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INTERNATIONAL CAPITAL FLOWS AND DOMESTIC ECONOMIC POLICIES

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ABSTRACT

This paper, written for the NBER Conference on the Changing Role of the United States in the World Economy, covers the capital account in the U.S. balance of payments. It first traces the history from 1946 to 1980, a period throughout which Americans were steadily building up a positive net foreign investment position. It subsequently describes the historic swing of the capital account in the 1980s toward massive borrowing from abroad. There are various factors, in addition to expected rates of return, that encourage or discourage international capital flows: transactions costs, government controls, taxes, default and other political risk and exchange risk. But the paper argues that the increase in real interest rates and other expected rates of return in the United States, relative to other countries, in the early 1980s was the major factor that began to attract large net capital inflows. It concludes that a large increase in the U.S. federal budget deficit, which was not offset by increased private saving, was the major factor behind the increase in real interest rates, and therefore behind the switch to borrowing from abroad.

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I. Introduction

When consumer electronics roll off the assembly line in East Asia, when there is a bumper wheat crop in Argentina, or when shoe production expands in Italy, the relevance to U.S. producers and consumers is tangible. The large U.S. trade deficit has become a source of concern familiar to Americans. When Japan liberalizes portfolio guidelines for life insurance companies, when there is a collapse of investment opportunities in Latin America, or when fixed brokerage commissions are abolished in the City of London, the relevance for Americans is much less tangible. But the international flow of capital is no less important than the flow of goods. Indeed, there is an important sense in which capital flows have been the cause of the U.S. trade deficit in the 1980s, with U.S. government macroeconomic policies the driving force behind it all.

International capital movements affect the U.S. economy in a number of ways. Banks, securities companies, and other providers of financial services, constitute the sector of the American economy that is most directly affected. They now compete with financial institutions in Tokyo, London, Frankfurt, and around the world. Exports of financial and other services are a growing credit item in the U.S. balance of payments, and the current U.S. Administration has placed a high priority on more favorable treatment of U.S. financial institutions in bilateral trade negotiations, and on liberalization of trade in services generally in the "Uruguay Round" of negotiations under GATT (General Agreement on Tariffs and Trade).

The impact of international capital flows reaches far beyond a single sector of the American economy, however. Every U.S. firm feels the effect, which comes through two main channels. First is the availability of capital, as reflected in interest rates. Large corporations are increasingly often borrowing from foreign residents, and portfolio managers are increasingly investing abroad. But even the many firms who borrow only at home, or the many individuals who hold only domestic assets, are affected, because U.S. interest rates are increasingly determined on world capital markets jointly with other countries' interest rates. The second channel through which U.S. producers are affected is the exchange rate, which by the 1980s has become overwhelmingly determined by flows of capital rather than flows of goods. Again, even those firms that don't export are affected, to the extent they compete with imports or buy imported inputs.

This paper is organized in five sections. Section II reviews briefly the postwar history of the U.S. capital account up to the 1970s, a period throughout which Americans were steadily building up a positive net foreign investment position. Section III considers those factors, other than expected rates of return, that discourage or encourage international capital flow: transactions costs, government controls, taxes, default and other political risk, and exchange risk. The record is generally one of gradually diminishing barriers. Section IV describes the historic swing of the U.S. capital account in the 1980s toward massive borrowing from abroad. Section V examines international differences in rates of return on various assets, and shows how the increase in interest rates in the United States in the early 1980s attracted the large net capital inflows. Section VI concludes the paper with an analysis of U.S. government policies--monetary,

tax and spending—in determining U.S. saving, investment, and the net capital inflow. The lesson that emerges in the end is that the primary source of the large U.S. borrowing from abroad, and therefore of its counterpart the large U.S. trade deficit, is the federal budget deficit.

II. Net U.S. Capital Outflows in the Period 1946–1980

Table 1 presents the figures for the U.S. balance of payments from 1946 to 1985. The first half of the table breaks down the current account into its components: merchandise trade, investment income, travel and transportation, other services, etc. The second half of the table shows the components of the reverse side of the balance of payments coin, the capital account. Until the last few years of this period, private capital was on net steadily flowing out of the country. But the story nevertheless features a number of twists and turns over the years.

1. The period of "dollar shortage"

In the immediate aftermath of World War II, the United States ran large trade surpluses, as measured either by the merchandise balance (goods alone) or the balance on goods and services. These surpluses were the counterpart to large trade deficits in Europe and elsewhere in the world. The war-ravaged countries had lost much of their industrial and agricultural capacity, and needed to import basic necessities of consumption, as well as capital goods to rebuild their economies. They had a shortage of dollars with which to buy such goods. The flow of goods from the United States to Europe was financed partly by foreign aid and other transfers, partly by lending, and partly by an increase in U.S. official

Table 1.(L-1)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Merchandise[1,2]			Investment income[3]		
	Exports	Imports	Net	Receipts	Payments	Net
1946	11,764	-5,067	6,697	772	-212	20,565
1947	16,097	-5,973	10,124	1,102	-245	857
1948	13,265	-7,557	5,708	1,921	-437	1,484
1949	12,213	-6,874	5,339	1,831	-476	1,355
1950	10,203	-9,081	1,122	2,068	-559	1,509
1951	14,243	-11,176	3,067	2,633	-583	2,050
1952	13,449	-10,838	2,611	2,751	-555	2,196
1953	12,412	-10,975	1,437	2,736	-624	2,112
1954	12,929	-10,353	2,576	2,929	-582	2,347

[1]Excludes military.

[2]Adjusted from Census data for differences in valuation, coverage, and timing.

[3]Fees and royalties from U.S. direct invesments abroad or from foreign direct investments in the United States are excluded from investment income and included in other services net.

Table 1.(L-2)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Merchandise[1,2]			Investment income[3]		
	Exports	Imports	Net	Receipts	Payments	Net
1955	14,424	-11,527	2,897	3,406	-676	2,730
1956	17,556	-12,803	4,753	3,837	-735	3,102
1957	19,562	-13,291	6,271	4,180	-796	3,384
1958	16,414	-12,952	3,462	3,790	-825	2,965
1959	16,458	-15,310	1,148	4,132	-1,061	3,071
1960	19,650	-14,758	4,892	4,616	-1,237	3,379
1961	20,108	-14,537	5,571	4,999	-1,245	3,754
1962	20,781	-16,620	4,521	5,618	-1,324	4,294
1963	22,272	-17,048	5,224	6,157	-1,561	4,596
1964	25,501	-18,700	6,801	6,824	-1,784	5,040
1965	26,461	-21,510	4,951	7,437	-2,088	5,349
1966	29,310	-25,493	3,817	7,528	-2,481	5,047
1967	30,666	-26,866	3,800	8,020	-2,747	5,273
1968	33,626	-32,991	635	9,368	-3,378	5,990
1969	36,414	-35,807	607	10,912	-4,869	6,043

Table 1.(L-3)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Merchandise[1,2]			Investment income[3]		
	Exports	Imports	Net	Receipts	Payments	Net
1970	42,469	-39,866	2,603	11,747	-5,516	6,231
1971	43,319	-45,579	-2,260	12,707	-5,436	7,271
1972	49,381	-55,797	-6,416	14,764	-6,572	8,192
1973	71,410	-70,499	911	21,808	-9,655	12,153
1974	98,306	-103,811	-5,505	27,587	-12,084	15,503
1975	107,088	-99,185	8,903	25,351	-12,564	12,787
1976	114,745	-124,228	-9,483	29,286	-13,311	15,975
1977	120,816	-151,907	-31,091	32,179	-14,217	17,962
1978	142,054	-176,001	-33,947	42,245	-21,680	20,565
1979	184,473	-212,009	-27,536	64,132	-32,960	31,172
1980	224,269	-249,749	-25,480	72,506	-42,120	30,386
1981	237,085	-265,063	-27,978	86,411	-52,329	34,082
1982	211,198	-247,642	-36,444	85,549	-54,883	28,666
1983	201,820	-268,900	-67,080	77,251	-52,410	24,841
1984	219,900	-322,422	-112,522	86,221	-67,469	18,752
1985	214,424	-338,863	-124,439	89,991	-64,803	25,188

Table 1.(L-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	U.S. assets abroad, net [increase/capital outflow(-)]				Foreign assets in the U.S. net [increase/capital outflow(-)]		
	Total	U.S. official reserve assets[6]	Other U.S. Government-assets	U.S. private assets	Total	Foreign official assets	Other foreign assets
1946	-623						
1947	-3,315						
1948	-1,736						
1949	-266						
1950	1,758						
1951	-33						
1952	-415						
1953	1,256						
1954	480						
1955	182						
1956	-869						
1957	-1,165						

[6]Consists of gold, special drawing rights, convertible currencies, and the U.S. reserve position in the International Monetary Fund (IMF).

Table 1.(L-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	U.S. assets abroad, net [increase/capital outflow(-)]				Foreign assets in the U.S. net [increase/capital outflow(-)]		
	Total	U.S. official reserve assets[6]	Other U.S. Government-assets	U.S. private assets	Total	Foreign official assets	Other foreign assets
1958		2,292					
1959		1,035					
1960	-4,099	2,145	-1,100	-5,144	2,294	1,473	821
1961	-5,538	607	-910	-5,235	2,705	765	1,939
1962	-4,174	1,535	-1,085	-4,623	1,911	1,270	641
1963	-7,270	378	-1,662	-5,986	3,217	1,986	1,231
1964	-9,560	171	-1,680	-8,050	3,643	1,660	1,983
1965	-5,716	1,225	-1,605	-5,336	742	134	607
1966	-7,321	570	-1,543	-6,347	3,661	-672	4,333
1967	-9,757	53	-2,423	-7,386	7,379	3,451	3,928
1968	-10,977	-870	-2,274	-7,833	9,928	-774	10,703
1969	-11,585	-1,179	-2,200	-8,206	12,702	-1,301	14,002
1970	-9,337	2,481	-1,589	-10,229	6,359	6,908	-550
1971	-12,475	2,349	-1,884	-12,940	22,970	26,879	-3,909

Table 1.(L-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	U.S. assets abroad, net [increase/capital outflow(-)]				Foreign assets in the U.S. net [increase/capital outflow(-)]		
	Total	U.S. official reserve assets[6]	Other U.S. Government assets	U.S. private assets	Total	Foreign official assets	Other foreign assets
1972	-14,497	-4	-1,568	-12,925	21,461	10,475	10,986
1973	-22,874	158	-2,644	-20,388	18,388	6,026	12,362
1974	-34,745	-1,467	[5]366	-33,643	34,241	10,546	23,696
1975	-39,703	-849	-3,474	-35,380	15,670	7,027	8,643
1976	-51,269	-2,558	-4,214	-44,498	36,518	17,693	18,826
1977	-34,785	-375	-3,693	-30,717	51,319	36,816	14,503
1978	-61,130	732	-4,660	-57,202	64,036	33,678	30,358
1979	-64,331	-1,133	-3,746	-59,453	38,752	-13,665	52,416
1980	-86,118	-8,155	-5,162	-72,802	58,112	15,497	42,615
1981	-111,031	-5,175	-5,097	-100,758	83,322	4,960	78,362
1982	-121,273	-4,965	-6,131	-110,177	94,078	3,593	90,486
1983	-50,022	-1,196	-5,005	-43,821	85,496	5,968	79,527
1984	-23,639	-3,131	-5,523	-14,986	102,767	3,037	99,730
1985	-32,436	-3,858	-2,824	-25,754	127,106	-1,324	128,430

[5]Includes extraordinary U.S. Government transactions with India.

Table 1.(R-1)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Net military transactions	Net travel and transportation	Other services net[3]	Balance on goods and services[1,4]	Remittances pensions, and other unilateral transfers[1]	current account[1,4]
1946	-493	733	310	7,807	-2,922	4,885
1947	-455	946	145	11,617	-2,625	8,992
1948	-799	374	175	6,942	-4,525	2,417
1949	-621	230	208	6,511	-5,638	873
1950	-576	-120	242	2,177	-4,017	-1,840
1951	-1,270	298	254	4,399	-3,515	884

[1]Excludes military.

[3]Fees and royalties from U.S. direct invesments abroad or from foreign direct investments in the United States are excluded from investment income and included in other services net.

[4]In concept, balance on goods and services is equal to net exports and imports in the national income and product acounts (and the sum of balance on current account and allocations of special drawing rights is equal to net foreign investment in the accounts), although the series differ because of different handling of certain items (gold, capital gains and losses, etc.), revisions, etc.

Table 1.(R-2)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Net military transactions	Net travel and transportation	Other services net[3]	Balance on goods and services[14]	Remittances pensions, and other unilateral transfers[1]	current account[14]
1952	-2,054	83	309	3,145	-2,531	614
1953	-2,423	-238	307	1,195	-2,481	-1,286
1954	-2,460	-269	=305	2,499	-2,280	219
1955	-2,701	-297	299	2,928	-2,498	430
1956	-2,788	-361	447	5,153	-2,423	2,730
1957	-2,841	-189	482	7,107	-2,345	4,762
1958	-3,135	-633	486	3,145	-2,361	784
1959	-2,805	-821	573	1,166	-2,448	-1,282
1960	-2,752	-964	579	5,132	-2,308	2,824
1961	-2,596	-978	594	6,346	-2,524	3,822
1962	-2,449	-1,152	809	6,025	-2,638	3,387
1963	-2,304	-1,309	960	7,167	-2,754	4,4414
1964	-2,133	-1,146	1,041	9,604	-2,781	6,823
1965	-2,122	-1,280	1,387	8,285	-2,854	5,432
1966	-2,935	-1,331	1,365	5,963	-2,932	3,031
1967	-3,226	-1,750	1,612	5,708	-3,125	2,583

Table 1.(R-2)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Net military transac-actions	Net travel and transpor-tation	Other serv-ices net[3]	Balance on goods and services[1,4]	Remit-tances pensions, and other unilateral transfers[1]	current account[1,4]
1968	-3,143	-1,548	1,630	3,563	-2,952	611
1969	-3,328	-1,763	1,833	3,393	-2,994	399
1970	-3,354	-2,038	2,180	5,625	-3,294	2,331
1971	-2,893	-2,345	2,495	2,269	-3,701	-1,433
1972	-3,420	-3,063	2,766	-1,941	-3,854	-5,795
1973	-2,070	-3,158	3,184	11,021	-3,881	7,140
1974	-1,653	-3,184	3,986	9,147	[5]-7,186	1,962
1975	-746	-2,182	4,598	22,729	-4,613	18,116
1976	559	-2,558	4,711	9,205	-4,998	4,207
1977	1,528	-3,565	5,272	-9,894	-4,167	-14,511
1978	621	-3,573	6,013	-10,321	-5,106	-15,427
1979	-1,778	-2,995	6,214	5,138	-6,128	-991

[5]Includes extraordinary U.S. Government transactions with India.

Table 1.(R-3)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted. Credits (+), debits (-)]

Year or quarter	Net military transactions	Net travel and transportation	Other services net[3]	Balance on goods and services[14]	Remittances pensions, and other unilateral transfers[1]	current account[14]
1980	-2,237	-997	7,793	9,466	-7,593	1,873
1981	-1,183	144	8,699	13,764	-7,425	6,339
1982	-274	-992	8,829	-214	-8,917	-9,131
1983	-369	-4,227	9,711	-37,123	-9,481	-46,604
1984	-1,827	-8,593	9,881	-94,308	-12,157	-106,466
1985	-2,917	-11,128	10,603	-102,694	-14,983	-117,677

Table 1.(R-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	Allocations of special drawing rights (SDRs)	Statistical discrepancy	
		Total (sum of the items with sign reversed)	Overall
1946			
1947			
1948			
1949			
1950			
1951			
1952			
1953			
1954			
1955			
1956			
1957			
1958			
1959			
1960		-1,019	-3,618

Table 1.(R-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	Allocations of special drawing rights (SDRs)	Statistical discrepancy	
		Total (sum of the items with sign reversed)	Overall
1961		-989	-1,372
1962		-1,124	-2,805
1963		-360	-2,354
1964		-907	-1,831
1965		-458	-1,359
1966		629	102
1967		-205	-3,604
1968		438	1,644
1969		-1,516	2,470
1970	867	-219	-10,258
1971	717	-9.779	-29,945
1972	710	-1,879	-11,181
1973		-2,654	-6,184
1974		-1,458	-9,077
1975		5,917	-6,173

Table 1.(R-4)

International Statistics

U.S. international transactions, 1946-85

[millions of dollars, data seasonally adjusted, except as noted.]

Year or quarter	Allocations of special drawing rights (SDRs)	Statistical discrepancy	
		Total (sum of the items with sign reversed)	Overall
1976		10,544	-15,135
1977		-2,023	-36,441
1978		12,521	-34,410
1979	1,139	25,431	13,654
1980	1,152	24,982	-8,494
1981	1,093	20,276	878
1982		36,325	1,372
1983		11,130	-4,772
1984		27,338	54
1985		22,006	5,182

holdings of international reserves. This last means that the United States was running a surplus in its overall balance of payments: the surplus in the current account--defined as goods, services, and transfers--was greater than the net private capital outflows.

In the 1950s, as the European and other economies recovered, their trade balances improved and, as a natural consequence, the U.S. trade surplus returned to more normal levels. By the end of the decade, the surplus in goods and services had fallen below the deficit in transfers and private capital flows, so that the United States was running substantial overall balance of payments deficits.

