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## Forms of Capital Flow

Chapter 3 implies that countries need to be concerned about the form in which they borrow, perhaps even more concerned than with the level of borrowing. This chapter is devoted to taking a more detailed look at issues concerning the composition of capital flows and begins by developing a taxonomy of alternative forms of capital flow. It then takes a detailed look at the statistical facts about recent capital flows, seeking in particular to illuminate which of them are responsible for the boom-bust pattern. This is followed by an examination of the characteristics of the alternatives in terms of cost, conditionality, risk bearing, access to intellectual property, impact on investment, and vulnerability to capital flow reversal.

### A Taxonomy

Capital flows can be categorized in a number of ways: by the direction in which capital flows, including by the type of lender or borrower, by the legal form of the contract governing the flow, and by maturity. Because the principal interest of this study is in countries that neoclassical theory leads one to expect to be capital importers, we will focus first and mainly on capital flows into countries, delaying a brief consideration of capital outflows until the end.

A first distinction is in terms of the type of lender.<sup>1</sup> The possibilities are

- foreign governments;

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1. For convenience, purchasers of equity claims will be included under the term “lenders.”

- multilateral development banks (MDBs), among which one may include the IMF for present purposes;<sup>2</sup>
- foreign nonfinancial corporations (which are important in this context mainly as sources of FDI but also in providing, or arranging for, supplier credits to finance sales of the capital goods they produce);
- foreign banks;
- other foreign financial institutions (pension funds, insurance companies, mutual funds, investment banks, and hedge funds, the latter two sometimes grouped under the label “highly leveraged institutions” despite the fact that they are not always highly leveraged);
- foreign individuals; and
- foreign nongovernmental organizations (NGOs).

A similar array of possibilities exists on the borrowing side, except that there is no equivalent to MDBs, unless national development banks are counted separately rather than as a part of the public sector. However, loans to individuals and NGOs are quantitatively unimportant.

In terms of the legal form of the contract, the possibilities are a grant; a loan; or an equity stake with control, which is FDI, or without control, which is portfolio equity investment.<sup>3</sup>

Maturity (or “tenor,” as the financial people tend to call it) can vary from overnight (important in the interbank market) to infinite (as used to be the case with British consols and still applies to an equity stake, although either can be sold so that the individual investor is not permanently locked in).

A similar taxonomy is possible with regard to capital outflows from developing countries. The main difference is that there is again no analogy to MDBs among the sources of finance.<sup>4</sup> However, MDBs should be included among the foreign borrowers to whom residents may lend money.

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2. Although the IMF has traditionally resisted being classified as an MDB, its Poverty Reduction and Growth Facility provides medium-term development finance.

3. It is a matter for debate as to how large an equity stake is needed to give control and, thus, to justify the label FDI. Clearly 51 percent is sufficient, but effective control is often possible with a much smaller stake. The conventional (arbitrary) dividing line is 10 percent, at least in the United States.

4. This statement again needs qualification. Some oil-exporting countries created joint or even national institutions (e.g., the Arab Fund for Economic Development, the Kuwait Fund) to lend government funds to poorer developing countries during the era of oil surpluses in the 1970s. Also, a number of developing countries subscribe to some multilateral initiatives; for example, 44 developing countries, including ones as poor as Bangladesh, subscribe funds to the IMF’s Poverty Reduction and Growth Facility and its Heavily Indebted Poor Countries Initiative.

## The Facts

Table 4.1 presents estimates of capital flows to developing countries from 1970, when private flows were in their infancy, to 2003. Data are shown for East Asia and Latin America in tables 4.2 and 4.3 to supplement those for the total of all developing countries in table 4.1. Box 4.1 provides descriptions of the data variables.

The decomposition given is based on that of the World Bank in its *Global Development Finance* (the successor to the *World Debt Tables*). It starts with equity flows, broken into FDI and portfolio equity (columns 1 and 2). In the early 1970s, FDI was the predominant source of private capital flows to developing countries, with Latin America then being a much bigger destination than East Asia. FDI then rose on a rather gradual trend through the 1970s and stagnated in total through the first half of the 1980s, with a continuing rise in East Asia more or less offsetting a decline in Latin America. A veritable explosion, presumably associated with the more welcoming stance of most developing countries, started in both regions in the late 1980s. Portfolio equity flows were modest in size until they also started to explode in the late 1980s.<sup>5</sup>

Columns 3 and 4 of tables 4.1 to 4.3 show bank loans with a maturity of more than one year, broken down between those made to public-sector and private-sector borrowers. One sees here the explosion in bank lending to sovereign borrowers in the 1970s following the oil crisis (“recycling petrodollars”), the cutback in the 1980s following the outbreak of the debt crisis (although with a delay in the cutback to the public sector as a result of the banks being arm-twisted into providing “new money”), and the explosion of bank lending to the private sector in the 1990s, followed by a new collapse after the Asian crisis.

Bond lending (columns 5 and 6) remained a minor element through the 1970s and 1980s, with no lending to the private sector recorded until 1989. Since 1993, private-sector to public-sector lending has been dominated by bonds, although in most years until the Asian crisis bond lending to the private sector was comparable with that to the public-sector borrowers. However, bank lending to the private sector grew even more than bond placements by the private sector, so that until after the Asian crisis there was no sign that banks were being disintermediated in the international context, as happened within financially developed countries like the United States.

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5. When these flows were in their infancy, Donald Lessard and I (Lessard and Williamson 1985) identified portfolio equity as the most promising of a number of new channels that we explored for reviving capital flows to developing countries in the wake of the debt crisis. We were roundly criticized for being wildly optimistic in suggesting (in our table 9) that by the late 1980s portfolio equity could be yielding an annual flow of as much as \$1 to \$2 billion to all developing countries!

**Table 4.1 Capital inflows and resource transfers for all developing countries, 1970–2003** (millions of dollars)

Year	FDI (net) (1)	Portfolio equity (2)	Bank loans		Bonds		Other public sector debt		Short-term debt (9)	Total net inflows (10)
			Public sector (3)	Private sector (4)	Public sector (5)	Private sector (6)	Official creditors (7)	Private creditors (8)		
1970	2,062	-2	683	1,678	6	0	3,290	1,108	52	8,877
1971	2,620	-3	1,228	1,896	94	0	4,629	753	1,378	12,595
1972	2,325	-1	2,472	3,108	235	0	3,779	1,406	1,724	15,048
1973	3,554	1	4,711	2,197	131	0	4,738	1,278	2,201	18,811
1974	734	-3	6,076	5,875	119	0	7,362	1,862	3,258	25,283
1975	8,385	-5	9,307	4,857	225	0	11,488	3,453	13,498	51,208
1976	3,981	-1	11,250	3,865	1,050	0	9,456	4,594	5,351	39,546
1977	6,448	2	12,262	5,527	2,619	0	11,869	4,732	25,242	68,701
1978	8,130	1	17,200	5,565	3,416	0	12,864	5,685	10,112	62,973
1979	7,493	-1	25,404	7,249	1,105	0	14,418	5,413	12,347	73,428
1980	6,279	-1	19,571	9,216	1,123	0	20,473	11,641	29,501	97,803
1981	20,376	130	21,239	18,721	1,358	0	23,992	7,811	18,200	111,827
1982	23,050	-4	22,823	5,707	4,868	0	25,554	8,518	9,863	100,379
1983	14,999	-1	17,413	451	936	0	24,315	7,168	-17,068	48,213
1984	14,384	-2	19,936	-998	-433	0	22,209	6,374	-7,673	53,797
1985	12,274	46	7,076	-1,742	3,792	0	21,727	6,410	1,086	50,669
1986	10,904	225	7,844	-2,017	771	0	22,314	6,351	3,997	50,389
1987	9,394	282	12,958	-1,940	-341	0	23,053	7,181	14,071	64,658
1988	17,654	719	12,055	-2,905	3,145	0	19,367	6,724	11,006	67,765
1989	21,312	3,291	635	409	3,105	47	21,997	7,246	15,254	73,296
1990	24,032	3,004	-6,532	9,751	785	291	26,390	12,361	11,705	81,787
1991	33,106	6,541	-2,417	6,783	6,621	1,626	27,752	3,541	18,285	101,838
1992	45,399	12,991	2,709	12,629	1,247	7,350	23,029	11,167	34,860	151,381
1993	68,060	42,444	2,174	2,538	15,046	17,938	23,957	10,928	34,501	217,586
1994	89,894	35,810	-2,083	9,670	14,714	14,178	14,591	5,037	14,324	196,135
1995	105,303	17,320	7,626	20,869	13,319	10,092	22,347	1,815	58,343	257,034
1996	127,598	32,884	1,251	29,453	31,614	17,868	2,872	1,568	30,784	275,892
1997	171,095	22,594	7,068	36,838	19,121	19,097	9,776	2,046	7,986	295,621
1998	175,563	6,586	11,669	40,703	29,546	10,197	20,134	-5,090	-63,632	225,676
1999	181,722	12,640	-8,373	3,307	27,785	2,035	15,907	-2,323	-22,320	210,380
2000	162,170	12,633	-5,647	-174	19,698	-3,215	4,752	-5,463	-9,123	175,631
2001	175,035	4,397	-12,576	2,380	12,135	69	7,422	-7,270	-22,851	158,741
2002	147,086	4,945	-7,050	3,142	13,898	-1,159	-9,907	-7,031	1,435	145,359
2003	135,200	14,340	-5,782	-830	19,410	13,703	-14,310	-7,869	32,005	185,867

n.a. = not available

Source: See box 4.1.

