies to prove that exploiting environmental opportunities go directly to the “bottom line”, are the keys. Should they succeed in applying that power, private financial institutions, whether lenders, underwriters, or individual and institutional investors, will then have every incentive to include environmental factors in their decision-making.

### **Summary and final thoughts**

The need to use more portfolio investment resources to promote environmental improvements, and sustainable development more broadly, is clear. Globally, private capital flows are now greater than trade flows. Portfolio flows are the largest component of international capital flows, larger than FDI and commercial lending combined. They represent both an opportunity and a risk for environmental policy-makers. As an opportunity, the environmental leverage provided by portfolio investors has so far gone largely untapped.

For those seeking to advance environmental goals, portfolio flows pose challenges on two fronts: (a) shaping environmental *content* by increasing the extent to which environmental factors are included in the valuation of securities by potential investors; and (b) shaping environmental *effects*, by increasing the environmental benefits (and mitigating the negative environmental impacts) of portfolio flows.

To enhance the environmental content of portfolio investments, the links between corporate environmental performance and the share price of firms needs further clarification. Evidence has grown that firms’ environmental practices *do* have a bearing on the “bottom line” — better environmental performance usually means better financial performance. However, valuation methodologies for companies remain limited in their ability to translate environmental practice into financial value, although new approaches are emerging. But most of the mainstream financial community has yet to be convinced of the connection between financial value and corporate environmental performance. Where the connection is made, it tends to be in terms of environmental risks, not environmental benefits. Moreover, there remain many instances where regulatory failures allow poor environmental performers to save money. Efficiency in capital markets — and the clarity of the link between good environmental performance and positive financial results — requires environmental policy refinements, especially the “full pricing” of environmental harms.

Institutional strengthening is the key to both increasing the environmental benefits and mitigating the environmental impacts of portfolio flows. Proper economic controls and effective governance mechanisms need to be in place. Consistent oversight of portfolio investment is critical, as are transparent regulatory frameworks governing finance and the environment. With effective institutions in place, the potential for portfolio capital to contribute to real economic growth — and improved environmental performance — is significantly enhanced.

The amount of capital in portfolio flows is too important to ignore. Governments in both source and host countries must work together to “engage” portfolio investment for positive outcomes, both to ensure that these flows contribute to real economic growth and to ensure that their environmental character and environmental consequences are environmentally-positive (or at least benign). Official action is needed on several fronts: first, to help close the “regulatory pricing gap” so that a firm’s use of environmental resources is included in the value of the firm’s securities in the marketplace; second, to put in place transparent, predictable, and effective frameworks for both private investment and environmental protection.

Official and private parties also need to develop a more sophisticated understanding of the relationship between portfolio capital and the environment. Above all, research and analysis of the distribution of portfolio investment among sectors is urgently needed, and more of the data that does exist should be brought into the public domain. Such work will help identify the importance of portfolio investment as a source of capital for different types of industries and services, which will in turn help determine the proper focus for environmental policy leverage.

The OECD is strategically well-positioned to assist in the effort to enhance portfolio flows’ positive environmental effects, and to mitigate the negative aspects. OECD countries represent the source and destination of the vast majority of portfolio investment. Thus, the OECD has significant power to engage both its members, as well as developing countries, in dialogue about effective frameworks for investment and the environment. In particular, the OECD should support co-ordinated action among its members and developing countries, to ensure appropriate levels of environmental regulation, as well as the effective application of these regulatory regimes. Investment capital is more likely to flow to countries where consistent and evenly-enforced environmental regulations are in place. Also, the ability of the OECD to convene meetings among host and source countries can play a pivotal role in improving the quality and availability of data to further the understanding of portfolio flows’ environmental effects. Ultimately, however, it is up to host country governments and the investment community to harness private portfolio investment to the goal of environmentally-sustainable growth.

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