2. The balance of payments problem in the 1960s

One could view the emerging U.S. deficit of this period, and the rest of the world's surplus, as the natural outcome of steady worldwide growth under the "dollar standard." Although the 1944 conference at Bretton Woods, New Hampshire, that established the postwar international monetary system did not give the U.S. dollar this role officially, the dollar soon became the de facto reserve currency of the system, because it was convertible into gold and because of the economic wealth and political prestige of the United States. As world trade grew, countries needed to hold growing levels of reserves, and running balance of payments surpluses was the only way other countries had of acquiring dollar reserves. This is the sense in which the U.S. balance of payments deficits could be viewed as a natural consequence of worldwide economic growth under the monetary system. Nevertheless, the increasing ratio of dollars held abroad to gold held by the U.S. Government began to cause concern. It seemed that the system

could only become more and more vulnerable over time to a crisis in which the holders of dollars around the world would try to cash in their claims for gold and the United States would be unable to pay.

In the early 1960s, the balance of payments deficit was entirely a deficit of the capital account. The merchandise trade balance, goods and services balance, and current account were all in substantial surplus. But, beginning under the Kennedy Administration, capital outflows became the subject of increasing concern. Under "Operation Twist," monetary policy sought to raise short-term interest rates to attract short-term capital from abroad, at the same time as long-term interest rates were kept low with the aim of stimulating investment. A series of increasingly strong direct controls on the outflow of capital were also put into place, though they were not very effective: the rise of the Euromarket, outside the grasp of U.S. regulators, dates from this period.

Much of the capital outflow took the form of U.S. direct invesment in Europe and elsewhere. Outward direct investment increased from $2.9 billion in 1960 to $10.2 billion in 1970, explaining most of the increase in measured private capital outflow.[1] One view was that the United States was playing a useful role as the world's banker: borrowing short-term and lending long-term. A bank does it by taking deposits and lending to businesses and homeowners; the world's banker would do it by creating liquid dollar reserves for others to hold and investing in plant and equipment abroad. But some, the French in particular, resented the idea that Americans were buying out their factories and land, offering in return only paper that was less and less adequately backed by gold.

3. The breakup of the Bretton Woods system

In the late 1960s, the U.S. balance of payments problem became more of a trade balance problem. The reason was expansionary macroeconomic policies. After 1965, military spending increased rapidly because of the escalation of the Viet Nam War. At the same time, domestic spending was increasing under Lyndon Johnson's Great Society program. Furthermore, monetary policy accommodated the expansion, with the exception of a couple of brief attempts at braking. Rapid growth in income resulted directly in rapid growth in imports. The economy also became overheated, giving rise to inflation. U.S. inflation, in a system under which the dollar was supposedly not allowed to devalue, resulted in a gradual loss of competitiveness by American firms on world markets. In 1971, the U.S. trade balance went into deficit for the first time in the postwar period. In response to the trade deficit and to a corresponding loss in reserves, Richard Nixon unilaterally devalued the dollar in terms of both gold and foreign currencies, placed a tariff surcharge on imports, and ended the U.S. Government's commitment to sell gold for dollars to foreign central banks. This marked the end of the Bretton Woods system. Most foreign central banks continued to cooperate in the effort to prop up the system of fixed exchange rates, buying up unwanted dollars. But by now, private speculators knew that selling dollars was a good bet. As a result, capital outflows were very high throughout the early 1970s. In the accounts in Table 1, they show up as an increase in the rate at which U.S. residents acquired claims abroad (and in the statistical discrepancy). In the first few months of 1973, several of the major central banks had to absorb unprecedented quantities of dollars, with no end in sight. In March 1973, they ceased their

commitments to buy and sell dollars at fixed exchange rates. In other words, the world moved from the fixed exchange rate system to the current system of floating exchange rates.

With the exchange rate now free to move, the desire of investors to allocate a higher proportion of their portfolios to foreign assets suddenly took the form of an increase in the price of foreign assets in terms of dollars, that is, a depreciation of the dollar. The depreciation meant that American manufacturers and farmers could once again compete in world markets on favorable terms. The current account returned to surplus in the years 1973-76.

4. Capital outflow in the mid-1970s

The rate of net private capital outflow reached a stable plateau in the mid-1970s. This outflow was not primarily a sign of lack of confidence in the U.S. economy, as it had been in 1970-73. Indeed, there were times, for example in the immediate aftermath of the late-1973 oil crisis, when investors increased their demand for dollar assets.[2] Rather, the United States was behaving as a mature industrialized country generally is expected to behave: running a current account surplus ($18.1 billion in 1975) and investing the proceeds in other countries where they can earn a higher rate of return.

The financial situation began to deteriorate, however, in the latter half of the decade. Following the oil crisis and the 1975 world recession, there was concern, particularly in the United States and in developing countries, that worldwide saving was too high and expenditure too low to sustain growth. There had been a massive transfer of wealth to the members

of OPEC, many of whom had a high tendency to save the wealth rather than spend it. The United States undertook steady fiscal and monetary expansion, with the Europeans following only reluctantly and with a delay. The result was rapid growth in U.S. imports and a fall in the trade balance; in 1977 and 1978, the current account registered substantial $15 billion deficits. The Carter Administration could have argued that the trade deficits were not cause for concern, but to the contrary, were precisely what was needed: The expansion in demand was sustaining recovery in the United States, and at the same time was allowing those developing countries that were faced with sharply increased oil import bills to earn the foreign exchange to pay them by exporting to the United States. But the record deficits did generate concern. In 1977-78, as it was to again in 1985-86, the U.S. Treasury pressured foreign governments to expand their own economies in order to increase purchases from the United States. In both episodes, reluctant foreign governments had to face the alternative that the same goal, reducing the U.S. trade deficit, would instead be accomplished by an accelerated depreciation of the dollar.

We will discuss in later sections the declines in real interest rates and in the value of the dollar during this period. Here we note that the swing from surplus to deficit on the current account in 1977-78 was not associated with an offsetting swing from deficit to surplus on the private capital account. Private capital on net continued to flow out at a steady rate of about $20 billion a year.[3] The U.S. current account deficit was financed by increased holdings of U.S. assets on the part of foreign central banks ("official foreign assets" in Table 1), rather than on the part of foreign private citizens. Much as at the beginning of the decade,

foreign central banks were buying dollars in an unsuccessful attempt to prevent the dollar from depreciating and their own currencies from appreciating.

The depreciation of the dollar stimulated exports enough to return the country to a surplus in goods and services in 1979 and 1980. At the same time, the nature of capital flows began to change. This was the end of a long period of steady U.S. net investment abroad.[4] In the 1980s, capital on net began to flow in to finance U.S. trade deficits, reversing the pattern of the preceding 35 years. We will be picking up the story of the capital inflows in Section IV.

III. Risk, Government Controls, and Other Barriers or Incentives to International Capital Movements

Many factors influence investors' decisions to move capital internationally. The most obvious factor is the expected rate of return that can be earned in one country or another. In Section V, we will be looking at various measures of rates of return in the United states and other major countries, with special reference to the increased attractiveness of U.S. assets in the early 1980s. But other factors are important as well. Indeed, if investors cared only about expected returns and nothing else, then one would not observe <u>any</u> differentials in rates of return. Investors would refuse to buy the assets with the lower return and would have an unlimited demand for the assets with the higher return. In other words, arbitrage would quickly insure that expected returns were equalized.[5] We will see in Section V below that this does not quite seem to be the case. In this section we consider factors other than expected rates of return:

transactions costs, capital controls, taxes, default risk, and exchange risk.

1. Transactions costs

An unavoidable barrier to international capital movements is transactions costs, as represented in the case of securities by a brokerage fee or a bid-ask spread. But this barrier is extremely small for countries with developed financial markets. Several factors have worked to reduce transactions costs steadily over the years. Deregulation, innovation, and economies of scale in international dealings, particularly in the Euromarket, have made the world banking and securities industry more efficient. Some of the many recent innovations in international markets to make the issuance of securities, or the management of the accompanying risk, more convenient for borrowers or lenders include: currency and interest rate swaps, dual currency issues, mismatched floating rate notes, zero coupon bonds, equity-related issues, note issuance facilities, and Eurocommercial paper.[6] Reduced telecommunications costs and other technological advances have also been important. The real cost of sending a telegraphic message from New York to London or Paris in 1985 was only 8-9 percent of what it was in 1900, and the real cost of a three-minute off-peak phone call between Washington and Frankfurt was only 5 percent of what it was in 1950.[7]

Another factor, exchange rate variability, has worked to raise foreign exchange transactions costs since currencies began to float. To make a market in foreign exchange, banks have to take open positions in foreign currency, even if only briefly, and the riskiness of doing so has gone up

with the variability of exchange rates. As a result, bid-ask spreads have generally been higher since 1973 than in the past.[8] Nevertheless, they are still on average small—not high enough to create much of a deterrent to investors' shifting their portfolios in response to a change in the attractiveness of a country's assets.

The result of these reduced costs is a very high volume of financial transactions internationally. For example, a survey by the Federal Reserve Bank of New York in March 1986 documented a very high level of turnover in the New York foreign exchange market: $50 billion a day among banks, 92 percent above the previous survey in April 1983, and $26 billion a day among non-bank financial institutions, up 84 percent over 3 years earlier.[9] The volume of foreign exchange trading was even greater in London at $90 billion a day.[10]

Due to economies of scale, transactions costs tend to be lower in currencies that are widely used in trade and financial transactions. The U.S. dollar has been the world's vehicle currency ever since it inherited the role from the pound sterling early in the century. A non-U.S. resident wishing to buy assets of a third country generally must buy dollars first, before converting them into the third currency. Banks and large corporations around the world hold dollar transactions balances. In 1985 over 60 percent of international bond issues were denominated in dollars, as can be seen from Table 2. A disproportionately high share of world trade is also invoiced in dollars.

Other currencies also play a role in international transactions. In ascending order of transactions costs in the 90-day forward markets, as measured by the percentage bid-offer spread in the period September 1982-

December 1985, are: the mark, yen, Canadian dollar, Dutch guilder, pound, and Swiss franc.[11] This ranking of the currencies corresponds roughly to their ranking in volume of foreign exchange trading in New York: mark, yen, pound, Swiss franc, Canadian dollar, French franc, and Dutch guilder.[12] In the 1980s, there has been talk of the yen beginning to play a more central role. The use of the yen as a currency in which to invoice trade, issue bonds, and hold reserves, is indeed increasing relative to the low levels of the past. The share of yen-denominated issues in international bond markets has gone from 5.2 percent in 1982 to 10.4 percent in 1986, including many U.S. borrowers. This is now a greater share than that of the Deutsche mark, as can be seen in Table 2.[13] However, there is little prospect of the dollar being seriously challenged as the world's vehicle currency.

One might also include the cost of obtaining information in the category of transactions costs, as another barrier discouraging residents of one country from holding assets in another. Information costs are relevant, for example, for mortgage holdings because of the difficulty of evaluating the credit-worthiness of the borrower. Foreigners hold essentially no mortgages in the United States, while Americans in the aggregate hold about 25 percent of their portfolio in that form. Information costs are not a problem for U.S. Treasury securities on the other hand; indeed the safety and liquidity of U.S. government securities is so attractive to foreigners that they hold about 43 percent of their U.S. portfolio in that form, as compared to about 21 percent for Americans.[14] Eurobonds issued by well-known U.S. corporations have also been very popular with foreigners in recent years for the same reason.

Table 2

International Bond Markets, 1982-First Half 1986

(billions of U.S. dollars)

	1982	1983	1984	1985	1986 1/
Euro-dollar issues	42.2	39.2	65.3	96.5	108.2
Foreign dollar issues	6.0	4.7	4.3	4.7	5.8
Total international dollar issues	48.2	43.9	69.6	101.2	114.0
Borrowers: (percent of total)					
Australia	1.9	3.2	2.2	2.3	5.9
Canada	17.2	918	4.5	5.3	7.8
France	11.6	10.5	8.8	7.3	4.9
Japan	8.3	14.3	14.4	11.9	15.3
United States	25.5	12.9	28.0	28.9	29.3
Euro-yen issues	0.6	0.2	1.2	6.5	16.1
Foreign yen issues	3.3	3.9	4.9	6.4	6.7
Total international yen issues	3.9	4.1	6.1	12.9	22.8
Borrowers: (percent of total)					
China	--	--	--	3.0	7.8
France	8.8	10.8	8.6	7.6	5.6
Japan	5.3	--	1.3	5.8	8.2
United States	0.1	--	10.7	26.5	30.4
International development organizations	17.1	27.3	25.2	18.4	6.4

Table 2

International Bond Markets, 1982-First Half 1986

(billions of U.S. dollars)

	1982	1983	1984	1985	1986 1/
Euro-Deutsche mark issues	3.3	4.0	4.3	9.5	18.2
Foreign Deutsche mark issues	2.1	2.6	2.4	1.7	--
Total International Deutsche mark issues	5.4	6.6	6.7	11.2	18.2
Borrowers: (percent of total)					
Austria	--	--	--	--	9.1
Germany	1.5	6.0	5.7	13.8	24.6
United States	11.5	4.2	9.3	9.7	7.4
EEC institutions	16.2	15.5	15.5	5.3	8.0
International development organizations	13.8	37.0	21.2	15.0	12.0
Euro-Swiss franc issues	0.1	--	--	--	--
Foreign Swiss franc issues	11.3	13.5	13.1	15.0	23.5
Total international Swiss france issues	11.4	13.5	13.1	15.0	23.5
Borrowers: (percent of total)					
Austrlaia	3.0	1.7	5.3	7.9	4.7
Canada	11.3	9.2	7.6	7.3	3.6
Japan	32.9	49.3	44.4	45.1	30.5
United States	13.0	8.9	9.5	19.0	26.3
International development organizations	10.8	9.9	11.2	11.7	4.7

Table 2

International Bond Markets, 1982-First Half 1986

(billions of U.S. dollars)

	1982	1983	1984	1985	1986 1/
Other Euro-bond issues	4.1	6.7	10.9	22.9	37.7
Other foreign bond issues	2.4	2.3	3.1	3.2	3.1
Total other international bond issues	6.5	9.0	14.0	26.1	40.8
International bond issues	75.4	77.1	109.5	166.4	219.3

Source: Organization for Economic Cooperation and Development, Financial Statistics Monthly.

1/ First half 1986 annualized.

Table 3

Foreign versus Domestic Holdings of Financial Assets, 1984

(billions of dollars)

	Foreign Holders		Domestic Holders	
	Amount[1]	% of Total[2]	Amount[2]	% of Total[2]
Checkable deposits and currency	$ 19.7	4.4%	$ 582.2	7.1%
Large time deposits	39.4	8.8	392.3	4.8
Short-term U.S. government securities	72.0	16.0		
Long-term U.S. government securities	120.8	26.9	1,709.5	20.8
Other short-term paper	40.9	9.1	266.4	3.2
Corporate bonds	61.8	13.8	588.1	7.2
State-local government securities	0.0	0.0	543.6	6.6
Mortgages	0.0	0.0	2,028.9	24.7
Corporate equities	94.5	21.0	2,090.3	25.5
Total	449.1	100.0	8,201.3	100.0

Source: Board of Governors of the Federal Reserve System, Flow of Funds (various issues).

Notes: Short-term U.S> government securities include marketable securities only. Other short-term paper includes commercial paper and bankers acceptances. Foreign holdings of corporate equities exclude foreign direct investment. Totals exclude small time and saving deposits, money market mutual funds, interbank claims, and other miscellaneous assets.

[2]At year-end.

From Benjamin Friedman, "Implications of the U.S. Net Capital Inflow," in R. Hafer, ed., How Open is the U.S. Economy?, Lexington, MA: D.C. Heath.

2. Capital controls

In many countries, government controls have been serious barriers to the international flow of capital. The postwar international economic system established at Bretton Woods did not incorporate a presumption, analogous to the one incorporated regarding international trade, about the undesirability of government intervention in international capital markets.

The more common use of controls is to discourage the outflow of capital from a weak-currency country, as in many developing countries, or as in the United States in the 1960s and early 1970s. But they are also sometimes used to discourage capital from flowing into a country, when it wishes to avoid a real appreciation of its currency or is worried about a potential loss in monetary control. For example, Germany and Switzerland had special taxes on interest payments to nonresidents, and maintained other measures to discourage foreigners from holding assets in their countries, until 1975.[15] Though the controls on capital inflow into Germany and Switzerland, like the controls on capital outflow from the United States, were never very effective, their removal no doubt facilitated part of the increased U.S. acquisition of foreign assets in the mid-1970s that shows up in Table 1.

The United Kingdom maintained controls to discourage capital outflows until 1979. But when Margaret Thatcher came to office, Britain too joined the club of countries with essentially open financial markets, which by then consisted of the United States, Canada, Germany, Switzerland, and the Netherlands.

An interesting case is Japan. Until relatively recently, Japan had very highly regulated capital markets, both domestically and with respect

to international transactions. In the period 1975-78, the Japanese controls worked to discourage capital inflow, with the aim of dampening the appreciation of the yen. Foreigners were not allowed to hold gensaki (a three-month repurchase agreement) and other Japanese assets. That the controls worked to discourage capital inflow can be seen by looking at the differential in interest rates between gensaki in Tokyo and three-month Euro-yen in London, which averaged 1.84 percentage points:[16] If it were not for the controls, investors would not have been willing to hold Euro-yen when a higher interest rate was available in Tokyo.