Column 7 shows official lending, which naturally goes overwhelmingly to the public sector. This grew strongly through the 1970s, with the World Bank in a strong expansion phase under Robert S. McNamara's presidency and because bilateral foreign aid in the form of loans was still growing. Since then official lending has stagnated or even declined (al-

Grants (11)	Resident outflows			Interest payments			Earnings on FDI (18)	Interest received from abroad (19)	Net resource transfer (20)
	Bank deposits (12)	Portfolio investment (13)	Total (14)	Long- term (15)	Short- term (16)	IMF charges (17)			
1,838	n.a.	n.a.	n.a.	2,289	1	0	662	60	n.a.
2,153	n.a.	n.a.	n.a.	2,543	0	0	1,232	56	n.a.
2,735	n.a.	n.a.	n.a.	2,962	0	0	724	59	n.a.
3,633	n.a.	n.a.	n.a.	4,127	0	0	2,978	115	n.a.
5,673	n.a.	n.a.	n.a.	5,857	0	33	4,460	150	n.a.
6,369	n.a.	n.a.	n.a.	7,370	78	114	4,685	120	n.a.
5,626	n.a.	n.a.	n.a.	8,134	200	228	6,453	121	n.a.
6,135	n.a.	n.a.	n.a.	10,074	895	296	10,470	97	n.a.
8,459	n.a.	n.a.	n.a.	14,307	1,699	303	11,098	143	n.a.
10,527	n.a.	n.a.	n.a.	21,166	3,060	304	10,459	308	n.a.
12,821	n.a.	n.a.	n.a.	30,633	13,904	454	17,890	273	n.a.
11,424	n.a.	n.a.	n.a.	37,930	18,965	658	24,500	227	n.a.
10,644	49,070	158	49,228	44,634	18,578	1,279	20,539	310	-22,924
10,130	18,480	-136	18,344	43,555	15,705	1,785	14,896	268	-35,674
12,341	2,160	29	2,189	49,502	13,285	2,678	14,051	466	-15,101
13,436	23,950	-383	23,567	51,504	12,547	2,840	12,909	448	-38,814
15,736	16,150	49	16,199	49,229	9,764	3,004	10,643	449	-22,265
16,714	23,450	-121	23,329	50,379	8,903	2,519	11,451	598	-14,610
18,086	6,720	7	6,727	57,990	10,628	2,271	13,081	490	-4,353
18,982	35,490	615	36,105	52,551	12,315	2,383	15,800	855	-26,020
27,737	37,010	-814	36,196	51,523	11,323	2,500	17,175	1,614	-7,579
33,928	-15,240	66	-15,174	51,985	13,257	2,494	18,277	2,150	67,078
30,104	-16,000	1,268	-14,732	50,892	10,737	2,439	20,571	2,506	114,085
27,669	-8,472	3,757	-4,715	48,993	12,635	2,343	25,456	3,316	163,858
31,700	19,798	2,269	22,067	57,039	14,082	1,804	31,266	2,980	104,557
31,590	1,794	9,227	11,021	73,033	16,604	2,788	43,708	5,285	146,753
26,799	4,494	8,470	12,964	76,704	18,068	2,309	48,454	6,876	151,068
25,290	11,999	20,125	32,124	82,006	19,028	2,207	56,333	8,913	138,127
26,719	5,306	6,018	11,324	90,745	17,602	2,502	57,318	8,607	81,511
28,519	24,747	36,613	61,360	95,732	16,606	2,843	59,185	8,964	12,136
28,705	9,189	10,373	19,562	101,001	17,891	2,881	76,556	10,857	-2,697
27,899	8,476	19,352	27,828	101,753	12,863	2,671	79,105	11,337	-26,243
31,228	-3,923	13,000	9,077	83,756	9,513	2,971	76,121	11,239	6,387
34,342	11,786	31,530	43,316	83,972	9,075	2,053	73,000	11,757	20,551

though the increase of grants has partially compensated at times). Column 8 shows lending to public-sector borrowers by private-sector lenders other than banks or via bonds: This consists largely of supplier credits and export credits provided by banks with a guarantee from an export credit agency. This tended to decrease in importance even before the Asian crisis, and since that crisis it has turned consistently negative.

**Table 4.2 Capital inflows and resource transfer: Developing Asia Pacific**  
(millions of US dollars)

Year	FDI (net) (1)	Portfolio equity (2)	Bank loans		Bonds		Other public sector debt		Short- term debt (9)	Total net inflows (10)
			Public sector (3)	Private sector (4)	Public sector (5)	Private sector (6)	Official credi- tors (7)	Private credi- tors (8)		
1970	201	0	48	380	-32	0	467	44	0	1,107
1971	283	-1	104	352	-7	0	414	119	232	1,497
1972	386	-1	240	466	12	0	662	252	247	2,264
1973	336	1	163	295	29	0	718	224	183	1,949
1974	729	-1	321	996	21	0	791	319	454	3,630
1975	1,032	-2	1,516	971	19	0	1,001	308	641	5,486
1976	969	1	708	787	336	0	1,344	796	947	5,888
1977	999	1	219	762	157	0	1,536	733	2,289	6,696
1978	991	0	692	163	422	0	1,668	785	2,232	6,953
1979	920	-4	2,311	564	244	0	2,161	898	2,088	9,181
1980	1,312	-4	2,572	1,030	194	0	2,384	2,025	3,380	12,894
1981	2,266	-1	2,438	1,620	52	0	3,629	1,141	3,321	14,467
1982	2,403	-1	3,311	1,533	1,043	0	3,462	1,405	2,512	15,667
1983	2,820	-1	2,631	1,481	1,766	0	4,393	1,832	2,244	17,167
1984	2,837	-1	1,446	1,067	276	0	4,833	1,320	2,204	13,982
1985	2,948	43	-1,005	329	3,267	0	3,413	2,387	1,259	12,641
1986	3,116	30	2,443	-114	1,574	0	3,144	577	-627	10,142
1987	3,912	201	3,408	266	874	0	4,367	-439	1,633	14,222
1988	6,738	486	1,977	910	-45	0	4,619	-38	2,363	17,010
1989	8,330	2,543	449	2,716	-38	31	6,360	972	1,456	22,818
1990	10,512	439	-1,305	7,152	-1,072	120	5,847	1,333	7,795	30,822
1991	13,192	-628	-461	6,035	128	410	6,777	1,355	9,447	36,257
1992	21,402	3,917	1,253	6,573	-445	720	7,060	5,565	11,620	57,667
1993	38,900	15,232	1,917	7	2,069	2,791	8,144	3,342	12,320	84,722
1994	45,562	9,404	180	2,832	3,654	5,729	5,677	3,310	9,732	86,081
1995	50,798	6,279	3,405	5,082	2,595	5,611	9,316	1,043	27,221	111,348
1996	58,638	9,664	-36	11,095	4,637	8,630	3,691	4,668	19,622	120,609
1997	62,138	-3,917	1,664	2,313	4,401	8,908	11,314	5,652	4,662	97,135
1998	57,662	-3,449	2,494	-7,285	1,314	-663	7,668	339	-43,341	14,737
1999	49,950	2,321	-3,461	-7,914	2,475	-1,588	10,666	-378	-13,879	38,194
2000	44,236	4,768	-4,832	-6,792	2,329	-3,975	5,750	-1,298	-10,127	30,058
2001	48,205	1,020	-4,310	-6,581	3,188	-2,514	5,723	-1,781	729	43,678
2002	54,834	3,493	-3,335	-6,051	3,052	-2,254	-5,123	-2,215	7,704	50,104
2003	56,800	4,800	-2,328	-2,604	4,961	850	-8,386	-3,540	12,061	62,613

n.a. = not available

Source: See box 4.1.