When the yen began to depreciate rapidly in 1979, the Japanese moved quickly to remove restrictions on foreign purchases of Japanese assets. The differential between the gensaki and Euro-yen interest rates dropped sharply. Indeed, the London rate exceeded the Tokyo rate after April 1979, although the differential was relatively small.[17] This is evidence that Japanese controls on capital inflow were liberalized more quickly than controls on capital outflow, with the objective of dampening the depreciation of the yen against the dollar. If some barriers to capital outflow had not remained, Japanese investors would not have been willing to hold assets in Tokyo when a higher interest rate on comparable yen securities was available in London.

A controversy arose in October 1983 when some American businessmen, alarmed by devastating competition from Japanese exporters, convinced top officials in the U.S. Treasury Department, despite the evidence just cited, that the Japanese Government was still using some form of capital market restrictions to keep the value of the yen lower than it would otherwise be. There followed a campaign by the U.S. Government to induce the

Japanese to adopt a whole list of measures further liberalizing their financial markets. This campaign came to fruition in the May 1984 Yen/Dollar Agreement between the U.S. Treasury and the Japanese Ministry of Finance. Measures liberalizing capital inflows included the elimination of the "designated company" system that restricted foreign direct investment in 11 companies. Measures liberalizing capital outflows included relaxation of restrictions on nonresident issue of yen bonds (called Samurai bonds when sold in the Japanese market), relaxation of "administrative guidance" on the part of the Ministry of Finance over overseas lending by Japanese banks, and permission to Japanese residents to purchase foreign-issued commercial paper and certificates of deposit. The Ministry of Finance retained ceilings on foreign security holdings by insurance companies and trust banks, equal to 10 percent of total assets, until the ceilings began to become binding in early 1986, at which point they were raised to a much higher level.

The result of the liberalization was an increase in net capital outflows: The Japanese rate of acquisition of long-term assets abroad jumped from $32.459 billion in 1984 to $56.775 billion in 1985,[18] the majority of it in the form of portfolio investment, as shown in Table 4. The positive offshore-onshore interest differential, which had been 50 basis points (briefly) as recently as November 1983, disappeared altogether in 1984.[19] Furthermore, the yen depreciated another 8 percent against the dollar in 1984. In short, the Yen/Dollar Agreement was successful at increasing Japan's integration into world financial markets, but not at promoting capital inflow into Japan or a short-term appreciation of the yen if that was its goal.

Table 4

Long-term capital movements[1] in Japan

(millions of U.S. dollars)

	1976	1977	1978	1979	1980	1981
Foreign capital[1]	3575	2063	2483	3318	13141	13137
Direct investment	113	21	8	239	278	189
Portfolio investment[2]	1595	1256	1654	2072	11877	11852
Import credits	-5	-13	-22	-33	-16	-15
Loans	326	-324	-7	-169	-231	-186
Bonds	1509	1099	833	2210	1236	1368
Others	37	24	17	-1001	-3	-71
Japanese capital	-4559	-5257	-14872	-16294	-10817	-22809
Direct investment	-1991	-1645	-2371	-2898	-2385	-4894
Portfolio investment	-146	-1718	-5300	-5865	-3753	-8777
Export credits	-571	-1388	-142	1288	-717	-2731
Loans	-1525	-472	-6299	-8102	-2553	-5083
Others	-326	-24	-760	-717	-1409	-1324
Net[3]	-984	-3184	-12389	-12976	2324	-9672
Memorandum:						
Net banking flows	-621	1684	-2243	-4020	-13144	-6386

1. Minus sign indicates capital outflow.

2. Excluding foreign investors' "Gensaki" transactions (bond transactions with agreements to repurchase usually within three months). Since the liberalization in 1979 up to the end of 1981, although short-term in nature, those transactions had been classified as long-term captal movements.

3. Actual rate.

Table 4

Long-term capital movements[1] in Japan

(millions of U.S. dollars)

	1982	1983	1984	1985
Foreign capital[1]	12,449	14,759	7,124	17,273
Direct investment	439	416	-10	642
Portfolio investment[2]	7,579	8,485	-156	3851
Import credits	-6	8	3	29
Loans	-181	-37	-77	-75
Bonds	4,281	5,663	7,350	12,890
Others	337	224	14	-64
Japanese capital	-27,418	-32,459	-56,775	-81,815
Direct investment	-4,540	-3,612	-5,965	-6,452
Portfolio investment	-9,743	-16,024	-30,795	-59,773
Export credits	-3,239	-2,589	-4,937	-2,817
Loans	-7,902	-8,425	-11,922	-10,427
Others	-1,994	-1,809	-3,156	-2,346
Net[3]	-14,969	-17,700	-49,651	-64,542
Memorandum:				
Net banking flows	-35	3,570	-17,560	-10,848

1. Minus sign indicates capital outflow.
2. Excluding foreign investors' "Gensaki" transactions (bond transactions with agreements to repurchase usually within three months). Since the liberalization in 1979 up to the end of 1981, although short-term in nature, those transactions had been classified as long-term captal movements.
3. Actual rate.

Source: Bank of Japan, Balance of Payments Monthly in OECD Economic Survey, JAPAN, August 1985 and November 1986.

Table 5

Deviations from Covered Interest Parity

September 1982 to October 1985

in Percentage Points

Local interest rate - London eurodollar interest rate

- London forward discount (3 month maturity)

Country	Mean Error	S.D.	Sample S.D.	Root Mean Squared Error	95% Bound
United Kingdom	-.02	.05	.27	.27	.45
West Germany	.50**	.03	.20	.54	.84
Netherlands	.25**	.02	.13	.28	.50
Canada	-.13**	.02	.13	.28	.50
Switzerland	-.06	.05	.73	.73	1.47
Group 1	-.13	.10	.33	.74	
Malaysia	-1.53**	.15	.89	1.77	3.39
Hong Kong	.18*	.07	.43	.47	1.01
Singapore	-.47**	.08	.50	.68	1.21
Group 2	-.60**	.13	.61	1.12	
Mexico	-17.89**	2.00	12.02	21.55	37.83
South Africa	-1.32**	.14	.81	1.55	3.09
Greece	-9.39**	1.17	7.03	11.73	20.45
Saudi Arabia	-2.21**	.20	1.20	2.52	4.23
Group 3	-7.81**	1.44	5.27	12.44	

Table 5

Deviations from Covered Interest Parity

September 1982 to October 1985

in Percentage Points

Local interest rate - London eurodollar interest rate

- London forward discount (3 month maturity)

Country	Mean Error	S.D.	Sample S.D.	Root Mean Squared Error	95% Bound
France	-2.14**	.51	3.06	3.73	7.93
Italy	.56	.60	3.58	3.62	6.21
Belgium	.32	.19	1.12	1.17	2.11
Austria	-1.80**	.30	1.81	2.56	4.52
Denmark	-4.12**	.27	1.62	4.42	7.18
Ireland	-.11	.08	.48	.49	.74
Norway	-.65**	.08	.46	.80	1.42
Sweden	-.81**	.22	1.30	1.53	3.06
Spain	-3.71**	.67	4.03	5.47	11.79
Group 4	-1.38**	.31	1.94	2.64	
Japan	-1.78**	.16	.93	2.01	2.65
Australia	-.79	.41	2.47	2.59	3.59
New Zealand	-1.90**	.53	3.15	3.68	6.27
Group 5	-1.49**	.24	2.18	2.84	
Total Sample	-2.13**	.32	2.02	5.58	

*Statistically significant at 95% level.

**Statistically significant at 99% level.

Data source: Barclay's Bank

As of early 1986, only France, of the largest industrial countries, maintained capital controls that were clearly binding by the test of interest rate differentials. These are controls on capital outflow that were tightened when the Socialists came to office in 1981. But even the French, like the Italians, are in the process of liberalizing. The offshore-onshore differential, which was 3.88 percent in March 1986,[20] vanished thereafter with the election of Jacques Chirac, at least temporarily.

In the Pacific region, Australia and New Zealand have recently removed their capital controls, and Hong Kong and Singapore have had open financial markets for some time. Elsewhere among developing countries, however, markets remain heavily controlled. Table 5 shows onshore-offshore interest differentials for a cross section of 24 countries. Many have differentials that are highly variable and significantly negative on average, indicating effective controls on the outflow of capital to the world market.[21]

3. Taxes

Taxes are a determinant of international capital flows that might be considered a sort of government control. But it is more common that avoiding taxes is an incentive to invest abroad than paying taxes is a barrier to it.

The mere fact that the citizens of one country are taxed at a higher rate than those of another does not necessarily create an incentive for capital flows, assuming both groups of citizens are taxed at the same rate on their foreign interest earnings as on their domestic earnings. But in practice, investors can sometimes evade taxes by keeping their money in tax

havens, in the Caribbean and elsewhere. The United States has to an extent played the role of tax haven in recent years. U.S. borrowers have offered bearer bonds, whose ownership depends on physical possession rather than registry, to eager investors in Europe and Latin America.[22]

The requirement that banks hold a certain fraction of their deposits in the form of reserves, rather than lending them out at market interest rates, might be thought of as another tax. U.S. reserve requirements were one reason for the growth of the Euromarket in the 1960s and 1970s. Banks do not have to hold reserves against their offshore deposits and for that reason are willing to pay a higher interest rate on deposits in the Euromarket than on deposits in the United States. The differential in three-month interest rates between the Eurocurrency market and the U.S. interbank market exceeded 100 basis points in 1980, as the second column of Table 6 indicates.

By the early 1980s, discouraging capital outflow was no longer a goal for the United States, and authorities were concerned that the U.S. banking industry was losing business to Euro-banks. Beginning December 1981, U.S. banks were allowed to participate in a sort of domestic Euromarket by establishing International Banking Facilities (IBFs), which are simply a separate set of deposit accounts without reserve requirements.[23] There followed a large shift in accounts from overseas offices of U.S. banks to the offices at home, the majority in New York. But the change is to be thought of as a shift in the location at which banking services are provided, rather than as a net capital inflow: Both claims and liabilities to foreigners were shifted to U.S. banks.

An important factor in determining international capital flows is

withholding taxes. Until recently, the United States and most other major countries withheld income taxes on bond interest paid to foreigners, unless the foreign residents fell under bilateral tax treaties, on the theory that the income might otherwise escape taxation altogether. But in July 1984, the United States abolished its withholding tax.[24] This move was an inducement to foreign investment in the United States. West Germany, France and Japan have since also found it necessary or desirable to abolish their own withholding taxes, in order to "remain competitive" in the eyes of international investors. Now most countries are potential tax havens for residents of other countries.

4. Default risk and other "Political risk"

A corporation or other borrower that has a possibility of defaulting on its obligations has to pay a correspondingly higher interest rate to compensate lenders for that possibility. For example, the reason investors in the early 1980s were willing to hold deposits in U.S. banks at lower interest rates than could be earned in the Euromarket, in the absence of controls on capital outflow from the United States, may be that they thought there was a greater risk of default in the Euromarket. The differential baetween the Eurodollar and domestic deposit rates cannot be explained solely by the difference created by reserve requirements on the side of banks' costs. Figure 1 shows that the differential existed even when the U.S. deposit rate is adjusted for reserve requirements.

While U.S. government debt has always been considered close to free of default-risk, the 1980s debt crisis has forcefully established the point that governments can default. Indeed, in many Latin American and other financially troubled countries, government debt has turned out to be no more

DEVIATIONS FROM CLOSED INTEREST PARITY

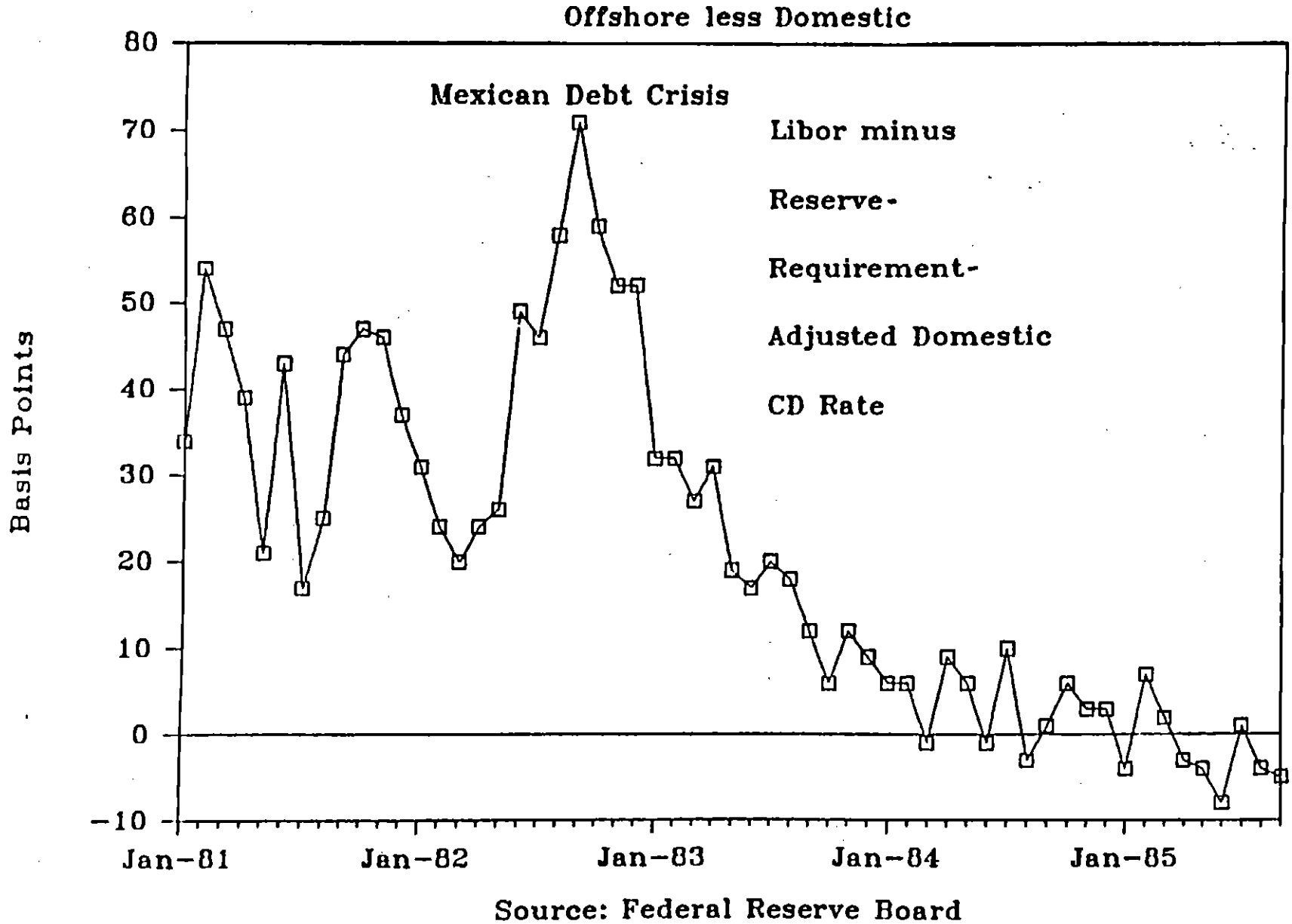


Figure 1

Table 6: Deviations from Closed Interest Parity: Offshore Interest Rate (covered for exchange risk) Minus the United States Interest Rate

(Three-month interest rates in percentage per annum)

Offshore rate	Euro-$	Euro-$	Euro £ + fd	U.K. ib + fd	U.K. T-Bill + fd	Euro-DM + fd	Ger. ib + fd
U.S. rate	T-Bill	Interbank	Interbank	Interbank	T-Bill	Interbank	Interbank
Means Year							
1978	1.573	0.564	0.618	-0.840	-0.301	0.738	1.075
1979	1.894	0.786	0.886	0.622	1.656	1.047	1.491
1980	2.581	1.016	1.145	0.989	2.070	1.384	1.931
1981	2.190	0.923	1.080	1.085	2.105	1.242	1.778
1982	2.091	0.900	1.074	1.082	2.066	1.208	1.640
1983	0.660	0.546	0.676	0.691	0.577	0.786	1.127
1984	0.878	0.408	0.566	0.558	0.583	0.709	1.008
1985	0.571	0.295	0.414	0.410	0.305	0.396	0.622
Standard Deviations							
Year							
1978	0.666	0.262	0.390	0.846	0.975	0.477	0.484
1979	0.690	0.272	0.376	0.498	0.751	0.410	0.549
1980	1.027	0.371	0.785	0.795	1.233	0.526	0.565
1981	0.578	0.280	0.353	0.316	0.742	0.344	0.455
1982	0.736	0.205	0.242	0.223	0.746	0.308	0.357
1983	0.156	0.116	0.201	0.222	0.282	0.140	0.186
1984	0.401	0.078	0.143	0.134	0.418	0.194	0.234
1985	0.176	0.109	0.301	0.275	0.498	0.552	0.555

Note: ib ≡ interbank rate.
fd ≡ adjustment for the forward exchange discount.

Table 7

Default Risk Premia on Foreign Bonds, 1981-85[1]

(U.S. dollars)

	Returns on Foreign Bonds			Difference in Rates of Return[1]	
	World Bank	Mexico	Brazil		
	(1)	(2)	(3)	(2)-(1)	(3)-(1)
1981					
July	14.99	13.66	14.63	-1.33	-0.36
August	15.33	13.71	14.69	-1.62	-0.64
September	16.42	13.18	15.07	-3.24	-1.35
October	16.89	14.15	15.13	-2.74	-1.76
November	16.46	14.21	15.20	-2.25	-1.26
December	14.03	14.30	13.90	0.27	-0.13
1982					
January	15.36	13.29	13.84	-2.07	-1.52
February	15.63	13.33	13.88	-2.31	-1.76
March	14.98	13.41	13.96	-1.57	-1.02
April	14.96	13.51	14.03	-1.45	-0.93
May	14.56	13.55	14.09	-1.01	-0.47
June	15.22	13.62	14.17	-1.60	-1.05
July	15.11	13.69	14.24	-1.42	-0.87
August	14.11	15.86	15.19	1.75	1.08
September	13.30	17.15	15.59	3.85	2.29
October	11.93	18.05	15.24	6.12	3.31
November	11.28	18.43	14.47	7.15	3.19
December	11.26	18.36	12.94	7.10	1.68

Table 7 (continued, page 2)

Default Risk Premia on Foreign Bonds, 1981-85[1]

(U.S. dollars)

	Returns on Foreign Bonds			Difference in Rates of Return[1]	
	World Bank	Mexico	Brazil		
	(1)	(2)	(3)	(2)-(1)	(3)-(1)
1983					
January	10.79	18.43	13.72	7.64	2.93
February	10.79	18.59	13.79	7.80	3.00
March	10.58	18.71	13.87	8.13	3.29
April	10.49	18.63	13.58	8.14	3.09
May	10.31	16.93	13.41	6.62	3.10
June	10.65	17.05	13.59	6.40	2.94
July	11.10	17.17	13.96	6.07	2.86
August	11.88	17.05	14.32	5.17	2.44
September	11.47	17.12	14.42	5.65	2.95
October	11.22	16.77	14.73	5.55	3.51
November	11.40	15.77	14.72	4.37	3.32
December	11.55	13.21	14.73	1.66	3.18
1984					
January	11.44	13.27	14.71	1.83	3.27
February	11.34	13.32	14.54	1.98	3.20
MarchI	11.56	12.51	13.88	0.95	2.32
MarchII[2]	11.55	12.56	13.86	1.01	2.31
April	11.97	12.43	13.96	0.46	1.99
May	12.33	12.77	14.09	0.44	1.76

Table 7 (continued, page 3)

Default Risk Premia on Foreign Bonds, 1981-85[1]

(U.S. dollars)

	Returns on Foreign Bonds			Difference in Rates of Return[1]	
	World Bank	Mexico	Brazil		
	(1)	(2)	(3)	(2)-(1)	(3)-(1)June
	13.54	13.34	16.13	-0.20	2.50
July	13.61	13.71	15.84	0.10	2.23
August	13.03	13.88	16.02	0.85	2.99
September	12.78	13.85	16.40	1.07	3.62
October	12.71	14.00	16.58	1.29	3.87
November	11.93	13.92	16.84	1.99	4.91
December	11.02	13.28	16.85	2.26	5.83
1985					
January	10.31	12.56	17.02	2.25	6.71
February	10.07	12.42	12.63	2.35	2.56
March	11.09	12.26	12.73	1.17	1.64

Note: The bonds are medium-term seasoned bonds, January 1982-March I 1984.

Source: International Herald Tribune, various issues in Folkerts-Landau, 1986.

[1]Call provisions on the World Bank bonds raise rates of return on these relative Mexican or Brazilian bonds of same risk and maturity. Hence, the changes over time of the differences in the rates of return are of interest.

[2]For the World Bank 10 , June 1987; for Mexico 8 , March 1987; for Brazil 8 , December 1987.

guaranteed than private debt. Even many European governments have to pay a default-risk premium over U.S. Government debt, as shown in Figure 2b below.

One cannot look at interest rates on new bank lending to the troubled debtors after 1982 for a measure of the perceived probability of default. The banks that have large loans already outstanding, knowing that the likely alternative is default on the earlier debt, have "involuntarily" had to put in new money in rescheduling agreements. The new loans have been made at interest rates that--though maintaining positive fig-leaf spreads over LIBOR (London Interbank Offered Rate)--are far lower than would compensate them for the true risk. But one can estimate the perceived default risk from the discount at which loans trade on the secondary market. As of December 1986, banks loans were trading at a discount of 32.9 percent for a weighted average of 15 problem debtors, as reported in Table 17 of Dornbusch (this volume). There is also a secondary market in bonds issued by some of these countries. Before August 1982, when the Mexican debt crisis first surfaced, the rate of return on Mexican or Brazilian bonds was below that on World Bank bonds. The prices of the bonds fell to a discount thereafter, so that their rate of return rose above that on World Bank bonds. The difference, which should be interpreted as a default risk premia, peaked at 8.14 percent in April 1983 for Mexican bonds and 6.71 percent in January 1985 for Brazilian bonds.[25] (See Table 7.)

Many analysts believe that the perceived increased risk of default in Latin America and elsewhere in the world after August 1982 caused a large flow of capital to the United States, which was considered a safe haven, and that this was responsible for the large appreciation of the dollar. That there was massive unrecorded "capital flight" out of Latin America is

clear. Comparisons of the current account deficits of countries such as Mexico, Venezuela, and Argentina with the bank debt incurred suggest there must have been a large increase in unrecorded overseas claims by citizens of those countries. It is less clear that this explains why the demand for U.S. assets should have been increasing over the entire period 1981-85, particularly relative to European or Japanese assets as would be necessary if it were to explain the appreciation of the dollar. If there was a shift during this period into U.S. assets based on increased perceptions of safety in the United States, relative to assets held in Europe, then one would expect interest rates on U.S. assets to decline relative to comparable dollar assets in Europe. This did not happen in short-term interest rates. Figure 1 shows that the Eurodollar rate actually fell relative to the domestic U.S. deposit rate after August 1982. Table 6 shows that the offshore-onshore differential also fell by other measures between 1980-82 and 1983-85. The domestic interest rate can be measured by the U.S. Treasury bill rate instead of by the interbank rate (first column), and the offshore rate can be measured in pounds or marks, covered on the forward exchange market, instead of by the Eurodollar rate (last five columns). In every case, the short-term interest differential moves the opposite direction from what the safe-haven hypothesis would predict. (In Section 5 below, we consider analogous long-term interest differentials.)

There are other kinds of risk, besides the risk of outright default, that can discourage investors from holding a country's assets. Even if the country does not currently have taxes on interest payments abroad, or on the repatriation of profits, and does not have controls on the removal of principal, there is always the possibility that it will enact such policies

in the future. This is particularly relevant for countries that have had capital controls in the past. In the case of direct investment in less developed countries, there is the possibility of nationalization of the industry. This is one of the reasons why investment in these countries prior to 1982 usually took the form of bank lending rather than direct investment. All these forms of "political risk" are less applicable to assets held in the United States than elsewhere, consistent with the view of the country as a safe haven for capital. On the other hand, U.S. authorities have in recent years been ready to freeze assets of unfriendly states, Iran and Libya; and Soviet fears along these lines 30 years ago may have been behind their decision to hold dollars in London banks--the genesis of the Euromarket.[26]

5. Exchange risk

Because of the risk of changes in the exchange rate, assets denominated in dollars are viewed by investors as different from assets denominated in other currencies. This is true even in the absence of transactions costs, capital controls, taxes, political risk, or other barriers to the movement of capital across national boundaries.

There are many ways residents of one country can increase their net investment position in another country without increasing their exposure in its currency. In the first place, even if all assets were denominated in the currency of the country where issued, U.S. residents could, for example, increase their net investment position abroad by buying back previously issued dollar bonds. A net capital outflow can be either an increase in foreign assets or a decrease in liabilities, as the high gross flow numbers in Tables 1 or 9 illustrate.

In the second place, an investor can acquire claims on foreigners without their being denominated in foreign currency, and can acquire assets denominated in foreign currency without their being claims on foreigners. Many smaller countries issue bonds denominated in dollars, rather than in their own currencies, so that they will be more acceptable to international investors.[27] The majority of bank lending to less developed countries has been denominated in dollars, and the rest in the currencies of other major industrialized countries, not that of the borrower. Even the United States Government issued "Carter bonds" denominated in marks in 1978-79. Corporations increasingly borrow abroad in foreign currency, either as a foreign bond issue or in the Euromarket.

At the shorter end of the maturity spectrum, there have been active forward exchange markets for some time; borrowers are able to hedge foreign currency liabilities by buying exchange forward, and lenders to hedge foreign currency assets by selling exchange forward. At the longer end of the maturity spectrum, the rapid growth of currency swaps in the 1980s allows U.S. corporations to issue Euroyen or Euromark bonds to Japanese, Germans, or anyone else wishing to hold these currencies, and then to swap the proceeds into dollars. Finally on the list of ways that currency of denomination can be divorced from the location of the asset, the prices of equities and direct investment are not fixed in any currency, either domestic or foreign (though the dollar price of foreign equities does often seem to move one-for-one with the exchange rate).

While these ways exist for an investor to buy a foreign asset without taking a position in foreign currency, not all investors should wish to avoid taking such a position. Unless an investor is indifferent to risk,

or is certain what the future exchange rate will be, or is tied to his own currency by accounting practices, he should wish to diversify his holdings among dollars, marks, yen, pounds, francs, etc., so as to reduce the variability in the value of his overall portfolio. It is easy for an investor, particularly an American, to slip into the habit of viewing his own currency as safe and others as risky. This view would assign exchange risk a purely negative role, a cost to be weighed against other factors like expected return in the decision to buy foreign currencies. But the value of domestic currency is not completely safe, even for an American. A firm that imports raw materials, intermediate inputs, or other goods from abroad is vulnerable to an increase in costs from a depreciation of the domestic currency; such a firm would be wise to take an "open" position in foreign currency, i.e., to hold some foreign assets or to buy some foreign exchange on the forward market. (The word "open" is in quotations because in this case the firm is reducing overall exposure to currency risk, not increasing it except in the most narrow of accounting senses.) Households also consume some imported goods, and thus are partially vulnerable to a depreciation, though there is generally a lag before the depreciation is passed through to retail prices. Furthermore, the possibility of inflation in prices of domestically produced goods, whether associated with a change in the exchange rate or not, provides another reason why the domestic currency should not be viewed as perfectly safe. The point is that even a highly risk-averse American might want to hold some foreign currency assets.

To citizens of smaller, more open, countries, this point is more important. In countries with a past history of hyperinflation, parti-

cularly in Central Europe and Latin America, the desirability of holding some foreign currency is well understood even by relatively unsophisticated citizens. The role of "asset least likely to lose purchasing power" has been played by various currencies at various times. In the 1970s, marks and Swiss francs, in addition to gold, were popular. But in the 1980s, the U.S. dollar is the currency of choice, in large part due to the firm anti-inflation policy of the Federal Reserve Board under Chairman Paul Volcker. In countries that are highly unstable monetarily, residents are willing to give up interest earnings on securities to hold dollars in the form of currency. Dollars are known to circulate freely in such countries as Argentina and Israel. There are no data on foreign holdings of U.S. currency, but Cooper (1986, p. 7) conjectures that over $20 billion of the roughly $169 billion in dollar currency in circulation at the end of 1984 was held abroad.

Because exchange rates have become more variable since 1973, and even since 1980, the typical international investor should be more diversified among currencies than in the past. Despite this, and despite the low level of transactions costs and capital controls among major industrialized countries, residents everywhere appear to hold far less foreign assets, and far more of their own country's assets, than would be present in a theoretically well-diversified portfolio. For example, Table 8 suggests that most U.S. assets are still held by U.S. residents. Similarly, most Japanese assets are still held by Japanese residents, and so forth. But investors everywhere are increasing their level of diversification, which explains why U.S. residents are increasing their gross claims on foreigners even at a time when capital is on net flowing out of Japan (Table 4). This process can be expected to continue for many years.

Table 8

Foreign Holdings of U.S. Financial Assets, 1962-1985

	Amount at Year End ($ Billion)	Total U.S. Market[1] ($ Billion)	Percentage
1962	45.4	1,457.8	3.1
1970	99.0	2,600.0	3.8
1975	183.4	3,507.9	5.2
1980	399.6	6,256.0	6.3
1981	419.7	6,628.0	6.3
1982	414.8	7,250.5	5.7
1983	502.4	8,219.2	6.1
1984	620.8	9,055.6	6.9
1985	788.4	10,663.4	7.4

Source: Board of Governors of the Federal Resereve System, Flow of Funds Accounts, Financial Assets and Liabilities, September 1986, pp. 1-2, 15-16.

[1]Total credit market debt owed by nonfinancial sectors plus security credit, trade credit, mutual fund shares and other corporate equities.

IV. U.S. Capital Inflows in the 1980s

The 1980s have witnessed an historic swing in the U.S. capital account. In 1980, U.S. residents were on net investing overseas, as they had for many decades, at a rate estimated in the last line of Table 9 at $10.4 billion a year. By 1982, U.S. residents appear to have been on net borrowing from abroad, at a rate of $10.5 billion a year. The estimated rate of net borrowing rose very rapidly, to $41.8 billion in 1983 and $106.5 billion in 1984, until it reached an apparent plateau in 1985 of $122.9 billion.[28] During this same period, the dollar appreciated sharply.

The balance of payments statistics in Table 9 give some (limited) insight into the composition of the net capital inflow. The inflow has primarily taken the form of foreigners increasing their holdings of U.S. assets. U.S. residents have not noticeably cashed in their holdings of foreign assets. In fact, U.S. residents have continued to increase their investments abroad.

1. U.S. assets abroad

Some have argued that the sharp fall in the recorded rate of U.S. acquisition of foreign assets, from $110.2 billion in 1982 to $15.0 billion in 1984 and $25.8 billion in 1985, means that actions by U.S. residents are dominating the net capital inflow, not actions by foreign residents.[29] But there are several things to be said against this argument. In the first place, the recorded stock of U.S. assets abroad continues to rise; it is only the rate of change that has declined. In the second place, part of the apparent fall in U.S. investment abroad is an apparent fall in foreign direct investment between 1980 and 1982-84 (line 5 in Table 9; the recorded

Table 9

Capital Flows in the Balance of Payments, 1980-1985

(billions of dollars)

	1980	1981	1982	1983	1984	1985
(1) U.S. assets abroad, net (increase/capital outflow (-))	-86.1	-111.0	-121.3	-50.0	-23.6	-32.4
(2) U.S. official reserve assets	-8.2	-5.2	-5.0	-1.2	-3.1	-3.9
(3) Other U.S. Government assets	-5.2	-5.1	-6.1	-5.0	-5.5	-2.8
(4) U.S. private assets abroad	-72.8	-100.8	-110.2	-43.8	-15.0	-25.8
(5) Direct investment	-19.2	-9.6	2.4	-0.4	-3.9	-18.8
[(5a) of which Netherlands Antilles capital (decrease/inflow (+))*	2.7	3.5	8.7	3.1	1.7	-3.0
(6) Foreign securities	-3.6	-5.8	-8.1	-7.0	-5.1	-8.0
(7) Other claims reported by U.S. nonbanks	-3.2	-1.2	-6.6	-6.5	5.1	1.7
(8) Other claims reported by U.S. banks	-46.8	-84.2	-111.1	-29.9	-11.1	-0.7
(9) Foreign assets in the U.S. net (increase/capital inflow (+))	58.1	83.3	94.1	85.5	102.8	127.1
(10) Foreign official assets in the U.S.	15.5	5.0	3.6	6.0	3.0	-1.3
(11) Other foreign assets in the U.S.	42.6	78.4	90.5	79.5	99.7	128.4
(12) Direct investment	16.9	25.2	13.8	11.9	25.4	17.9
(13) U.S. Treasury securities	2.6	2.9	7.1	8.7	23.1	20.5

Table 9 (continued, page 2)

Capital Flows in the Balance of Payments, 1980-1985

(billions of dollars)

(14) Other U.S. securities	5.5	7.2	6.4	8.6	12.8	50.9
(15) Other liabilities reported by U.S. nonbanks	6.9	0.9	-2.4	-0.1	4.7	-1.2
(16) Other liabilities reported by U.S. banks	10.7	42.1	65.5	50.3	33.8	40.4
(17) Current account balance	1.9	6.3	-9.1	-46.6	-106.5	117.7
(18) Recorded non-official capital account balance (3)+(4)+(1)	-35.4	-27.5	-25.8	30.7	79.2	99.8
(19) Adjusted direct investment balance (5)+(12)-(5a)	5.0	12.1	7.5	8.4	19.8	2.1
(20) Adjusted securities balance (6)+(13)+(14)+(5a)	7.2	7.8	14.1	13.4	32.5	60.4
(21) Other claims and liabiities (3)+(7)+(8)+(15)+(16)	-37.6	47.5	47.4	8.8	26.9	37.4
22) Official reserves (2)+(10)	8.5	0.9	1.4	4.8	-0.1	-5.2
23) New SDR allocations	1.2	1.1	--	--	--	--
24) Statistical discrepancy -[(17)+(18)+)22)+(23)]	25.0	20.3	36.3	11.1	27.3	23.0
25) Estimated private capital account balance (19)+(24)**	-10.4	-7.2	10.5	41.8	106.5	122.8

ource: Survey of Current Business, June 1986, Table 1

*Source 198-81, Survey of Current Business, June 1983, Table D, p. 37; 1982 revised) Dept. of Commerce; 1983-85, SCB, June 1986, Table D.