Column 9 shows short-term debt of all sorts, including trade credits, bank loans of less than one year to both the public and private sectors, and foreign purchases of treasury bills and commercial bills. One is immediately struck by the volatility of this series, which is even more striking in light of the fact that one of the main components, namely trade

Grants (11)	Resident outflows			Interest payments			Earnings on FDI (18)	Interest received from abroad (19)	Net resource transfer (20)
	Bank deposits (12)	Portfolio investment (13)	Total (14)	Long- term (15)	Short- term (16)	IMF charges (17)			
624	n.a.	n.a.	n.a.	162	0	0	0	0	n.a.
718	n.a.	n.a.	n.a.	218	0	0	0	0	n.a.
941	n.a.	n.a.	n.a.	280	0	0	0	0	n.a.
859	n.a.	n.a.	n.a.	367	0	0	0	0	n.a.
1,083	n.a.	n.a.	n.a.	501	0	5	486	0	n.a.
854	n.a.	n.a.	n.a.	677	0	6	398	0	n.a.
712	n.a.	n.a.	n.a.	964	0	20	586	0	n.a.
740	n.a.	n.a.	n.a.	1,189	190	32	937	0	n.a.
987	n.a.	n.a.	n.a.	1,478	389	41	1,114	0	n.a.
1,117	n.a.	n.a.	n.a.	2,351	450	52	1,478	0	n.a.
1,131	n.a.	n.a.	n.a.	3,000	1,754	60	1,675	0	n.a.
1,041	n.a.	n.a.	n.a.	4,141	2,256	100	5,466	0	n.a.
919	6,330	169	6,499	4,642	2,605	190	5,325	0	-2,675
1,000	4,310	-80	4,230	4,942	2,191	200	5,256	0	1,347
1,262	-1,790	-1	-1,791	5,975	2,306	210	4,412	0	4,133
1,129	3,670	-208	3,462	6,143	2,229	187	3,694	114	-1,832
1,852	420	-43	377	6,753	1,560	173	2,652	86	564
1,948	2,310	-9	2,301	7,839	1,737	227	2,930	121	1,258
2,051	1,170	-17	1,153	8,969	1,778	226	3,365	119	3,689
2,186	4,700	643	5,343	10,082	2,202	250	4,342	153	2,939
2,081	4,250	-606	3,644	10,155	2,110	245	5,159	190	11,781
1,951	-1,000	36	-964	11,104	2,735	156	5,465	203	19,913
2,159	-2,160	0	-2,160	10,884	2,579	94	6,892	367	41,904
2,081	-2,200	-38	-2,238	11,574	2,808	127	7,166	709	68,075
2,730	2,800	0	2,800	13,064	3,658	73	7,286	732	62,661
3,081	587	0	587	15,542	5,015	69	17,709	997	76,503
2,333	1,451	0	1,451	16,263	5,672	41	20,576	1,330	80,269
2,356	2,611	0	2,611	17,860	6,903	51	22,722	1,138	50,482
2,460	2,801	1	2,802	19,024	5,041	361	22,681	404	-32,308
2,508	4,722	-153	4,569	20,219	3,841	565	25,799	1,046	-13,244
2,497	2,730	584	3,314	20,352	3,807	793	32,216	1,987	-25,938
2,164	1,666	2,303	3,969	18,658	3,375	692	32,419	1,247	-12,025
2,199	1,658	1,179	2,837	14,432	3,079	360	28,443	1,815	4,966
2,605	4,279	2,261	6,540	13,565	3,096	129	27,400	1,525	16,013

credits, is believed to be rather stable. Short-term loans turned strongly negative during the Asian crisis and remained in negative territory up to 2002. The volatility was confirmed by the strong bounce-back in 2003.

Total net capital inflows are shown in column 10. This figure gives a very partial picture of the extent to which the countries are importing real resources from the rest of the world in order to be able to increase absorption (investment or consumption). In the first place, capital inflows

**Table 4.3 Capital inflows and resource transfer: Latin America and Caribbean** (millions of US dollars)

Year	FDI (net) (1)	Portfolio equity (2)	Bank loans		Bonds		Other public sector debt		Short-term debt (9)	Total net inflows (10)
			Public sector (3)	Private sector (4)	Public sector (5)	Private sector (6)	Official creditors (7)	Private creditors (8)		
1970	1,173	0	612	989	55	0	830	513	0	4,172
1971	1,665	0	904	1,121	117	0	700	269	658	5,434
1972	1,017	0	1,866	2,100	199	0	976	853	1,112	8,123
1973	2,329	0	3,173	1,145	74	0	1,175	620	1,143	9,659
1974	1,632	0	5,265	4,217	120	0	2,149	537	2,040	15,959
1975	3,370	0	5,679	3,039	151	0	2,662	366	1,574	16,841
1976	1,998	0	9,070	2,015	681	0	1,710	948	3,162	19,584
1977	3,164	0	9,019	2,872	2,300	0	1,998	600	12,558	32,513
1978	4,090	0	11,666	3,089	2,548	0	2,553	1,365	4,937	30,249
1979	5,238	0	14,889	4,625	653	0	2,033	964	12,523	40,925
1980	6,358	0	10,606	6,000	802	0	4,284	1,082	22,997	52,130
1981	8,542	135	15,087	15,698	1,413	0	5,046	987	15,680	62,587
1982	6,963	0	14,623	4,020	3,985	0	5,067	2,371	6,271	43,301
1983	5,354	0	11,921	-1,917	-804	0	4,586	1,980	-22,445	-1,326
1984	4,278	0	9,953	-2,035	-1,038	0	5,762	711	-9,496	8,135
1985	5,974	0	4,701	-2,082	-805	0	5,634	861	-5,302	8,980
1986	4,397	0	1,078	-1,880	-1,377	0	6,250	1,626	-3,304	6,792
1987	3,830	78	4,362	-2,292	-2,030	0	4,157	1,420	3,709	13,235
1988	7,619	176	4,196	-3,943	-1,441	0	4,176	1,663	4,194	16,640
1989	7,966	545	-3,035	-2,749	-1,229	0	4,087	1,241	2,616	9,443
1990	8,181	2,464	-447	2,315	-26	171	6,727	540	7,633	27,558
1991	12,815	6,935	460	1,354	3,099	1,216	2,979	-1,485	8,061	35,432
1992	14,800	8,109	-100	4,187	-1,842	6,580	1,197	-1,481	14,044	45,494
1993	13,850	23,352	1,734	-933	6,141	14,369	2,660	-1,572	19,333	78,933
1994	28,767	17,273	2,315	4,697	7,039	7,937	-1,498	-1,943	9,955	74,541
1995	30,500	4,770	3,158	11,314	7,820	3,491	9,143	-1,345	14,717	83,569
1996	44,311	12,186	730	15,288	25,324	7,271	-8,777	-1,601	164	94,896
1997	66,718	13,326	2,519	29,394	5,208	5,639	-4,738	-1,042	-7,663	109,363
1998	73,823	-2,170	6,380	32,732	9,001	8,291	8,360	-1,671	-27,561	107,185
1999	88,035	-3,626	-7,178	5,633	16,280	3,034	2,423	779	-7,932	97,446
2000	76,961	-453	-609	307	5,744	-537	-396	-898	-2,558	77,561
2001	69,949	2,291	-2,102	-574	2,671	966	4,796	-1,668	-13,394	62,935
2002	44,682	1,507	-5,033	-5,285	3,611	-3,112	871	-1,825	-8,988	26,427
2003	36,600	1,420	-3,564	-2,263	12,004	1,233	-1,187	-749	2,610	46,104

n.a. = not available

Source: See box 4.1.

are supplemented by grants (column 11), which consist predominantly of official aid. These built up fairly steadily until the end of the 1980s but then stagnated or declined (even in nominal terms) until quite recently. Second, capital inflows are partially offset by capital outflows, shown bro-