*Assumes statistical discrepancy is entirely unrecorded capital inflows.

figure for 1982 even shows a net decrease in the U.S. foreign direct investment position). But this fall in recorded direct investment is in part due to the problem of U.S. corporations obtaining funds via subsidiaries in the Netherlands Antilles. When these credit items are moved from the direct investment numbers to foreign purchases of U.S. corporate securities where they belong, foreign direct investment shows less of a decline in the early 1980s.[30]

In the third place, and quantitatively much more importantly, the reported slowdown in the period 1983-85 in U.S. banks' acquisition of claims on foreigners (line 8 in Table 9) relative to 1981-82 can be traced to exaggeration of the 1981-82 figures by the establishment of IBFs (International Banking Facilities) in the United States beginning in December 1981. $44 billion of IBF liabilities to foreigners originated in 1981, and $72 billion in 1982. Since these increased liabilities were matched by increased claims when the accounts were moved from overseas, the acquisition of foreign assets reported by U.S. banks is estimated to have been exaggerated by these amounts.[31] Thus, the decline in acquisition of foreign assets in the subsequent years is exaggerated similarly. More generally in the case of bank-reported flows, the statistics need say nothing about the residence of investors on whose behalf the banks are reporting. In the case of interbank transactions, the distinction between increases in liabilities and decreases in claims is particularly lacking in economic significance.

2. Foreign direct investment in the United States

The side of the balance sheet covering foreign investments in the United States is perhaps the more interesting, as the country is becoming increasingly dependent on the willingness of foreigners to continue to increase their lending. From lines 11 to 16 in Table 9, foreign acquisition of U.S. assets during 1983-85 consisted 18 percent of direct investment, 17 percent purchases of U.S. Treasury securities, 24 percent purchases of other securities, 1 percent other U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns, and 40 percent U.S. liabilities reported by U.S. banks not included elsewhere.

Table 10 shows the foreign direct investment position in the United States at the end of 1985. The investment is mostly in the hands of Europeans: 66 percent. Nine percent is held by Canada, 10 percent by Japan, 9 percent by Latin America, and only 5 percent by the Middle East and all others. The largest category is in manufacturing (33 percent), followed by trade (18 percent), petroleum (15 percent), real estate (10 percent), banking (6 percent), insurance (6 percent), other finance (3 percent), and other industries (8 percent).

A highly publicized component of foreign direct investment in the United States is the purchase or construction of factories by foreign manufacturers to avoid current or threatened U.S. restrictions against imports, most notably in the Japanese automobile industry. Japanese direct investment is indeed increasingly rapidly: $3.1 billion in 1985 on U.S. figures, or $5.4 billion on Japanese accounting. But it is still relatively small, and it is concentrated in trade and in financial services. The Japanese figures show that 68 percent of the (cumulative) direct

Table 10.(L-1)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1984				
	All Industries	Petro-leum	Manu facturing	Trade	Banking
All countries	164,583	25,400	51,802	31,219	10,326
Canada	15,286	1,544	4,115	1,734	1,219
Europe	108,211	23,142	39,083	16,934	5,740
European Communities (10)	96,555	22,813	32,990	15,238	5,335
Belgium	2,548	(d)	471	296	(d)
France	6,591	(d)	5,368	728	420
Germany	12,330	71	4,389	4,256	272
Italy	1,438	(d)	333	(d)	298
Luxembourg	753	(d)	74	(d)	(d)
Netherlands	33,728	9,981	12,497	2,787	1,427
United Kingdom	38,387	10,991	9,719	6,732	2,194
Denmark, Greece, and Ireland	779	(d)	139	216	214
Other Europe	11,655	329	6,093	1,696	405
Sweden	2,258	307	1,048	650	(d)
Switzerland	8,146	19	4,774	794	(d)
Other	1,251	3	271	252	271
Japan	16,044	-88	2,460	9,941	1,853
Australia, New Zealand, and South Africa	2,152	57	362	(d)	51

Table 10.(L-2)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1984				
	All Industries	Petro-leum	Manu facturing	Trade	Banking
Latin America	16,201	656	5,537	2,027	665
South and Central America	2,859	50	981	44	(d)
Panama	1,924	45	959	14	(d)
Other	935	5	22	30	574
Other Western Hemisphere	13,343	606	4,555	1,983	(d)
Bermuda	1,370	110	306	363	0
Netherlands Antilles	10,935	452	4,092	1,394	(d)
United Kingdom Islands, Caribbean	866	(d)	140	186	16
Other	172	(d)	18	40	0
Middle East	5,336	15	116	(d)	481
Israel	525	6	97	(d)	319
Other	4,811	9	20	(d)	162
Other Africa, Asia, and Pacific	1,353	75	128	291	318
Memorandum-OPEC[1]	4,892	12	-21	(d)	268

* Less than $500,000(_+$).

(d) Suppressed to avoid disclosure of data of individual companies.

1. See footnote 1, table 3.

Source: Survey of Current Business

Table 10.(CL-1)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1984			
	Finance, except banking	Insurance	Real estate	Other industries
All countries	5,633	8,922	17,761	13,519
Canada	608	1,418	2,844	1,804
Europe	3,457	6,748	8,255	4,850
European Communities (10)	2,879	5,424	7,714	4,163
Belgium	(d)	(d)	10	(d)
France	-623	91	66	(d)
Germany	335	1,295	966	745
Italy	(d)	(d)	(d)	8
Luxembourg	121	0	(d)	8
Netherlands	1,970	1,445	2,471	1,152
United Kingdom	743	2,548	4,135	1,325
Denmark, Greece, and Ireland	2	(d)	42	50
Other Europe	579	1,325	541	688
Sweden	(d)	119	0	(d)
Switzerland	536	1,152	393	(d)
Other	(d)	54	148	(d)
Japan	513	138	744	482
Australia, New Zealand, and South Africa	(d)	(d)	120	(d)

Table 10.(CL-2)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1984			
	Finance, except banking	Insurance	Real estate	Other industries
Latin America	861	580	4,664	1,212
South and Central America	115	(d)	372	186
Panama	108	(d)	256	6
Other	7	(d)	116	181
Other Western Hemisphere	746	(d)	4,292	1,025
Bermuda	7	(d)	151	(d)
Netherlands Antilles	643	(d)	3,715	543
United Kingdom Islands, Caribbean	109	(d)	369	10
Other	-13	0	57	(d)
Middle East	(d)	0	709	(d)
Israel	(d)	0	0	-6
Other	9	0	709	(d)
Other Africa, Asia, and Pacific	28	(d)	423	(d)
Memorandum-OPEC[1]	9	0	707	(d)

* Less than $500,000(+).

(d) Suppressed to avoid disclosure of data of individual companies.

1. See footnote 1, table 3.

Source: Survey of Current Business

Table 10.(CR-1)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1985				
	All Industries	Petro-leum	Manu facturing	Trade	Banking
All countries	182,951	28,123	60,798	34,212	11,503
Canada	16,678	1,659	5,130	2,143	1,332
Europe	120,906	25,437	46,515	17,611	5,963
European Communities (10)	106,004	25,114	37,553	15,738	5,616
Belgium	2,288	(d)	477	340	(d)
France	6,295	(d)	5,485	581	483
Germany	14,417	(d)	6,198	4,726	222
Italy	1,401	(d)	273	(d)	300
Luxembourg	584	(d)	86	(d)	(d)
Netherlands	36,124	11,315	12,986	2,544	1,570
United Kingdom	43,766	12,246	11,884	6,847	2,539
Denmark, Greece, and Ireland	1,129	(d)	165	404	199
Other Europe1	14,902	323	8,961	1,873	347
Sweden	2,384	296	1,132	790	3
Switzerland	11,040	(d)	7,431	778	88
Other	1,478	(d)	398	305	255
Japan	19,116	31	2,621	11,822	2,176
Australia, New Zealand, and South Africa	2,702	101	747	(d)	63

Table 10.(CR-2)

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1984				
	All Industries	Petro-leum	Manu facturing	Trade	Banking
Latin America	17,050	608	5,558	2,099	1,122
South and Central America	3,385	112	803	190	1,041
Panama	2,137	104	842	113	(d)
Other	1,248	8	-39	78	(d)
Other Western Hemisphere	13,665	496	4,755	1,909	80
Bermuda	1,903	97	955	(d)	(*)
Netherlands Antilles	10,603	406	3,717	1,364	66
United Kingdom Islands, Caribbean	983	(d)	63	190	14
Other	177	(d)	19	(d)	(*)
Middle East	4,961	(d)	58	(d)	521
Israel	505	(d)	54	(d)	334
Other	4,455	(d)	3	(d)	188
Other Africa, Asia, and Pacific	1,538	(d)	171	231	327
Memorandum-OPEC[1]	4,560	19	-36	(d)	188

* Less than $500,000(_+).

(d) Suppressed to avoid disclosure of data of individual companies.

1. See footnote 1, table 3.

Source: Survey of Current Business

Table 10

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1985			
	Finance, except banking	Insurance	Real estate	Other industries
All countries	4,708	11,069	18,557	13,982
Canada	513	1,337	2,580	1,985
Europe	2,387	8,921	8,821	5,251
European Communities (10)	1,681	7,497	8,238	4,566
Belgium	(d)	(d)	9	(d)
France	-917	92	26	(d)
Germany	(d)	1,656	1,049	697
Italy	25	(d)	(d)	(d)
Luxembourg	129	0	24	22
Netherlands	2,088	1,975	2,325	1,321
United Kingdom	262	3,727	4,623	1,638
Denmark, Greece, and Ireland	3	(d)	(d)	52
Other Europe	705	1,424	583	685
Sweden	-46	(d)	0	(d)
Switzerland	627	1,232	444	(d)
Other	125	(d)	139	(d)
Japan	710	122	1,054	582
Australia, New Zealand, and South Africa	-19	(d)	117	(d)

Table 10

Foreign Direct Investment Position in the United States at Year End

(millions of dollars)

	1985			
	Finance, except banking	Insurance	Real estate	Other industries
Latin America	917	662	4,808	1,276
South and Central America	132	(d)	307	(d)
Panama	123	(d)	199	1
Other	8	4	108	(d)
Other Western Hemisphere	785	(d)	4,501	(d)
Bermuda	5	(d)	110	(d)
Netherlands Antilles	480	24	3,945	602
United Kingdom Islands, Caribbean	288	(d)	399	(d)
Other	12	0	47	(d)
Middle East	186	0	746	(d)
Israel	(d)	0	1	4
Other	(d)	0	745	(d)
Other Africa, Asia, and Pacific	16	(d)	430	(d)
Memorandum-OPEC[1]	2	0	737	(0)

* Less than $500,000(+).

(d) Suppressed to avoid disclosure of data of individual companies.

1. See footnote 1, table 3.

Source: Survey of Current Business

investment in North America is in nonmanufacturing industries and only 29 percent in manufacturing industries (5 percent in transportation machinery and 8 percent in electrical machinery).[32] This is in contrast to U.S. direct invesment in other countries which as of end-1985 was 41 percent in manufacturing, 25 percent in petroleum, and only 16 percent in banking, finance and insurance. (U.S. direct investment in Japan is 51 percent in manufacturing, 24 percent in petroleum, and only 8 percent in banking, finance and insurance.)[33] Japanese direct investment in manufacturing in the United States may be important for redirecting trade flows, or for any transfer of managerial practices that may be taking place; but it is not a quantitatively substantial part of the capital inflow into the United States.[34]

3. Securities sales vs. banking flows

In the past, banking transactions have generally been the largest component of the capital account. But in 1984 foreign purchases of U.S. securities passed bank-reported liabilities as the largest component of the capital inflow, either on a gross or net basis.

This trend, which accelerated in 1985, partly reflects the securitization of international capital markets: the rapidly growing role of direct investor purchases of bonds and equities, at the expense of bank intermediation. Some of the reasons that have been suggested for the decline in banking's share are deregulation and innovation in securities markets, concern over bank exposure to developing countries, the pressure on banks to increase their capital/asset ratio, and concern over the Continental Illinois Bank crisis in 1984.[35] A rapidly growing component of

Table 11.(L-1)

Share of National Currencies

in Total Identified Official Holdings of Foreign Exchange

End of Year 1977-85[1]

(in percent)

	1977	1978	1979	1980	1981	1982	1983
All countries							
U.S. Dollar	80.3	78.2	75.2	69.0	73.1	71.7	72.2
Pound sterling	1.8	1.8	2.1	3.1	2.2	2.5	2.7
Deutsche mark	9.3	11.2	12.8	15.6	13.4	12.9	12.0
French franc	1.3	1.2	1.4	1.8	1.4	1.3	1.1
Swiss franc	2.3	2.2	2.6	3.3	2.8	2.8	2.4
Netherlands guilder	0.9	0.9	1.1	1.4	1.2	1.2	0.9
Japanese yen	2.5	3.4	3.7	4.5	4.3	4.7	5.0
Unspecified currencies[1]	1.6	1.1	1.2	1.4	1.4	2.8	3.5
Industrial countries							
U.S. dollar	89.4	86.4	83.4	77.6	78.7	76.7	76.0
Pound sterling	0.9	0.7	0.8	0.8	0.7	0.8	0.9
Deutsche mark	5.5	7.9	9.7	14.4	13.1	12.5	12.9
French franc	0.3	0.4	0.6	0.5	0.5	0.4	0.3
Swiss franc	0.8	1.2	1.5	1.8	1.8	1.8	1.8
Netherlands guilder	0.6	0.5	0.6	0.7	0.8	0.7	0.5
Japanese yen	1.8	2.3	2.6	3.5	3.7	4.4	5.1
Unspecified currencies[1]	0.7	0.5	0.7	0.6	0.7	2.8	2.9

Table 11.(L-2)

Share of National Currencies

in Total Identified Official Holdings of Foreign Exchange

End of Year 1977-85[1]

(in percent)

	1977	1978	1979	1980	1981	1982	1983
Developing countries[4]							
U.S. dollar	70.9	66.6	66.3	60.1	67.1	66.5	68.0
Pound sterling	2.8	3.2	3.4	5.4	3.8	4.4	4.8
Deutsche mark	13.3	15.9	16.2	16.7	13.9	13.3	11.1
French franc	2.3	2.3	2.2	3.1	2.5	2.4	2.0
Swiss franc	3.9	3.6	3.8	4.9	3.9	3.9	3.6
Netherlands guilder	1.2	1.5	1.6	2.0	1.6	1.7	1.3
Japanese yen	3.2	4.9	4.8	5.6	5.0	5.1	4.9
Unspecified currencies[1]	2.5	1.9	1.7	2.2	2.2	2.8	4.2

Source: International Monetary Fund, Annual Report, 1986.

Table 11.(R-1)

Share of National Currencies

in Total Identified Official Holdings of Foreign Exchange

End of Year 1977-85[1]

(in percent)

	1984	1985	Memorandum: ECUs Treated Separately
All countries			
U.S. Dollar	70.5	65.1	56.4
Pound sterling	3.1	3.2	2.9
Deutsche mark	12.8	15.5	14.2
French franc	1.1	1.2	1.1
Swiss franc	2.1	2.4	2.2
Netherlands guilder	0.8	1.0	1.0
Japanese yen	5.7	7.6	7.0
Unspecified currencies[1]	3.8	3.9	15.2
Industrial countries			
U.S. dollar	71.6	63.2	48.9
Pound sterling	1.6	2.0	1.7
Deutsche mark	14.7	19.2	16.4
French franc	0.4	0.5	0.4
Swiss franc	1.4	1.8	1.5
Netherlands guilder	0.6	1.0	0.9
Japanese yen	6.1	8.5	7.3
Unspecified currencies[1]	3.5	3.9	22.9

Table 11.(R-2)

Share of National Currencies

in Total Identified Official Holdings of Foreign Exchange

End of Year 1977-85[1]

(in percent)

	1984	1985	Memorandum: ECUs Treated Separately
Developing countries[4]			
U.S. dollar	69.2	67.5	67.5
Pound sterling	4.8	4.7	4.7
Deutsche mark	10.6	10.9	10.9
French franc	1.9	2.1	2.1
Swiss franc	3.0	3.1	3.1
Netherlands guilder	1.0	1.1	1.1
Japanese yen	5.3	6.5	6.5
Unspecified currencies[1]	4.1	4.0	4.0

Source: International Monetary Fund, Annual Report, 1986.

NOTES TO TABLE 11, PAGES 4-5

[1]Starting with 1979, the SDR value of European currency units (ECUs) issued against U.S. dollars is added to the SDR value of U.S. dollars, but the SDR value of ECUs issued against gold is excluded from the total distributed here. For classification of countries in groups shown here, see Appendix IX. Only selected countries that provide information about the currency composition of their official holdings of foreign exchange are included in this table.

[2]The column is for comparison and indicates the currency composition of reserves when holdings of ECUs are treated as a separate reserve asset, unlike the earlier columns starting with 1979 as is explained in the preceding footnote. The share of ECUs in total foreign exchange holdings was 10.9 percent for all countries and 20.2 percent for the industrial countries in 1985.

[3]This residual is equal to the difference between total identified reserves and the sum of the reserves between the seven currencies listed in the table.

[4]The calculations here rely to a greater extent on Fund staff estimates than do those provided for the group of industrial countries.

the increased purchases of securities by foreigners consists of issues of Eurobonds by U.S. corporations: $38 billion in 1985 as compared to $7 billion in 1983.[36] Purchases of all non-Treasury U.S. securities reached $50.9 billion in 1985, over nine times higher than the level of five years earlier.

Another large chunk is increased purchases of U.S. Government bonds. In 1984 the U.S. Treasury began a new effort to tap foreign savings and help finance the enormous federal budget deficit by issuing "foreign-targeted registered obligations" directly into the Eurobond market. Foreign purchases of all Treasury securities reached $20.5 billion in 1985, almost eight times higher than the level of five years earlier. A remarkable 83 percent of the foreign purchases were by Japanese residents.[37] This reflects the magnitude of the capital inflow from Japan, and the relative preference of Japanese investors for U.S. bonds rather than equities, though it has been argued that Japanese purchases of Eurodollar bonds may exceed their purchases of U.S. Treasury bonds.[38]

4. Official reserve holdings of dollars

Until 1973, the holdings of international reserves by central banks were thought of as endogenous, as accommodating the decisions of private residents regarding either investment or current account transactions. With the end of the Bretton Woods system, the obligation for the major central banks to intervene in the foreign exchange market ended. Most continued to intervene as it suited them, the European and Japanese central banks much more so than the U.S. authorities. For example, their purchases of dollars to try to dampen the dollar depreciation of 1977-78 was several

times greater than the record U.S. current account deficits. One could think of the major central banks during this period playing to an extent the same role they did under the Bretton Woods system: financing U.S. current account (and private capital account) imbalances.

In the early 1980s, as the dollar swung from a level perceived as too low to a level perceived as too high, the European and Japanese central banks reversed the direction of their intervention, now selling dollars to dampen the depreciation of their own currencies. But even in 1985, when the U.S. Treasury under Secretary James Baker abandoned its previous policy of benign neglect and spearheaded a new cooperative effort to get the dollar down, the quantity of intervention was relatively small. Reported U.S. liabilities to official institutions in Western Europe fell by only $7.3 billion between the end of 1980 and the end of 1985.[39] Dollar holdings by most smaller central banks increased steadily over this period (except in 1985): they either were unconcerned about the strength of the dollar or viewed themselves as too small to affect it, and were more interested in the high rates of return they could earn on dollar securities. The result was the positive numbers in line 10 of Table 9.

The U.S. statistics probably underestimate the dollar holdings of central banks, those in developing countries in particular, because they do not count Eurodollar holdings. Statistics on reserve holdings reported by the central banks themselves show greater increases in quantity terms in 1983-85.[40] It is as if central banks in the aggregate acted like "destabilizing speculators," rather than "leaning into the wind" to resist swings in the dollar.[41] The tendency for central banks to shift their portfolios in the same direction that currency values are already moving is

necessarily even stronger when reserves are reported in value terms. As Table 11 shows, the share of official reserve portfolios allocated to dollars declined rapidly from 1977 to 1980, and then rose from 1980 to the end of 1984, like the value of the dollar itself.

Despite the "Plaza Accord" of September 22, 1985, at which the five largest central banks agreed to coordinated intervention in order to bring down the dollar, such dollar sales were not very evident in the 1985 figures, and there is even less reason to think that they will dominate the figures in 1986 or in the future. Perhaps central banks should be lumped together with other foreign residents in their portfolio behavior.[42]

V. Rates of Return

What could cause swings in net capital flows of the magnitude seen in the 1980s? From the standpoint of macroeconomic policy, the most important determinants of capital flows between countries are expected rates of return. U.S. interest rates increased sharply after 1980. Interest rates in other major industrialized countries also increased, but not as much. The differential between the U.S. ten-year interest rate and a weighted average of other countries' ten-year interest rates averaged zero in 1976-80, but rose to about 2 percent by 1982, and rose further to about 3 percent in 1984. This increase in the differential rate of return on U.S. assets is widely considered the most important cause of the net capital inflow that began in the early 1980s. But measuring expected rates of return is not as straightforward as might appear. For equities or direct investment, the rate of return is uncertain, and investors treat such

assets as different from bonds so that one cannot use the bond interest rate to measure their expected rate of return. Even for deposits, loans, and bonds, where the nominal interest rate is known in terms of domestic currency, the dollar interest rate on U.S. bonds cannot be directly compared with the mark interest rate on German bonds because of the likelihood of future changes in the mark/dollar exchange rate.

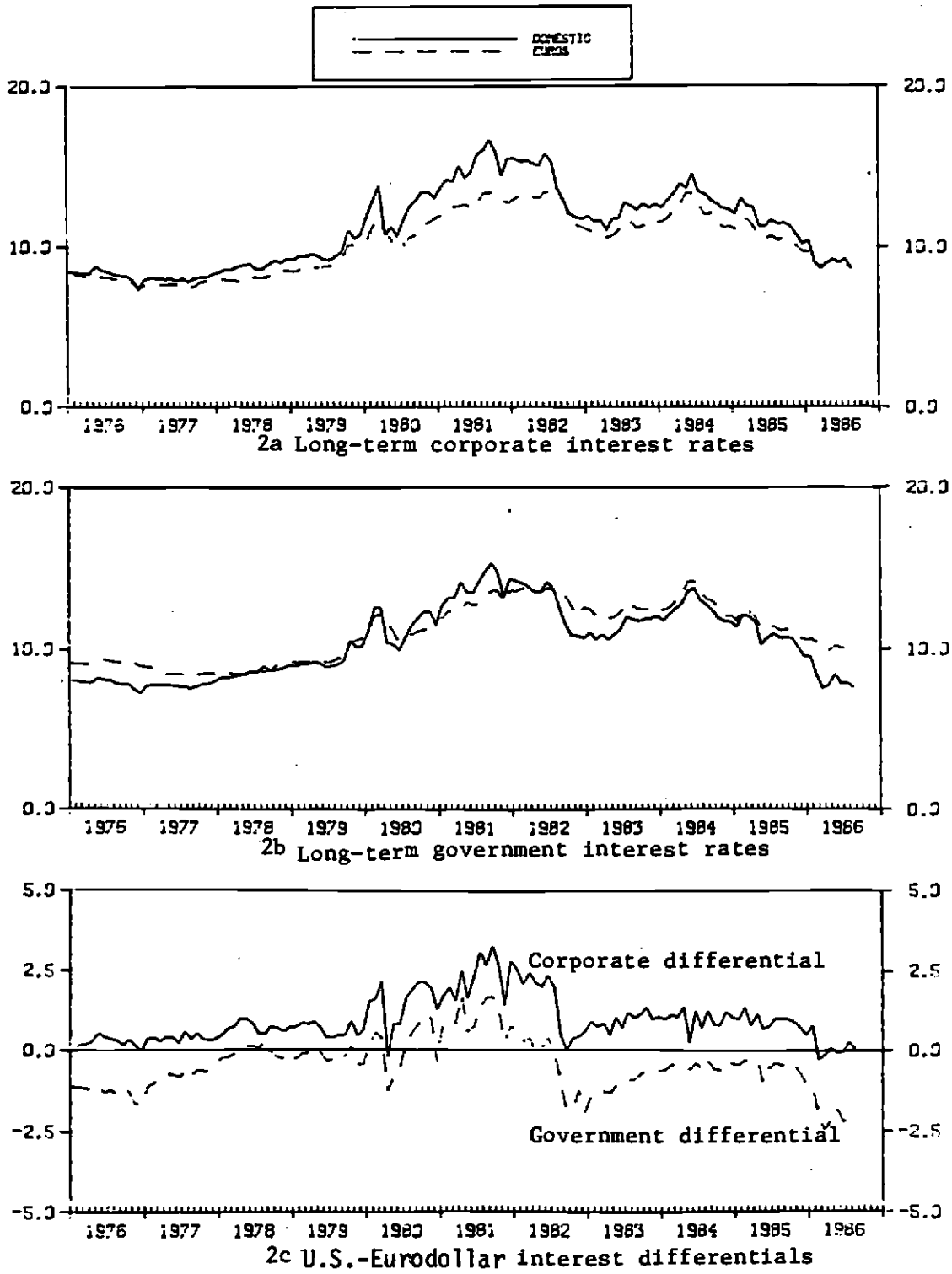
1. Dollar bond rates in the domestic and Euro markets

If we are interested in the investor's decision whether to invest in bonds issued in the United States versus bonds issued in other political jurisdictions per se, rather than necessarily dollar bonds versus other currencies, then we can get around the problem of exchange rate uncertainty by comparing U.S. interest rates to Eurodollar interest rates. This is the same thing we did in Table 7 for three-month deposit rates. Figure 2 shows four series of long-term dollar interest rates, two on each side of the Atlantic. The dominant impression is that the rates move together, suggesting that capital controls or political risk are relatively unimportant and that arbitrage works relatively well. But there is still some variation in the differential.

Figure 2a shows the domestic U.S. versus Eurodollar interest rate on bonds issued by U.S. corporations. In the mid-1970s, the rates were essentially the same. The domestic U.S. interest rates began to rise, especially in 1980 and 1981, providing a strong incentive for capital to flow from the Euromarket into the United States. The Eurobond rate also rose, but not by as much. The differential, represented by the solid line in Figure 2c, reached 3.3 percent in July 1981. Evidently, the capital

Figure 2

DOMESTIC US AND EUROS CORPORATE BOND RATES,
GOVERNMENT BOND RATES,
AND DIFFERENTIALS

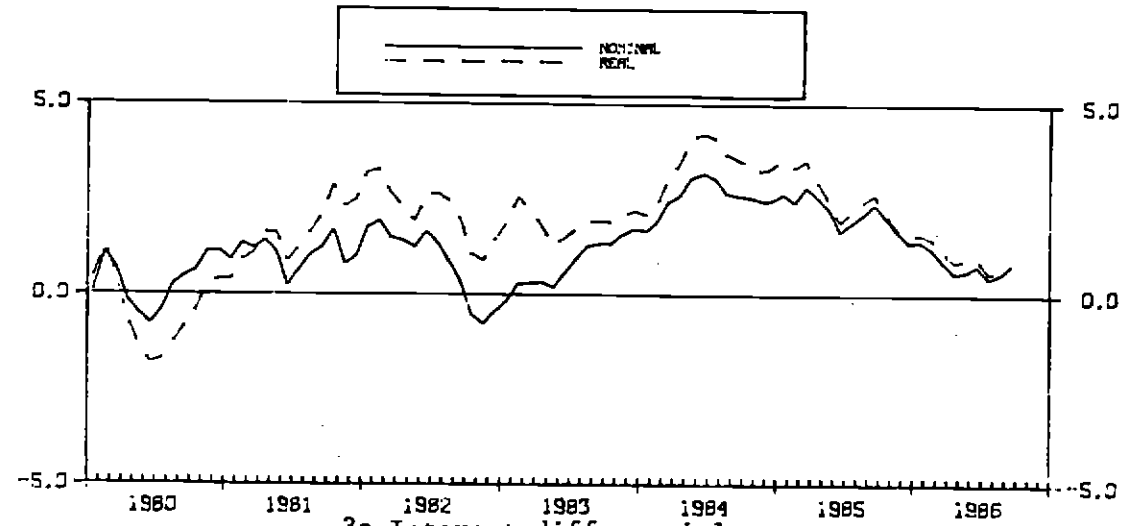


Source: Morgan Guaranty

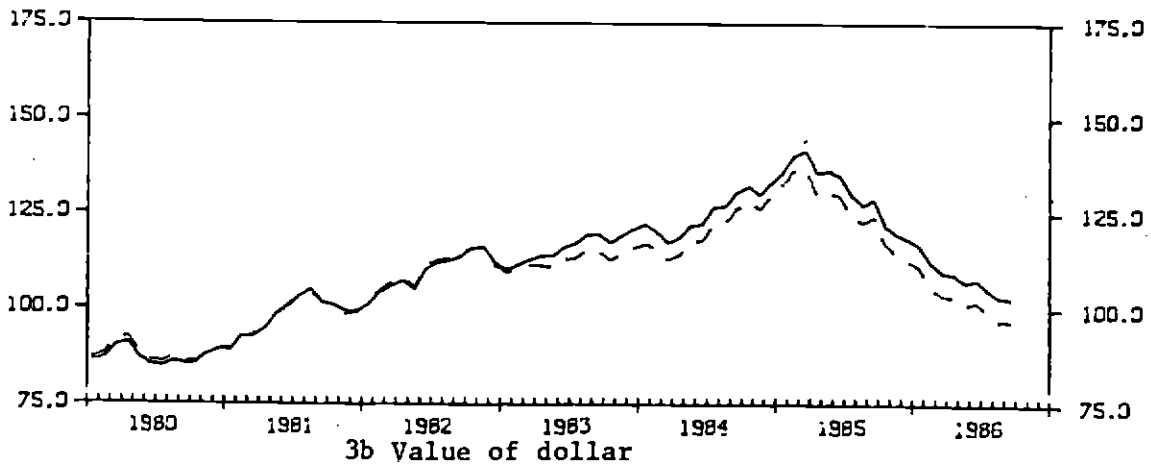
Figure 3

U.S. versus trading partners

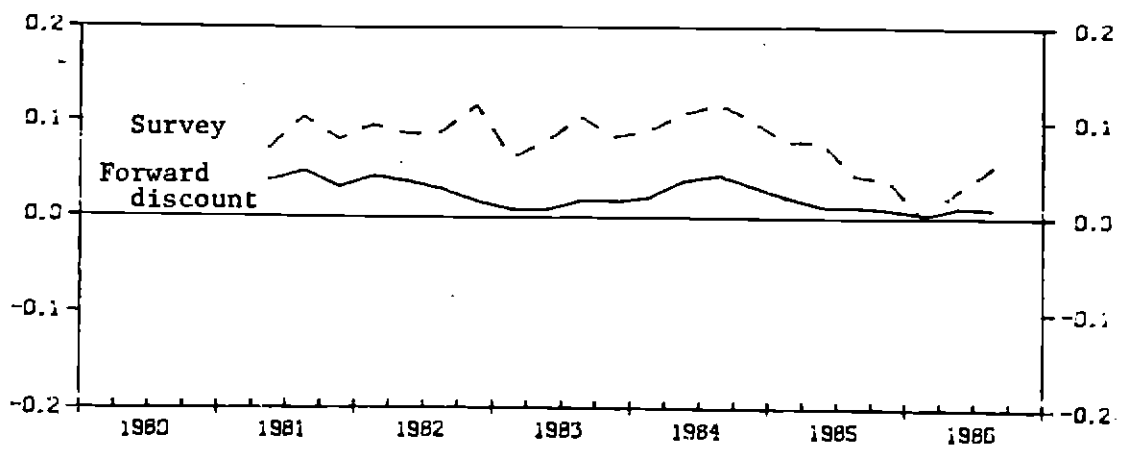
U.S.: NOMINAL AND REAL LONG-TERM INTEREST RATE DIFFERENTIALS, NOMINAL AND REAL EFFECTIVE EXCHANGE RATES, AND 12 MONTH FORWARD DISCOUNT AND 12 MONTH EXPECTED DEPRECIATION



3a Interest differential



3b Value of dollar



3c Measures of expected one-year dollar depreciation

inflow was not large enough to arbitrage it away. It is not clear why U.S. corporations did not elect to do even more of their borrowing in the Euromarket at the cheaper rate.[43]

Figure 2b shows the U.S. and Eurodollar interest rates for government bonds. These Eurodollar bonds are issued by European governments, so the fact that they offered a higher interest rate than the U.S. bonds in the 1970s was presumably compensation for somewhat greater risk of default. But when the U.S. rate rose in 1980-81, the Euromarket rate lagged behind, just as with the corporate bonds; the differential turned positive and reached 1.7 percent in September 1981. When the U.S. corporate and government interest rates fell in mid-1982, the respective Eurobond rates again lagged behind and the differentials returned to their earlier levels.

The drop in the Euro-U.S. long-term differentials in mid-1982 is consistent with the idea that investors sought to shift their portfolios into U.S. assets for "safe haven" reasons associated with the Latin American debt crisis.[44] But the evidence is also consistent with the idea that U.S. interest rates were merely leading the way and Eurodollar rates following with a small lag.

2. U.S. vs. non-dollar interest rates

Figure 3a shows the differential between the U.S. long-term government bond rate and a weighted average of six trading partners' long-term government bond rates (solid line).[45] The differential peaked in June 1984 at 3.19 percent, with the differentials against Germany and Japan somewhat higher. It then declined over the subsequent two years, falling below 1.00 percent in 1986, though still 2.0 percent against Germany and 2.8 percent against Japan as of September 1986.

When comparing incentives to invest in U.S. versus foreign-currency bonds, we must consider exchange rate expectations in addition to interest rates. This is difficult, because there are many different views as to how exchange rates move, and no way to measure expectations directly. But it is possible to get a rough handle on the exchange rate expectations that investors must have held during this period.

There is an historical tendency, albeit very slow and erratic, for the exchange rate eventually to return to a long-run equilibrium in real terms (that is, adjusted for changes in the price level). The large appreciation of the dollar from 1980 to 1984, 35 percent against a weighted average of 15 trading partners' currencies, was not much offset by higher inflation abroad, and so constituted a similar appreciation in real terms, 32 percent.[46] The result of this loss of competitiveness was the rapidly growing trade deficit, which reached $113 billion in 1984 and $124 billion (on a "balance of payments basis") in 1985. It was widely believed at this time that the trade situation was unsustainable, that the dollar was overvalued and would in the future have to depreciate back to levels at which U.S. producers could compete on world markets. Such expectations of future depreciation must have had an effect on investor thinking.