Grants (11)	Resident outflows			Interest payments			Earnings on FDI (18)	Interest received from abroad (19)	Net resource transfer (20)
	Bank deposits (12)	Portfolio investment (13)	Total (14)	Long- term (15)	Short- term (16)	IMF charges (17)			
133	n.a.	n.a	n.a	1,395	0	0	662	0	n.a
138	n.a	n.a	n.a	1,532	0	0	811	0	n.a
136	n.a	n.a	n.a	1,734	0	0	563	0	n.a
122	n.a	n.a	n.a	2,526	0	0	930	0	n.a
160	n.a	n.a	n.a	3,829	0	11	1,050	0	n.a
184	n.a	n.a	n.a	4,900	0	31	1,470	0	n.a
219	n.a	n.a	n.a	4,981	0	70	1,708	0	n.a
219	n.a	n.a	n.a	5,932	0	109	2,876	6	n.a
291	n.a	n.a	n.a	8,650	0	94	3,120	6	n.a
452	n.a	n.a	n.a	12,599	0	75	4,588	6	n.a
425	n.a	n.a	n.a	17,355	6,890	95	5,213	0	n.a
391	n.a	n.a	n.a	22,237	10,489	103	6,298	0	n.a
665	39,170	0	39,170	27,292	10,130	148	6,045	0	-38,820
922	13,420	0	13,420	25,733	8,545	346	4,172	0	-52,619
1,296	5,710	0	5,710	28,707	5,609	902	4,368	0	-35,865
1,527	12,410	0	12,410	28,478	5,148	1,088	4,823	0	-41,439
1,678	12,830	0	12,830	25,140	3,553	1,316	5,213	0	-39,584
2,045	12,640	0	12,640	24,829	2,377	1,083	4,620	62	-30,208
2,227	3,360	0	3,360	28,693	3,102	1,073	6,034	51	-23,344
2,254	18,320	0	18,320	20,424	3,863	1,234	8,070	343	-39,872
2,278	19,220	0	19,220	18,089	2,377	1,459	7,520	589	-18,240
4,140	-10,500	0	-10,500	17,820	4,116	1,420	7,622	891	19,987
2,599	-12,030	1,036	-10,994	17,839	3,096	1,304	8,228	746	29,366
2,827	-8,162	3,810	-4,352	17,592	4,488	1,238	10,496	974	53,273
2,575	15,088	2,293	17,381	20,909	5,530	720	14,134	1,061	19,504
3,285	1,478	8,039	9,517	28,608	6,418	1,104	15,096	1,613	27,723
3,108	1,510	7,098	8,608	30,010	7,519	1,105	15,922	1,875	36,715
2,686	6,029	10,780	16,809	33,490	6,472	928	19,979	2,971	37,340
3,171	3,037	-502	2,535	38,972	6,484	828	20,619	2,609	43,527
2,896	11,975	11,860	23,835	44,694	6,154	1,040	17,831	2,866	9,656
2,469	2,001	2,860	4,861	47,909	6,562	778	22,409	3,217	728
3,210	3,044	31,375	34,419	48,298	4,560	608	20,401	3,551	-38,590
2,730	-3,403	5,391	1,988	36,258	2,211	1,195	18,456	3,262	-27,688
2,904	4,040	19,262	23,302	34,547	1,794	1,070	16,300	2,856	-25,149

ken down between bank deposits and portfolio investment in columns 12 and 13 and summed in column 14.

Net resource transfers consist of net capital flows plus grants less the reverse flow of payments for interest and profits from past investment. Interest payments, on long-term and short-term claims respectively, are shown in columns 15 and 16. Interest paid to the IMF (IMF charges) is

## **Box 4.1 Capital inflows and resource transfer: Data variable descriptions**

### **FDI**

GDF 2004 Series BX.KLT.DINV.CD.DT. Foreign direct investment (net) shows the net change in foreign investment in the reporting country. Foreign direct investment is defined as investment that is made to acquire a lasting management interest (usually of at least 10 percent of voting stock) in an enterprise operating in a country other than that of the investor (defined according to residency), the investor's purpose being an effective voice in the management of the enterprise. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments.

### **Portfolio equity**

GDF 2004 Series BX.PEF.TOTL.CD.DT. Portfolio equity flows are the sum of country funds, depository receipts (US or global), and direct purchases of shares by foreign investors.

### **Bank loans:**

#### ***Public sector***

GDF 2004 Series DT.NFL.PCBK.CD. Public and publicly guaranteed commercial bank loans from private banks and other private financial institutions. Net flows (or net lending or net disbursements) are disbursements minus principal repayments.

#### ***Private sector***

GDF 2004 Series DT.NFL.PNGC.CD. Nonguaranteed long-term commercial bank loans from private banks and other private financial institutions. Net flows (or net lending or net disbursements) are disbursements minus principal repayments. Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to nonresidents and is repayable in foreign currency, goods, or services.

### **Bonds:**

#### ***Public sector***

GDF 2004 Series DT.NFL.PBND.CD. Public and publicly guaranteed debt from bonds that are either publicly issued or privately placed. Net flows (or net lending or net disbursements) are disbursements minus principal repayments.

#### ***Private sector***

GDF 2004 Series DT.NFL.PNGB.CD. Nonguaranteed long-term debt from bonds that are privately placed. Net flows (or net lending or net disbursements) are disbursements minus principal repayments. Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to nonresidents and is repayable in foreign currency, goods, or services.

### **Other public sector debt:**

#### ***Official creditors***

GDF 2004 Series DT.NFL.OFFT.CD. Public and publicly guaranteed debt from official creditors includes loans from international organizations (multilateral loans) and loans from governments (bilateral loans). Loans from international organizations include loans and credits from the World Bank, regional development banks, and other multilateral and intergovernmental agencies. Excluded are loans from funds administered by

*(box continues next page)*

## **Box 4.1** (continued)

an international organization on behalf of a single donor government; these are classified as loans from governments. Government loans include loans from governments and their agencies (including central banks), loans from autonomous bodies, and direct loans from official export credit agencies. Net flows (or net lending or net disbursements) are disbursements minus principal repayments.

### **Private creditors**

GDF 2004 Series DT.NFL.PROP.CD. Public and publicly guaranteed other private credits from manufacturers, exporters, and other suppliers of goods, and bank credits covered by a guarantee of an export credit agency. Net flows (or net lending or net disbursements) are disbursements minus principal repayments.

### **Short-term debt**

GDF 2004 Series DT.NFL.DSTC.CD. Net flows (or net lending or net disbursements) of short-term debt are disbursements minus principal repayments. Short-term external debt is defined as debt that has an original maturity of one year or less. Available data permit no distinction between public and private nonguaranteed short-term debt.

### **Total net inflows**

Sum columns listed above.

### **Grants**

GDF 2004 Series BX.GRT.EXTA.CD.DT. Grants are defined as legally binding commitments that obligate a specific value of funds available for disbursement for which there is no repayment requirement.

### **Resident outflows:**

#### **Bank deposits**

1981–94 IMF IFS Table 7xrd (Cross-Border Bank Deposits of Nonbanks by Residence of Depositor) from IFS *Yearbook 1995* (Note this is the last year in which these data were published by the IMF). 1995–2003, table 7B (External Loans and Deposits of Reporting Banks Vis-a-Vis Individual Countries, Liabilities, Estimated Exchange Rate Adjusted Changes) from the Bank for International Settlements (BIS) *International Banking Statistics* (4 quarters of changes). Note that due to change in data gathering entity, there is a break in the series from 1994–95 and the 1995 number is the change in liabilities from Q4 1995 to Q1 1996 from the BIS table 7B. Due to lack of conformity in country coverage among sources (IMF IFS, BIS *International Banking Statistics* and the World Bank *Global Development Finance*), other sources (IMF and BIS) have been aligned as closely as coverage allows to the precise country coverage of the GDF database.

#### **Portfolio investment**

IMF Balance of Payments data, October 2004, Portfolio Investment Assets, End-of-Period-Stocks (EPS), annual change. Warning: Data included for relevant countries where available. Included are 57 countries, included in the GDF database and for which data are reported in the IMF Balance of Payments Data. First year of data for each series excluded, if data reporting begins only during the time period covered by the time series. Due to changes in data collection for Argentine data after 2000, changes in Argentina's other sectors' other investment assets has been included. See IMF 2001 BOPS, part 3, "Descriptive Notes for Argentina" for further information.