There exist surveys of the forecasts made by participants in the foreign exchange market, and they tend to confirm the idea that the large appreciation of the dollar in the early 1980s generated an anticipation of a future depreciation back to equilibrium. One survey conducted by the American Express Bank Review shows that the forecasted depreciation of the dollar one year ahead climbed from approximately zero in the late 1970s (-0.20 on average in 1976-79) to a peak of 8.47 percent in the year 1984.

Another survey conducted by the Economist Financial Report (beginning only in 1981) shows the forecasted depreciation of the dollar rising to 10.02 per annum in 1984. A third survey, by Money Market Services, Inc., (beginning in 1983) shows three-month ahead forecasts of dollar depreciations rising to 7.26 percent (per annum) in 1984.[47] It seems unlikely that investors based their portfolio decisions on the full magnitude of the expectation depreciation numbers reported in the surveys; since the expected depreciation numbers were considerably in excess of the interest differential, there would not be much incentive for investors to hold dollar assets. It is likely that investors at each point assigned a significant probability to the possibility that the forecasted fall in the dollar would not materialize in the coming year, as was reasonable given that such forecasts had turned out wrong for four years. In that case the rising interest differential could have been an adequate offset for expected depreciation, providing adequate incentive for investors to continue to increase their holdings of dollar securities in the 1981-84 period.

Given our argument that investors expect deviations from long-run equilibrium such as the 1984 overvaluation of the dollar to be corrected, investors' expectations of future depreciation should have diminished after March 1985 when the dollar depreciation finally took place. In other words, if one thinks, as of the end of 1986, that much of the return to equilibrium has already taken place, then one should think that less depreciation remains to be accomplished in the future. The survey data confirm this, as can be seen by the dashed line in Figure 3c. For example, the Economist survey showed an expected one-year depreciation of the dollar against the mark of only 4.9 percent as of October 30, 1986, as compared to

9.3 percent on September 5, 1985, just before the Plaza Accord (or 10.7 percent on average between June 1981 and December 1985). The 1985-86 decline in the expected rate of future depreciation explains how foreign residents would have wished to continue increasing their holdings of dollar assets despite the decline in the nominal interest differential shown in Figure 4a.

A useful alternative way to measure the expected rates of return on different countries assets is to look at the differential in real interest rates, that is, nominal interest rates adjusted for expected inflation.[48] There is no unique way of measuring expected inflation, but the problem is not as difficult as measuring expected exchange rate changes. Alternative possible measures of expected inflation tend to give similar answers.

During the late 1970s, and through 1980, the U.S. real interest rate by the available measures was usually below foreign real interest rates. As Figure 3a shows, the real interest differential increased in the early 1980s even more steadily than did the nominal interest differential, and peaked in June 1984.[49] Depending on whether expected inflation is measured by a three-year distributed lag on actual inflation, the three-year forecast of Data Resources, Inc., or the two-year forecast of the OECD Economic Outlook, the average long-term real interest differential rose between 1979-80 and 1983-84 by 4.79 percentage points, 3.88 percentage points, or 3.54 percentage points.[50] This increase in return differentials was a significant inducement to demand for U.S. assets.

3. U.S. vs. foreign returns on equity

To compare countries' rates of return on real capital we can look at the earnings-to-price ratio or dividend-to-price ratio on equity. These

numbers are already expressed as real rates of return and need not be corrected for inflation. They are reported for stock markets in Europe, the Far East and Australia, in addition to the United States, by Capital International Perspective of Geneva.[51]

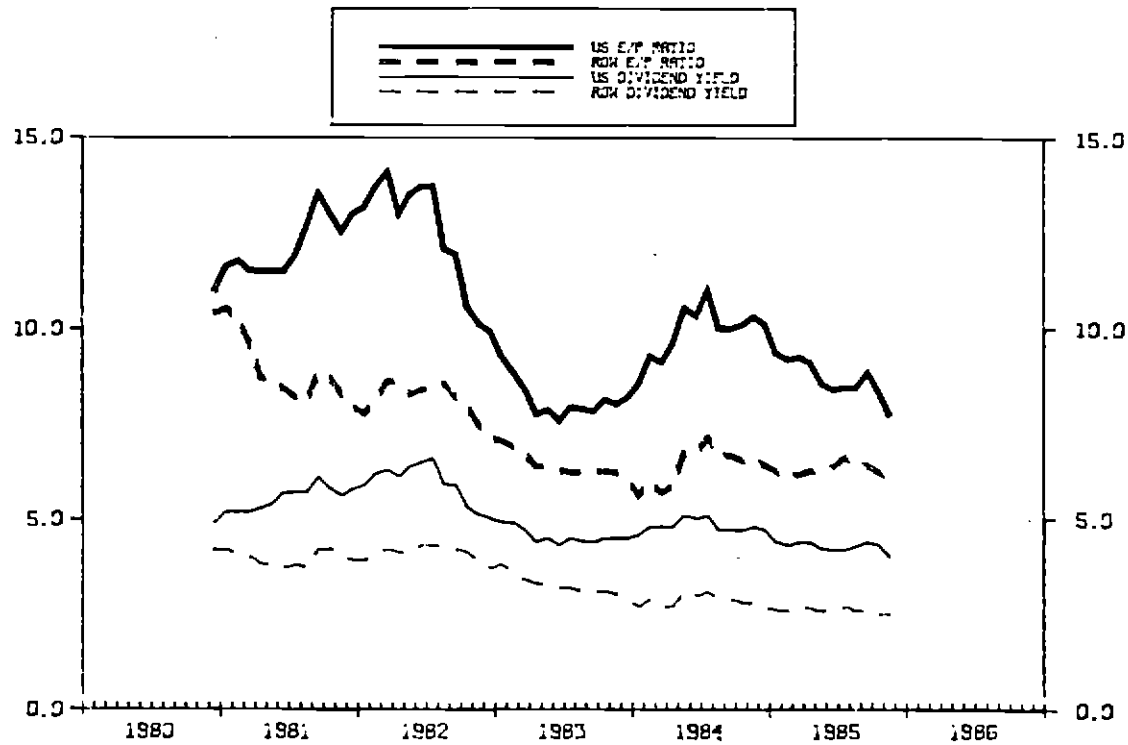
The difference in the rate of return on equity between the United States and abroad is shown in Figure 5. Like the real interest differentials, the measures of return on equity show a substantial increase from 1980 to 1984, with a dip in between at 1983. The difference in dividend yields rose from 1.1 in 1980[52] to 2.3 at the first peak in mid-1982, and 2.1 at the second peak in early 1984. The difference in earnings/price ratios followed a similar pattern, but with larger swings, rising from 1.6 on average in 1980 to 5.6 at the first peak in early 1982, and 3.9 in mid-1984. Both the dividend yield and the earnings/price ratio show the differential between the United States and foreign equity markets declining in 1985 and 1986. As of 1987, the rate of return on U.S. equities was still perceived as high, particularly relative to Japanese equities, attracting new foreign money into the U.S. stock market. The same could have been said for U.S. real estate.

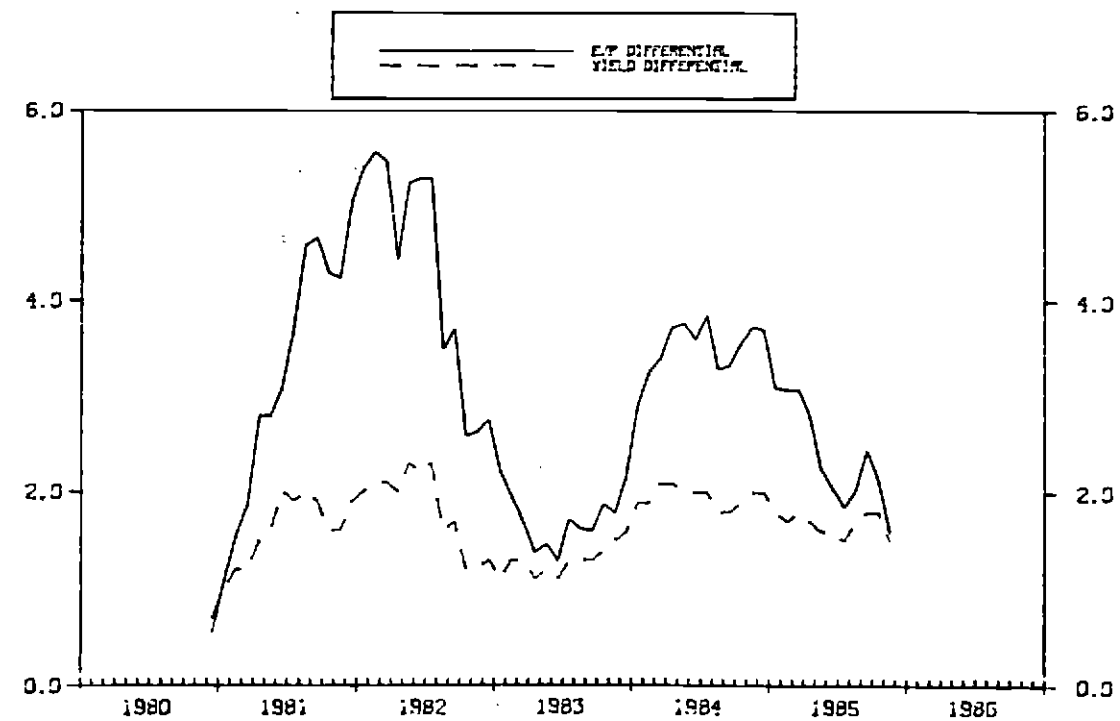
To summarize the results on various assets, they generally show that the low or negative differentials in the rates of return between the United States and other countries in the late 1970s, turned to substantial positive differentials in the early 1980s. Since the dollar was weak in the late 1970s and strong in the early 1980s, the evidence supports the argument that the change in return differentials induced a shift in investor preferences, away from foreign assets and toward U.S. assets. One dent in the simplicity of this story is the dip in return differentials from mid-

Figure 4: Returns on Equity

U.S. vs. Rest of World (Europe, Far East, and Australia)

EARNINGS/PRICE RATIOS AND DIVIDEND YIELDS





Source: Capital International Perspective, Morgan Stanley

1982 to 1983, while the dollar was still appreciating. Some argue that this may have been due to safe-haven effects associated with the debt crisis. The other problem of timing is that the second peak in return differentials occurred nine months before the dollar peaked in March 1985. It is possible that a "speculative bubble" was driving the dollar during that short period, with investors increasing their demand for dollars due to short-term expectations of continued appreciation formed by extrapolating past trends.[53] But the subsequent 1985-1986 decline in the value of the dollar, simultaneous with continued declines in all of the measures of return differentials, supports the causal relationship between the two.

VI. Saving, Investment, and U.S. Macroeconomic Policies

If rates of return have been the driving force behind international capital flows and the exchange rate, what is the driving force behind rates of return?

Interest rates and securities prices are determined by many factors. Particularly on a daily or monthly basis, corresponding fluctuations in the market-clearing price will result from whatever unpredictable fluctuations in demand for an asset occur. Interest rate volatility has been even higher in the 1980s than previously. This is partly the result of deregulation and innovation in world financial markets. However, the dominant source of the longer-term swings in the real rates of return discussed in the preceding section appears to be domestic: U.S. macroeconomic policies. So far in the 1980s, international capital markets have worked to dampen

swings in U.S. rates of return, rather than working as a source of disturbances. But in the future, U.S. interest rates will increasingly be determined at the mercy of foreign investors.

1. Monetary policy

In the latter half of the 1970s, expansionary monetary policy on the part of the Federal Reserve Board drove down U.S. real interest rates. That is, even though nominal interest rates were at high levels by historical standards, the expected inflation rate was also very high, so that the difference of the two was low, even negative. Toward the end of the decade public concern shifted toward the inflation problem, and away from employment and growth which had turned out to be surprisingly steady. The Fed tried to brake the rapid rate of money growth, particularly after Paul Volcker was appointed Chairman, but with no success at first. Monetarist economists charged that the problem was the Fed's use of the nominal interest rate as an intermediate target, as opposed to the supply of bank reserves or the monetary base, which was argued to be evidence of a lack of true commitment to the yearly announced target for growth in the aggregate money supply (M1). By October 1979 Volcker had decided that interest rates would have to be allowed to rise much more sharply if money growth and the inflation rate were to be reduced. He went along with the monetarists to the extent of announcing that the Fed would no longer target the interest rate on federal funds, even on a short-term basis, but would instead target reserves. This was a convenient way of tightening monetary policy without taking the political heat for higher interest rates. Interest rates have been significantly more volatile ever since (though the various measures of the money supply have also been more variable than before).

With a small lag, the new policy produced the anticipated reductionn in demand for goods when interest rates shot up, particularly after credit controls were imposed in March 1980. After the brief 1980 recession had passed, monetary policy was tightened anew, and interest rates climbed further. The period of dollar appreciation dates from this time. The second, more serious, recession began in mid-1981. A major consequence of the higher degree of international capital mobility in the 1980s compared to earlier decades is that changes in monetary policy operate strongly through the exchange rate and foreign demand for U.S. products, rather than solely through the interest rate and domestic demand.

Although nominal interest rates had reached a plateau, and even dropped discretely in August 1982 when the Federal Reserve responded to the Mexican debt crisis and general macroeconomic conditions by increasing money growth, inflation was coming down. Thus, long-term real interest rates continued their general upward trend through mid-1984, with the further consequences for the behavior of international investors and the appreciation of the dollar that we have seen.

Money growth by the conventional measures has been relatively rapid ever since the recession; M1 grew 10.3 percent per year from 1982 II to 1986 II.[54] For the first four years after the acceleration began, the monetarists warned that inflation would resurge with the customary 6 to 18 month lag. Volcker publicly justified exceeding the yearly money targets by pointing to exogenous shifts in velocity (defined as the relationship between the money supply and dollar GNP). The exogenous shifts were at first identified as the special factors of maturing "All-Savers' Certificates" and the nationwide legalizing of interest on checking

accounts, then more generally as the environment of deregulation and innovation in the banking industry. An equally important reason for allowing faster growth in the money numbers was the endogenous shift in velocity that occurs when people wish to hold more money because expected inflation and nominal interest rates have fallen.

In the event, Volcker was right and the monetarists were wrong. Inflation did not reignite during this period. Even with the recovery of real economic activity that began in 1983 I, which proceeded rapidly until mid-1984 and then continued at a considerably slower pace through 1986, nominal GNP grew more slowly than the money supply: 8.0 percent per year from 1982 II to 1986 II.[55] Thus velocity grew at 2.3 (= 10.3 - 8.0) percent per year, in contrast to its past historical pattern of declining roughly 3 percent per year. If the Federal Reserve had followed the explicit monetarist prescription of rigidly precommitting to a money growth rate lower than that of the preceding period, say 3 percent, and velocity had followed the same path, then nominal GNP would have risen at only 0.7 per year. This is an upper bound, because with even lower inflation than occurred, velocity would almost certainly have fallen even more than it did. The implication seems clear that the 1981-82 recession would have lasted another four years.

2. Corporate tax policy and investment

If the velocity-adjusted growth rate of money was not unreasonably high after 1982, neither was it low. How do we explain the fact that the long-term real interest rate in mid-1984 was as high as or higher than it was in mid-1982? Or that even in late 1986 it was still higher than in 1980?

Think of the real interest rate being determined so that the funds needed for investment do not exceed the funds available from saving, the investment rate depending negatively on the real interest rate, and the national saving rate also depending (presumably positively) on the real interest rate.[56] (Investment is defined as additions to business plant and equipment, the residential housing stock, and inventories. National saving is defined as private saving plus public saving.) Then the increase in real interest rates could be due either to an upward shift in investment, a downward shift in national saving, or some combination of the two.[57] We consider first investment.

The productivity slowdown of the 1970s convinced many that enhanced incentives to capital formation were called for, and Ronald Reagan was elected in 1980 in part on that platform.[58] The 1981 tax bill granted liberalized depreciation allowances (ACRS: the accelerated cost recovery system) and a liberalized investment tax credit. When investment grew rapidly in 1983-84, some claimed that the tax incentives, together with the more general pro-business climate (a "golden age of capitalism"), was responsible, and that the demand for funds to finance the investment boom in turn explained the increase in real interest rates and the net capital inflow. The argument seemed to fit in well with the safe-haven explanation for the strength of the dollar. The main problem with it is that the investment rate always rises in expansions, and the increase in the 1983-84 recovery was no greater than the decrease in the 1981-82 recession.[59] By 1985 the investment rate had merely reattained the approximate level of the 1970s, as Table 12 shows.[60] A second argument is that calculations of the benefits of the tax incentives suggest that (1) they were smaller than the

Table 12

U.S. Net Saving and Investment as Percentages of GNP, 1951-85

	1951-60	1961-70	1971-80	1981
Total net saving	6.9%	7.5%	6.1%	5.2%
Net private saving	7.2	8.0	7.1	6.1
Personal saving	4.7	4.7	4.9	4.6
Corporate saving	2.5	3.3	2.2	1.4
State-local government surplus	-0.2	0.1	0.9	1.3
Federal government surplus	-0.2	-0.5	-1.9	-2.2
Total net investment	7.0	7.5	6.3	5.4
Net private domestic investment	6.7	7.0	6.2	5.2
Plant and equipment	2.7	3.5	3.0	3.1
Residential construction	3.2	2.5	2.5	1.3
Inventory accumulation	0.8	1.1	0.7	0.9
Net foreign investment	0.3	0.5	0.1	0.2
Memoranda: Capital consumption	8.9	8.5	9.9	11.2
Gross private saving	16.1	16.4	17.0	17.2

Table 12 continued

U.S. Net Saving and Investment as Percentages of GNP, 1951-85

	1982	1983	1984	1985
Total net saving	1.6%	1.8%	4.1%	3.0%
Net private saving	5.4	5.9	7.4	6.5
Personal saving	4.4	3.6	4.3	3.3
Corporate saving	1.0	2.3	3.1	3.2
State-local government surplus	1.1	1.3	1.4	1.4
Federal government surplus	-4.8	-5.4	-4.8	-4.9
Total net investment	1.6	1.8	3.8	2.8
Net private domestic investment	1.8	2.9	6.4	5.7
Plant and equipment	2.0	1.5	4.8	4.9
Residential construction	0.6	1.8		
Inventory accumulation	-0.9	-0.4	1.6	0.8
Net foreign investment	-0.2	-1.0	-2.6	-2.9
Memoranda: Capital consumption	11.7	11.4	11.0	11.0
Gross private saving	17.1	17.3	18.4	17.6

Source: U.S. Department of Commerce, Survey of Current Business (various issue), and author's estimate.