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## **Box 4.1 Capital inflows and resource transfer: Data variable descriptions** *(continued)*

### **Total**

Sum of resident outflows: Bank deposits and portfolio investment.

### **Interest payments:**

#### **Long-term**

GDF 2004 Series DT.INT.DLXF.CD. Interest payments on long-term debt are actual amounts of interest paid in foreign currency, goods, or services in the year specified. Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to nonresidents and is repayable in foreign currency, goods, or services.

#### **Short-term**

GDF 2004 Series DT.INT.DSTC.CD. Interest payments on short-term debt are actual amounts of interest paid in foreign currency, goods, or services in the year specified on short-term debt. Short-term external debt is defined as debt that has an original maturity of one year or less. Available data permit no distinction between public and private nonguaranteed short-term debt.

### **IMF charges**

GDF 2004 Series DT.INT.DIMF.CD. IMF charges cover interest payments with respect to all uses of IMF resources, excluding those resulting from drawings in the reserve tranche.

### **Earnings on FDI**

GDF 2004 Series BX.KLT.DREM.CD.DT. Profit remittances on direct foreign investment are the sum of reinvested earnings on direct investment and other direct investment income and are part of net transfers.

### **Interest received from abroad**

Data from IMF Balance of Payments October 2004 Database Series PORTFOLIO INVESTMENT INCOME: CRE and PI INCOME ON EQUITY (DIVIDENDS): CRE. Included are developing countries also included in the GDF Database. Warning: Data included for relevant countries where available.

### **Net resource transfer**

Total net inflows, plus grants, minus total resident outflows, all interest payments, IMF charges and earnings on FDI, and plus interest received from abroad.

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*Sources: World Bank, Global Development Finance, 2004; IMF, International Financial Statistics; IMF, Balance of Payments Statistics.*

separately shown in column 17. Profits made by multinationals are shown in column 18; this figure in principle includes retained earnings plowed back into new investment, with the retained earnings appearing as a new capital inflow in column 1. Finally, interest earned by developing country residents on their foreign assets is shown in column 19. The net resource

transfer (column 20) is the sum of columns 10, 11, and 19, minus the sum of columns 14, 15, 16, 17, and 18. It is the sum that developing countries could spend in augmenting absorption, or building up reserves, as a result of the grants they receive and their old and new capital account transactions with the rest of the world.

## Volatility

Which of these flows contribute to the boom-bust cycle, and which of them are relatively stable or even contracyclical? My colleagues Wendy Dobson and Gary Hufbauer (2001) surveyed the literature, provided citations to it, and laid out the resulting conventional wisdom. They concluded that official capital varies in a stabilizing way, that FDI provides a pretty stable source of finance, that portfolio investment tends to accentuate crises, and that the biggest source of instability comes from the variations in bank lending. Do those conclusions seem to be consistent with the data shown in tables 4.1 through 4.3?

Certainly it seems that official loans (column 7) played a stabilizing role again during the recent crises. Likewise FDI remained relatively stable, although it fell off in Latin America between 1999 and 2003. This fall was aggravated, however, by the passing of the peak in privatization, and it is difficult to know how much is a reflection of the region's cyclical difficulties. The figures show portfolio equity falling sharply during the crisis, and again in 2001, but remaining positive in aggregate although the regional totals have moved into negative territory at times. Bank lending turned sharply negative, as did bonds issued by the private sector and short-term debt. Resident outflows, also known as capital flight, also increased substantially in 1997, although they rather surprisingly turned around in 1998 and fluctuated sharply from year to year thereafter. All this seems consistent with Dobson and Hufbauer's conventional wisdom, especially since much of the bank lending is short term and therefore appears in column 9 in the tables.

Another question one might ask is what sort of capital inflow would be neither too little nor too much but about right. The average net inflow (column 10) for the past 10 years has been about \$210 billion, of which some \$150 billion has been in the form of FDI, \$16 billion in portfolio equity, \$14 billion in bank loans to the private sector, and \$20 billion in bonds to the public sector, plus sums averaging less than \$10 billion a year under the other headings. Had flows been reasonably stable close to those levels, it would have been difficult to argue that big problems would have arisen from the inflows; even the increase in bank lending to the private sector could have been largely accounted for by the secular increase in trade credit. It is the extreme variability around those levels that made the capital account a problem.

## Comparison of Six Characteristics

The beginning of the chapter identified six dimensions in which various forms of capital flow differ. This section offers a systematic comparison of the different forms of capital flow in each of these dimensions.

### Cost

Official capital (plus the limited sums provided by foreign NGOs) tends to be cheapest, especially (obviously) when in the form of grants or highly concessional loans. But even the commercial terms on which the MDBs lend in their regular operations often include an element of subsidy, as the IFIAC report (2000) went to great length to demonstrate. The guarantee provided by the developed members of the MDBs in the form of their callable capital enables the MDBs to borrow and on-lend on AAA terms that most developing countries could not hope to replicate. Supplier credits may also involve some concessional element, although the Berne Union has in recent years curbed the competition among its members to win export orders by offering cheap credit.

At the other extreme is believed to be FDI. Official estimates of the return on FDI do not exist, but a conservative estimate of the return on US FDI in 1998 was approximately 12.4 percent. This takes the return as consisting of US reported direct investment receipts of \$102.8 billion, adds half of the reported license and royalty fees of \$36.8 billion, and deflates by the book value of US FDI of \$980.6 billion. The market value is undoubtedly larger than this, but if one were to use market value as base, then one should add the year's increase in market value to the return. The above figures probably underestimate the rate of return because transfer pricing is used to reduce reported profits.

Rates of return on portfolio equity (which include capital gains as well as dividends) tend to be extremely variable, reflecting the volatility of stock markets in general and of emerging markets in particular. The fact that markets demand an equity risk premium implies that one would expect that, on average, the return on portfolio equity would be higher than that on loan capital, essentially because the "lenders" are taking more of the risks. One reflection of this is that dividends tend to be low when a country is confronting macroeconomic problems, thus redistributing the foreign exchange cost of servicing foreign capital toward times when one would expect the country to be in a better position to pay. Because a large part of the return also consists of increases in the value of shares, the cost of debt service also tends to be delayed, presumably to a time when the country's marginal rate of time preference will be lower.

It is not clear that any systematic difference exists between the cost of bank loans versus bonds. However, borrowing on longer maturities tends to be more expensive than short-term borrowing.

## Conditionality

The only explicit conditionality is that required by the official sector, especially by the IMF. The conditionality required by the World Bank and the regional development banks is also, at times, of the macroeconomic character typical of IMF programs, or it may be related to sectoral policies, or it is still in some cases confined to the design and implementation of a particular project. Whatever the project or program, it is always accompanied by the need to negotiate terms with the MDB in question. The desire to escape from the tutelage of the MDBs is usually reckoned to have been one of the factors that drove the explosion of bank lending in the 1970s. Those of us who have worked for the MDBs and believe that their conditionality is by and large well conceived tend to regard this desire as having been a costly, if understandable, mistake. Bilateral grants or loans may also have a series of conditions attached to their disbursement.

The work of David Dollar and his colleagues (World Bank 1998) has emphasized the key importance of local ownership of a program of policy reform, which led the MDBs to question the value of conditionality that is imposed rather than provide a means of allowing a country to pre-commit. World Bank authors have therefore argued (see, for example, Collier 2000) that the safest way of ensuring that lending goes only to countries that are genuinely committed to good policies is to lend on the basis of performance rather than promises.

The other form of lending that sometimes comes with something akin to conditionality is FDI, which may involve a negotiation between the host-country government (or local authority, or both) and the multinational enterprise contemplating an investment. But in this case the conditionality may be two-way: While the multinational may (for example) make its investment conditional on stipulated improvements in infrastructure, the host country may also (for example) impose performance requirements. At least that might have been true in the past, although the Uruguay Round agreements circumscribed the ability of World Trade Organization members to impose performance requirements.

Other forms of capital inflow are free of any conditionality, except perhaps for the requirement that the borrower implement the project supposedly being financed (the word “supposedly” reflects the fact of fungibility).

## Risk Bearing

The parties to an investment financed by foreign capital presumably have some more or less well-defined expectations regarding the revenues that will result from the investment and the costs that will be involved in ser-

ving the foreign capital at the time when the investment is contracted. But because we live in an uncertain world, the actual revenue and cost streams will typically differ from those expected at the time the contract is agreed. The question is: Who will reap the benefits if the revenues are larger or the costs smaller; conversely, who will suffer if revenues are smaller or costs larger than was expected at the time of the contract?

One may break down these risks into three components:

- **Commercial risk** refers to the risk of the revenue stream being different from that anticipated as a result of higher or lower prices or sales, or higher or lower nonfinancial costs.
- **Interest risk** refers to the risk of interest rates being different from those anticipated, which would result in a fixed interest rate being more or less advantageous to the lender than anticipated, or a variable interest rate imposing larger or smaller costs on the borrower.
- **Exchange rate risk** refers to the possibility of the exchange rate between the borrower's currency and the lender's currency varying from that anticipated, which would mean (*ceteris paribus*) that a given stream of debt service payments would be worth more or less to the lender, or would cost more or less than expected to the borrower.

The question is: Who bears these three risks under various forms of capital flow?

Almost all official flows, with the exception of investments by the International Finance Corporation or analogous regional institutions, concentrate commercial risks on the borrower. The same is true of supplier credits and of bank loans and bonds to sovereigns. Loans and bonds to private-sector borrowers allow commercial risk to be passed on to the lender only in the most extreme circumstances—when the borrower declares bankruptcy. Equity flows, both direct and portfolio, are very different in this respect: Commercial risk is assumed by the investor. The flow of profits and, thus, the income of the investor depend on the trading outcome of the borrower. In addition, changes in expectations of future commercial outcomes influence the value of the assets held by the investor; this is particularly obvious in the case of portfolio equity, but the same would be true of FDI if it were marked-to-market.

Equity investors also bear interest risk. The location of interest risk on loans depends upon whether the loan carries a fixed or floating (i.e., periodically adjustable) interest rate. A fixed interest rate places this risk on the lender, who receives an above-market stream of interest if the market interest rate falls below that expected at the time of the contract but who suffers correspondingly in the event of an interest rate rise. A variable interest rate relocates that risk to the borrower, who benefits in the event of

lower-than-expected interest rates and suffers in the event that interest rates rise.<sup>6</sup> Most official loans carry a fixed interest rate, which places interest risk on the lender. Most bank loans, and some bonds as well, carry a floating interest rate, which passes the risk to the borrower.

Equity investors also carry exchange rate risk, although their real transactions may provide an effective hedge against this risk. In most other cases, the exchange rate risk is carried by the borrower, except when developing countries borrow in their own currency. This has proved in recent years to be a potent source of risk (Goldstein and Turner 2004). In particular, when the borrower's currency is devalued, the borrower suddenly finds that its liabilities as measured in domestic currency have increased. Unless the borrower has a natural hedge, for example, in the form of a stream of foreign currency receipts from exporting, its net worth and therefore creditworthiness diminishes. Such currency mismatches were one of the major reasons that the East Asian crisis proved so devastating in 1997.

The bottom line reflects a point that has been emphasized by Kenneth Rogoff (1999): Equity investments are a good way of shifting risk from the borrower to the lender.

## **Intellectual Property**

The distinguishing feature of FDI is that the multinational corporation brings with it access to one form or another of intellectual property: technology embodied in patents or know-how, trademarks, foreign markets, or managerial expertise. Without some form of intellectual property to exploit, it is difficult to understand how a foreign corporation could expect to get the upper hand over local rivals with their natural advantage of greater familiarity with local circumstances.

The only other forms of capital flow that might bring some of the advantages of access to intellectual property are official capital and capital originating with NGOs. Both the MDBs and some NGOs like to regard themselves as having special expertise in access to knowledge as well as the ability to transfer it.

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6. Strictly speaking, one should be referring here to real rather than nominal interest rates. Thus, a higher nominal interest rate that reflects higher inflation that inflates the borrower's receipts and nonfinancial costs equally will leave the borrower's and lender's net worth unchanged (although it will still have a real effect in reducing the effective maturity of the loan). This suggests that variable interest rates are an effective way of reducing the risk of both borrower and lender when the main source of interest risk stems from variations in inflation. An even more effective strategy is to index the loan to inflation, which avoids shortening the maturity of the debt when inflation increases and also distinguishes between interest changes that reflect changes in inflation and those that stem from real factors.

## Impact on Investment

Econometric evidence indicates that FDI is translated 100 percent, or perhaps rather more (presumably because it crowds in complementary local investment), into an increase in investment (UNCTAD, *World Investment Report 1999*, 172). An inflow of portfolio equity investment bids up the price of shares and thus reduces the cost of capital (Bekaert, Harvey, and Lumsdaine 1999); there is now also strong econometric evidence that this feeds through into increased physical investment, as noted in chapter 3.

In contrast, all other forms of capital inflow go partly into reserve accumulation and partly into an increased current account deficit, with the increase in absorption that the latter represents typically being split between investment and consumption in much the same proportion as an increase in income. Therefore, if a country wants to use foreign capital to stimulate investment and growth rather than to redistribute consumption over time, its preference should be for FDI, followed by portfolio equity.

## Vulnerability to Capital Flow Reversal

The financial crises that developing countries have experienced since the outbreak of the debt crisis in 1982 have compelled the conclusion that one of the major disadvantages of capital mobility is that it makes countries vulnerable to a peremptory reversal in the flow of capital. Conventional wisdom has long held that some forms of capital flow are much more liable to rapid reversal than others. This view was challenged in a paper by Claessens, Dooley, and Warner (1994), who failed to find statistically significant differences in the time-series properties of different forms of capital flow (FDI, portfolio equity, long-term, short-term, banks, government, and private). But in his discussion of this paper, Guillermo Calvo presciently pointed out that the authors' estimates of volatility (which essentially focused on the second moment of the time series) might fail to give due weight to what is of most importance, the possibility of occasional major disruptions (which are measured by higher moments in the time series). In East Asia during its recent crisis (see table 4.2), FDI was largely maintained while bank capital reversed on a grand scale; this leads to the judgment that it is indeed proper to worry much more about the volatility of some forms of capital flow than of others.

FDI has traditionally been regarded as the most stable form of capital inflow, and recent experience substantiates this view. One should expect that multinationals will hedge their local currency exposure when they sense a weakness in the domestic economy, and they will surely seek to shift working balances among currencies depending on their view of macroeconomic prospects. The question is whether such shifts will be

large relative to the total sum sunk in capital investment. One should also ask whether these shifts are large because of the size of FDI. A multinational could in principle speculate against an emerging-market currency even if it had not made any investment in that country; it is only insofar as bigger past FDI induces it to undertake more hedging or to increase its willingness to build up a short position that it is correct to regard the stability of recorded FDI as misleading.

Official capital flows have also traditionally been viewed as relatively stable, and indeed the evidence is that they are contracyclical.

Bank lending, which constituted the principal component of the capital flow reversal in East Asia, is at the other extreme from official finance. The same was true during the debt crisis of the 1980s. Common sense (and received wisdom) suggest that short-term bank loans are likely to be more unstable than long-term loans, an expectation that would again seem to have been reinforced by the evaporation of interbank credit lines experienced by Korea in 1997. One reason that Claessens, Dooley, and Warner (1994) failed to find any distinction in volatility based on maturity may be that trade credits are included in the statistics with other short-term credits extended by banks. In fact, trade credits are usually considered to be one of the least volatile sources of finance, despite the fact that each individual credit is short-term, because under normal circumstances (though not in some of the East Asian countries in 1997) they are constantly renewed as new trade transactions come to be financed.

It is the residual item—nontrade-related bank claims, which have a short term to maturity—that conventional wisdom holds to be particularly volatile. It has been argued by Avinash Persaud (2000) that the recent moves to strengthen bank risk management and prudential standards and to increase transparency may even intensify the problem of procyclical behavior by banks. He points to the increasing use of daily earnings at risk (DEAR) limits as a tool of risk management that seems perfectly rational when viewed from the standpoint of the individual bank but that can work to increase volatility. The DEAR sets a limit on how much a bank is prepared to risk losing over the following day with, say, 1 percent probability:

It is calculated by taking the bank's portfolio . . . and estimating the future distribution of daily returns based on past measures of market correlation and volatility. Both rising volatility and rising correlation will increase the potential loss of the portfolio, increasing DEAR. . . . When DEAR exceeds the limit, the bank reduces exposure, often by switching into less volatile and less correlated assets.

Daily publication of statistics can accelerate and intensify the spread of any bad news that may break, with declining asset values and increasing volatility serving as sophisticated positive feedback mechanisms.

Concern is often expressed about the potential volatility of other claims that can be sold quickly, including portfolio equity and long-term bonds

as well as short-term instruments. Table 4.2 does indeed show a reversal in the flow of portfolio investment to East Asia in 1997–98, although with nothing like the size or duration of the reversal seen in the case of bank lending. One should expect less volatility in the case of portfolio equity than in the case of short-term loans for one important reason: The price of the relevant asset (shares) can adjust; all the adjustment need not take place in the volume. Indeed, if a shock has an identical impact on the future expectations of domestic and foreign investors in shares, one would expect that all the resulting adjustment would show up in a change in share prices, with no consequences for capital flows or exchange rates. (I would also argue that the stock market is a good place to absorb the impact of changes in expectations because the links from the stock market to the real economy tend to be weak in the short term.) It is only when foreign investors lose their nerve about the prospects for a country or a region in a way that domestic investors do not that one should expect an impact on capital flows. Perhaps that happened in East Asia in 1997, since a number of empirical studies of portfolio equity investment are less reassuring than these considerations would have led one to expect.

Specifically, Kenneth Froot, Paul O’Connell, and Mark Seasholes (1998) found evidence that equity flows are persistent over time and that investors often buy (sell) in response to a price rise (decline). Kaminsky, Lyons, and Schmukler (2000) concluded that mutual funds have had a destabilizing impact and have helped spread contagion in Latin America. It also seems that Chilean pension funds made almost no use of their new rights to invest abroad during Chile’s capital inflow surge but later began placing funds abroad on a big scale when capital flow reversal occurred after the East Asian crisis (Ffrench-Davis and Tapia 2001). Bekaert, Harvey, and Lumsdaine (1999) find that, when equity capital leaves, it does so faster than when it entered, suggesting that it is not after all so difficult to find domestic purchasers.

Only Michael Barth and Xin Zhang (1999) found no evidence that foreign investors had played a destabilizing role; indeed, they claim (201) that in only one month, December 1997, were mutual funds net sellers in the four main crisis countries of East Asia. Although they refer (199) to some investors being attracted “into the Asian markets with a short-term horizon seeking high returns,” they also argue (202–5) that the figures show that foreign institutional investors were slow to exit after the crisis started, as a result of which they lost a lot of money.

Korea has a particularly rich dataset that has enabled investigators to trace the strategy of individual investors in a way that is not possible elsewhere. The first study to exploit this source, Choe, Kho, and Stulz (1998), was somewhat reassuring in that it suggested that, although the trades of foreign investors were destabilizing before the crisis, the foreign investors acted as a stabilizing force during the crisis. However, their data extended only briefly into the crisis period, and the subsequent study by Woochan

Kim and Shang-Jin Wei (1999a) concluded that foreign institutional and (even more) individual investors had been positive feedback traders (i.e., had bought in response to a price rise and sold in response to a price fall) both before and during the crisis. The only exception occurred before the crisis by those foreign institutions that had Korean offices; these were contrarian traders (i.e., they had tended to buy recent losers and sell recent winners). In that study, Kim and Wei also calculated that a contrarian strategy would have been more profitable than a positive-feedback strategy, which suggests that the Koreans who must perform have been following a contrarian strategy (as the counterpart of the foreign positive-feedback strategies) must have made money, or at least lost less money, compared with the foreigners. Kim and Wei (1999b) also found evidence that mutual funds based in the United States and the United Kingdom engaged in positive-feedback trading and, to some extent, in herding behavior in Korea in 1997–98.

Note that all these studies focus on portfolio equity investment in the stock markets of emerging countries. As Barth and Zhang (1999) point out, portfolio equity is invested in emerging markets through two other channels as well. One is in the form of private (i.e., nontraded) equity. Barth and Zhang's figure 6-2 suggests that in East Asia this is a small but rather stable flow. The other channel is by emerging-market companies listing their shares on international markets like New York (of dominant importance for Latin American companies) or London (ditto for South African companies). Barth and Zhang's table 6-12 shows that international placements became of major importance in the mid-1990s and peaked in 1997, although they fell substantially in 1998. The decline in international placements was nevertheless modest compared with local investment: International placements went from \$6 billion in 1996 to \$11 billion in 1997 to \$4 billion in 1998, while local investment fell from \$9 billion in 1996 to minus \$3 billion in 1997 to plus \$1 billion in 1998.

As shown in table 4.2, there was a sharp reduction in the inflow of portfolio equity into East Asia during the 1997 crisis. Reportedly (and consistent with the report of Barth and Zhang 1999, 197) this reflects quite different behavior on the part of two different groups of investors. The withdrawals were made by crossover funds<sup>7</sup> that had been searching for high-yielding investments and had been attracted by the high yields in East Asian share markets before the crisis but that had not advertised their investments in emerging markets. They were embarrassed to be holding assets whose value collapsed, and they got out as fast as they could, before their holdings became widely known and criticized. But the holdings by funds that specialized in investments in emerging markets re-

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7. Crossover funds are those that have not declared their intent of restricting their investments to a particular asset class or geographical region and are free to switch where they place money without breaching trust with their investors.

mained steady and may even have picked up some of the shares being sold by the former group, perhaps to sustain their target asset allocations. These investors, aware that these are inherently risky markets that will have downs as well as ups, are in emerging markets for the long haul, and neither the managers of the funds nor their investors panicked.

Does Milton Friedman's famous 1953 theorem, which says that destabilizing speculators must lose money (because to destabilize a market one must buy near the peak and sell near the trough, whereas making money requires the opposite), reassure one that funds that amplify the boom-bust cycle will lose money and thereby at least enrich domestic investors? Not necessarily. The counterpart to sales by foreigners might possibly be purchases by other foreigners. But even if foreign portfolio investors do indeed on balance follow the herd—buying when the market is rising and selling when it is falling—so that overall domestic investors are selling when the market is rising and buying when it is falling, it does not necessarily follow that the foreigners will lose money. Buying on a rising market and buying near the peak are not the same thing; speculators who are alert to changes in trends may be able to quit buying, sell out soon after the peak is past, and thereby make money. The empirical studies reported above offer contradictory verdicts on whether many foreign investors in fact got out of East Asia sufficiently quickly to save their skins.

What is quite clear is that foreign investors in total lost an enormous sum of money in East Asia: some \$166 billion during 1997, according to the calculations of Barth and Zhang (1999, 204). There seems to be enough evidence that foreign investment in portfolio equity could have been destabilizing to conclude that these losses were at least in part self-inflicted. To the extent that is true, investors as well as the capital-importing countries would collectively stand to benefit from policies that succeed in curbing capital flow reversals.

Much the same analysis applies to long-term bonds as well as to portfolio equity because bond prices can also fluctuate in response to changes in expectations in such a way as to ensure that the total stock of bonds continues to be held. However, there does not appear to be a similar literature examining what happened to foreign holdings of bonds during the Asian crisis. One fact to note is that what are nominally long-term bonds sometimes include put options, giving the holder the right to demand early repayment at the holder's discretion on certain dates. If such dates coincide with a crisis, the loan tends to disappear just when money is most needed, as happened in Korea in late 1997.

## Summary

Table 4.4 offers a summary of the judgments expressed above. It shows that official capital tends to be cheap but subject to conditionality, which

**Table 4.4 Characteristics of different forms of capital flows**

Form of capital flows	Costs	Conditionality	Risk bearing			Access to intellectual property	Impact on investment	Vulnerability to capital flow reversals
			Commercial risk	Interest rate risk	Exchange rate risk			
FDI	High	Two-way	Lender	Lender	Lender	Yes	Yes	Minimal
Portfolio equity	Fairly high	No	Lender	Lender	Lender	No	Yes	Apparently
Bonds and banks	Medium	No	Borrower	Fixed: lender	Foreign exchange denominated: borrower	No	No	Yes, especially short term
Official lenders	Low	Yes	Borrower	Floating: borrower	Local currency denominated: lender	Possibly	No	No, anticyclical

is another way of saying that it may bring some limited intellectual capital with it. While it does not involve risk sharing (except for interest risk), it is not subject to capital flow reversals; indeed, MDB lending at least tends to be stabilizing. A counterpart to these attractions, from the standpoint of the borrower, is that official capital is rationed by the limited supply available. FDI is expensive but the borrower gets some very real advantages in return: full risk sharing, access to intellectual property, a big impact on investment, and minimal exposure to the danger of capital flow reversal. Portfolio equity also tends to be expensive, but it too has good risk-sharing properties, adds to investment, and perhaps somewhat limits exposure to capital flow reversal. Loans, from banks or via bonds, are cheaper than equity finance and have no conditionality, but they have little impact on investment and bring no access to intellectual property. They are highly vulnerable to capital flow reversal. They necessarily place commercial risk on the borrower, but where interest risk and exchange risk lie depends on the nature of the contract. The most common form of bank lending, with a floating interest rate and denomination in foreign exchange, places both risks on the borrower. Conversely, a fixed interest rate and denomination in local currency would shift those risks to the lender. It is worth pausing to ask why this arrangement is so uncommon.

## **Why Do Emerging Markets Borrow Short-Term in Dollars?**

It is a fact that most developing countries, including most of the more advanced ones usually referred to as emerging markets, do much of their foreign borrowing in a form—dollar-denominated and short-term—that has the effect of imposing both exchange risk and interest risk on the borrower. The risks involved are substantial, given that the borrowing is essentially undertaken to finance a long-term project (called development). The risks are particularly serious in the form of currency mismatching. Why do countries expose themselves to these risks?

Consider first why countries choose to borrow in dollars (or some other international currency) rather than local currency. The most usual explanation is that it is cheaper. Most sovereigns, and even more so most corporations, are most easily able to borrow in their local currency by selling local-currency bonds in their local market. The supply of funds may be greater relative to the demand for funds, leading to lower interest rates, in major international financial centers than in local markets. Moreover, most of the funds in local markets usually come from local sources, so that borrowing in local markets may not bring much of an inflow of foreign exchange, which the government may be seeking when it issues sovereign debt.

Many economists have emphasized that a sovereign that borrows in its own currency is subject to moral hazard because it is able to reduce the

real cost of servicing its debt by inflating it away. There are ample historical cases where emerging-market borrowers (including some that have now emerged) behaved that way (see, for example, Reinhart, Rogoff, and Savastano 2003). Hence, until the borrower or its government is fully trusted by the international market, it may be able to borrow from foreign sources in its own currency only if the debt is indexed (which curtails a borrower's ability to default on debt through inflation). Another possible factor is that the local markets of emerging-market countries often have an incomplete financial infrastructure, which would expose a foreign lender in those markets to risks that the lender is not used to incurring and does not know how to deal with. It is not simply that investors do not fully trust an emerging-market government to fulfill its legal contract and not deliberately subvert it through inflation; in addition, there may not be a legally satisfactory way of writing a contract in the local market.

One influential school of thought (Eichengreen and Hausmann 2003) has taken this to the extreme of claiming that countries borrow the way they do because they have no options. These countries suffer from "original sin," a term intended to signify that no other type of foreign lending is available to them (see chapter 6). The fact is, however, that emerging markets are increasingly borrowing in their local markets in bonds denominated in their own currencies, and foreigners are getting accustomed to the idea of buying such bonds.<sup>8</sup> It is easy to understand the difficulties (described in the preceding paragraph) that impede rapid progress along this road, but it is quite unpersuasive to assert that the obstacles are permanent and irremovable. Borrowers that have tried issuing domestic currency debt in international markets (as the Banco do Brasil did in December 2004 and the Colombian government did in early 2005) have discovered that this is not impossible.

It has also been claimed that companies may actually find that it is less risky to issue debt denominated in dollars than debt in their local currency (Jeanne 2003). The crucial hypothesis is that arbitrage will keep the domestic interest rate adjusted for the risk of devaluation equal to (or above) the international interest rate, so that the domestic interest rate will rise as devaluation risk increases. This means that a company that finances itself by domestic borrowing faces a risk of bankruptcy that may increase as the risk of devaluation increases; if devaluation does not occur, the extra cost of having borrowed domestically could be sufficient to push the company into insolvency. It is impossible to deny that this could occur, because Jeanne has built a model in which it does, but it does look somewhat improbable: The increase in devaluation risk will also mean

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8. It is believed that foreigners now own something like 40 percent of Mexico's 10-year bonds and as much as 70 percent of its 20-year bonds, both of which are denominated in Mexican pesos.

that the likelihood of a company being stuck with expensive domestic currency debt will fall.<sup>9</sup>

Consider next the issue of interest risk. The standard notion for many years has been that countries borrow short term rather than long term because it is cheaper. It is asserted that international capital markets charge a high risk premium on long-term debt, perhaps because lenders know that governments change and there is some probability that a new government will behave in a populist way no matter how responsible the current team may be. Lenders charge this to private borrowers as well as to sovereigns because the ability of corporations to service their debts depends on government policies as well as corporate solvency. Recently this theory has been formalized by Broner, Lorenzoni, and Schmukler (2004). They define the difference between the risk premiums of long-term and short-term bonds as the “term premium” and show that the term premium should, according to their model, be higher during financial crises (a prediction consistent with the facts).

Another theory that seeks to explain why countries expose themselves to the risk inherent in short-term borrowing in order to finance long-term projects sees short-term debt as a commitment device. Olivier Jeanne (2000) presents a model in which a government may issue short-term debt precisely because such debt disciplines the government and forces it to eschew the temptation to take actions that would prejudice its ability to maintain debt service. According to this view, investors could rationally refuse to buy long-term debt even though this would avoid the risk of a self-fulfilling crisis because it would also enable the government to splurge and, in this way, undermine its long-run solvency.<sup>10</sup>

Does it make sense to finance a long-term investment project by short-term borrowing with the expectation of being able to roll it over almost indefinitely? When a government is convinced that the market is taking an unreasonably pessimistic view of the country’s prospects, it is understandable why that government would not wish to expose its citizens to the costs of high interest rates for a period of many years. Better to borrow short term for a limited time and then refinance with long-term debt when normality is restored. Doubtless there will be occasions when a government entertains unrealistic hopes of a crisis-free recovery, and this strategy will turn out to be more expensive *ex post* than immediate resort to long-term finance would have been, but it is difficult to say that no country should ever adopt this strategy. When starting from a situation of normality, however, the strategy of borrowing short term to finance a

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9. However, Jeanne’s basic thesis—that the difficulty and cost of domestic currency borrowing is largely a result of past monetary mismanagement—is persuasive enough.

10. A similar model is developed in section 3.4 of Rodrik and Velasco (1999).

long-term project amounts to a gamble that rollover will always be possible. Failure to roll over in any period will negate the benefit of having obtained external rather than internal finance for the project. On this logic, there is a clear preference for long-term finance unless (as in a trade transaction) the project really is self-liquidating within a short time period.

## Policy Implications

In the light of the above analysis, should an attempt to limit the boom-bust cycle focus primarily on altering the mix of different forms of capital flow or on altering the characteristics of particular forms of flow?

One thing that stands out regarding the different forms of flow is the almost complete absence of compensating virtues attached to short-term loans, from banks or in the form of bonds, that might compensate for the exposure to capital flow reversals that they bring. As just noted, short-term loans have no conditionality (a dubious virtue) but also no risk-sharing properties and little impact on investment, and they bring no access to intellectual property. Their one clear advantage is that their interest rate tends to be relatively low; a second, but much more debatable, advantage is that they expose the borrower to continuous discipline by the financial markets. However, if one is serious about trying to curb the boom-bust cycle and believes that the relevant government is willing to discipline itself, the drawbacks of short-term loans are so large as to justify discouraging this form of capital flow.

A second lesson is the danger of loans denominated in foreign currency. It has been argued that these are not necessarily more dangerous than domestic currency loans, but the argument seems contrived. The most obvious motivation for resorting to such loans is that they are usually cheaper, and they are cheaper precisely because they shift risk to the borrower. If one wants to reduce the risk to which emerging markets are exposed, then one should try to reduce currency mismatching.

Another lesson is the advantage of inflows taking the form of equity claims rather than loans. Admittedly FDI is expensive and portfolio equity can be volatile despite the fact that stock prices adjust in a way that penalizes cutting and running, but the benefits of equity capital still outweigh the costs. However, the major thrust of the recommendations made in chapters 6 and 7 is to seek to limit the volatility of particular forms of flow rather than to rely principally on changing the mix of the flow.