Notes: Data are averages (except for 1981-85) of annual flows. Date for 1985 are through 1985:Q2 at seasonally adjusted annual rates. Total net saving and total net nvestment differ by statistical discrepancy. Detail may no add to totals because of rounding

increase in real interest rates, so that the after-tax real cost of capital to firms was not reduced, and that (2) the investment boom was concentrated in sectors like office computers, where the tax incentives were not very relevant and a technological explanation seems to fit instead.[61]

Ironically, the Treasury tax reform plan of December 1984, and the revised tax reform plan actually passed by Congress and signed by the President in 1986, sharply raised corporate taxes. The logic was that raising corporate tax revenue was the only way to change personal income tax brackets and deductions in such a way as to leave a majority of taxpayers feeling that they were better off, and simultaneously maintain overall "revenue-neutrality." But the effect was to undo the incentives to investment enacted in 1981.

3. Budget deficit

Having found that there has been no increase in the investment rate, relative to the 1970s, to explain by itself the high level of real interest rates and the high capital inflow in the mid-1980s, we now turn to national saving. We begin with the "dissaving" of the government, that is, the budget deficit.

The federal budget has not been in surplus since 1969. In the 1975 recession the budget deficit reached the then all-time record high of $69 billion. Steady growth in national income over the next four years raised tax revenues, and reduced the deficit to $16 billion by 1979. However, this was still considered too high.

The improbable "Laffer Curve Theory," which held that a reduction in personal income tax rates would stimulate production and income so much as

to raise total tax revenues rather than lower them, helped to convince politicians to enact large tax cuts in 1981, to be installed over three years. At the same time, some categories of domestic spending were cut sharply, but they were a relatively small part of the total. Given the enormous buildup in military expenditure, the exemption of social security benefits from cuts, the runaway increases in some other categories like farm support, and the exogenous fact of enormous interest payments on the national debt, it was inevitable that the federal budget deficit would soar to unprecedented levels. Initially it was possible to blame the increased budget deficit on the reduced tax revenues from the 1981-82 recession. It was claimed that rapid growth in income and therefore in tax revenues would return the budget to balance in a few years. But the tax rate cuts and spending increases were phased in as quickly as income grew. The deficit reached $208 billion in 1983--more than three times the "intolerably high" levels of the late 1970s—and remained in the vicinity of $200 billion for the following four years. The increase in the federal deficit relative to the 1970s was 3.0 percent of GNP, as Table 12 shows.

State and local governments in the aggregate improved their surplus by about $30 billion between 1980 and 1985,[62] or by 0.5 percent of GNP relative to the 1970s, as Table 12 shows. Thus the decline in the general government budget balance was not quite as bad as the decline in the federal budget balance.

4. Private saving

Table 13 reports the total gross national saving rate, including both private and government saving, for the 24 countries in the OECD. The

Table 13

Gross Saving as Percentage of GDP

Country	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
United States	21.0	20.3	19.4	19.5	19.8	18.1	18.3	18.6	20.7	19.3	17.4	17.9	18.9	20.2	20.3	18.3	19.0	15.9	15.2	17.0
Japan	31.5	32.1	34.4	35.8	36.7	40.2	38.0	38.3	39.2	36.3	32.3	32.6	32.0	32.3	31.5	31.1	31.1	30.5	29.8	30.6
Germany	27.2	26.8	25.2	26.8	27.6	28.1	27.1	26.4	26.6	24.8	20.9	22.6	21.8	22.6	22.7	21.8	20.2	20.3	21.2	21.9
France	25.7	25.8	25.7	24.6	25.0	26.2	25.6	26.0	26.0	24.5	23.0	23.0	22.7	22.6	22.8	22.2	19.7	18.6	18.1	18.6
United Kingdom	20.1	19.6	18.4	19.0	21.6	22.0	20.1	19.6	21.0	16.3	15.5	16.0	19.6	19.6	20.0	18.5	17.3	18.2	17.9	19.3
Italy	23.6	22.8	22.8	23.6	24.4	24.2	22.7	22.0	22.4	21.9	20.1	22.1	22.6	22.4	23.0	22.5	19.0	18.4	17.9	18.1
Canada	23.0	23.9	22.6	22.1	23.0	21.2	20.5	21.3	23.5	24.8	21.1	21.3	19.7	20.1	22.5	22.9	22.4	19.0	19.2	19.4
Total of above countries	22.9	22.5	22.0	22.4	23.2	23.0	22.5	23.0	24.9	23.2	20.8	21.4	22.1	23.2	23.1	21.8	21.4	19.5	19.1	20.3
Austria	27.5	28.6	26.9	27.0	28.3	30.3	30.2	30.8	30.6	30.2	25.9	25.0	24.3	25.3	25.7	25.8	24.3	23.9	22.6	24.1
Belgium	23.7	23.6	24.2	23.3	24.4	27.1	25.6	25.5	24.6	25.3	21.8	22.4	20.8	20.5	18.8	17.5	13.5	13.9	14.9	15.6
Denmark	24.6	22.9	21.8	22.3	23.0	21.8	22.4	24.4	24.4	22.1	19.4	19.1	18.9	18.8	16.6	14.9	12.4	12.1	13.9	15.3
Finland	23.7	23.5	23.2	25.6	26.8	28.0	27.9	27.2	28.7	30.4	26.5	24.5	23.7	23.8	25.5	26.0	25.1	23.8	23.7	24.5
Greece	20.5	20.3	20.1	19.5	21.9	25.0	26.4	28.3	32.0	26.5	23.3	24.4	24.5	26.3	28.3	28.9	25.3	18.4	16.6	16.1
Iceland	31.0	28.2	23.3	21.7	27.3	25.8	26.3	25.1	28.8	24.2	23.7	26.5	27.3	25.6	23.6	23.8	21.5	19.1	18.8	18.0
Ireland	19.4	19.0	21.0	20.7	20.9	20.4	20.2	22.9	23.4	19.2	21.8	20.1	22.5	22.2	19.6	16.1	13.1	14.6	16.4	17.5
Luxembourg	30.8	30.0	28.3	29.9	35.0	40.8	36.5	39.3	43.2	47.9	39.1	44.0	41.8	44.8	44.9	46.6	46.1	51.8	54.7	57.5
Netherlands	26.9	26.3	26.6	27.5	26.9	26.5	26.2	26.9	28.3	27.3	23.0	23.6	22.4	21.1	20.4	20.0	20.4	20.8	20.8	23.0
Norway	28.0	27.9	27.7	27.3	25.8	28.3	27.5	27.3	28.4	28.9	26.7	25.2	22.3	23.4	25.3	29.6	29.4	27.7	28.3	30.8

Table 13 (continued, page 2)

Gross Saving as Percentage of GDP

Country	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Portugal	26.3	26.6	30.3	26.4	27.7	31.7	30.4	37.1	36.9	23.0	12.5	15.3	19.7	24.8	27.8	26.8	23.4	22.3	21.2	20.1
Spain	22.6	22.8	22.1	22.8	24.6	24.6	24.7	24.9	25.4	24.6	23.5	21.4	20.8	21.2	20.4	18.8	18.2	17.5	17.6	19.9
Sweden	26.3	25.2	24.9	23.8	23.8	24.8	24.0	23.4	24.1	22.9	23.8	21.4	17.9	17.6	17.8	17.7	15.7	14.2	16.4	17.9
Switzerland	29.9	30.2	30.6	31.3	31.1	32.6	32.9	32.6	32.1	31.7	27.8	26.8	26.5	27.0	26.6	26.7	28.4	28.1	27.9	28.6
Turkey	14.1	16.8	16.9	16.7	16.5	19.2	17.6	20.9	21.4	19.2	18.0	19.6	18.2	16.0	16.5	16.2	18.4	19.0	17.0	17.2
Total smaller European countries	24.8	24.6	24.5	24.5	25.1	26.3	26.0	26.6	27.2	26.0	23.3	22.7	21.6	21.7	21.3	21.1	20.2	19.7	20.0	21.4
Australia	24.6	23.9	23.5	24.0	25.3	25.2	25.8	26.6	27.3	26.6	23.7	23.0	21.9	20.6	22.5	21.9	21.7	19.8	17.9	20.3
New Zealand	20.9	17.9	19.5	20.3	21.3	21.8	25.6	26.6	27.7	23.3	22.5	25.8	22.0	21.2	24.0	21.6	22.8	21.4	21.6	24.5
Total smaller countries	24.6	24.3	24.2	24.3	25.0	26.0	26.0	26.6	27.2	26.0	23.3	22.8	21.6	21.6	21.5	21.2	20.5	19.8	19.8	21.3
Total OECD	23.1	22.7	22.3	22.6	23.4	23.4	23.0	23.5	25.3	23.7	21.2	21.7	22.0	22.9	22.8	21.7	21.2	19.5	19.2	20.4
Four major European countries	24.3	23.9	23.1	23.8	24.9	25.5	24.4	24.1	24.7	22.6	20.3	21.4	21.8	22.0	22.2	21.3	19.2	19.0	19.1	19.8
OECD Europe	24.4	24.1	23.5	24.0	25.0	25.8	24.9	24.8	25.5	23.7	21.3	21.8	21.7	21.9	21.9	21.2	19.5	19.2	19.4	20.3
EEC	24.3	23.9	23.2	23.8	24.9	25.6	24.6	24.5	25.1	23.2	20.7	21.5	21.7	21.9	21.9	20.9	19.0	18.7	18.8	19.7
Total OECD less the United States	25.2	25.2	25.1	25.8	26.9	28.0	27.0	27.3	28.3	26.5	23.5	24.1	23.9	24.4	24.1	23.4	22.6	21.9	22.0	23.1

NOTES TO TABLE 13

Source: National Accounts (annual OECD publication. The data in this table are measured according to the standard definitions of the OECD-United Nations system of accounts. (See A System of National Accounts, Series F, No. 2, Rev. 3, United Nations, 1968.)

Percentages for country groups. The percentages for each group of countries are calculated from the total GDP and gross saving for the group, with both aggregates expressed in US dollars at current exchange rates. Percentages for country groups exclude countries for which no data are shown in the table.

Gross saving is the sum of national disposable income and consumption of fixed capital less consumption expenditure of households and government. It is the surplus available fromm current transactions to finance gross capital formation and capital transactions with the rest of the world. It is the sume of lines 1 and 7 in Table 1 (capital transactions of the nation) of National Accounts, Volume II, Detailed Tables.

FROM: OECD Economic Outlook, May 1986, p. 177.

figure for the United States in 1984 was 17.0 percent, and the average for the others was 23.1 percent. Even aside from public dissaving in the form of government budget deficits, there are disparities in private saving between the United States and other countries. The U.S. household saving rate, at 5.1 percent of disposable income in 1985, is extremely low by international standards. The United Kingdom's is 11.9, West Germany's 13.0, and Japan's 22.5.[63] Japan's especially high rate of household saving has been attributed to, among other things, a pro-saving tax and financial system, a shortage of housing, leisure, and consumption goods on which to spend income, and a demographic bulge in the generation of Japanese who will be retiring over the next 20 years.

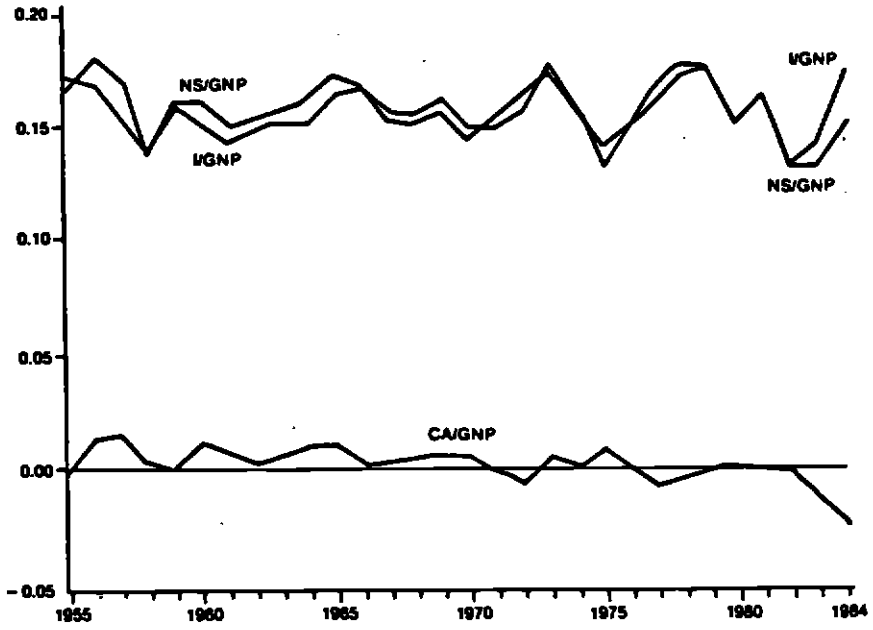
According to some theories, an increase in the U.S. budget deficit such as has occurred in the 1980s should produce an increase in private saving to offset it. The theoretical argument is that households will think ahead to the day when the government has to raise taxes to pay off the debt, and that they will increase their saving today so that they or their children will have the resources to pay those taxes. The original supply-siders in the Administration relied less on that theoretical argument than on the argument that households would respond to a higher after-tax rate of return by saving more. In any case, the predicted increase in the personal saving rate did not materialize. The personal saving rate, as a percentage of disposable personal income, fell from 7.1 percent in 1980 to 5.1 percent in 1985. Corporate saving rose, on the other hand, by 1 percent of GNP in 1985 relative to the 1970s. When personal and corporate saving are added together, total private saving as a share of GNP in 1985 was approximately the same as it was on average in the 1970s.

Thus, there was no upsurge in private saving to offset the increase in the budget deficit. This means that there was less national saving left over to finance investment.

5. The relationship between national saving and investment

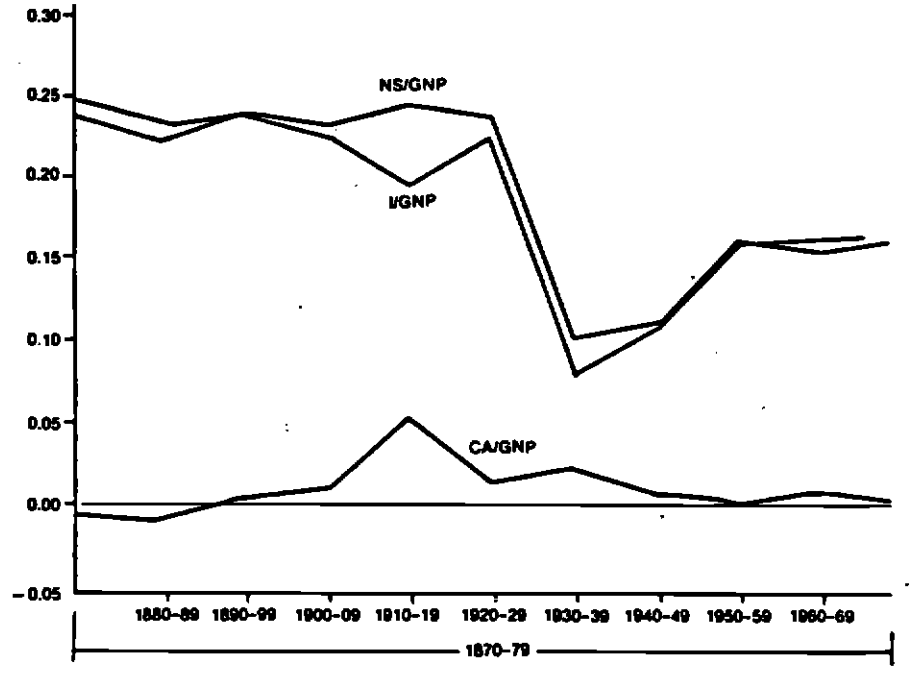
In a closed economy, that is, one cut off from the rest of the world, the fall in national saving would have driven up the cost of capital however much necessary to reduce the level of investment to the level of domestic funds available to finance it.[64] As it was, the cost of capital did rise in the 1980s, whether measured as the real interest rate or the return on equity, as we saw in the previous section. But because the increase in interest rates attracted a large capital inflow ("net foreign investment," in Table 9), investment in plant and equipment was not crowded out as much as it otherwise would have been. The net capital inflow is precisely the current account deficit, which has generated so much concern, viewed from its more flattering profile. That a decline in national saving must either be offset by a net capital inflow or else reflected as a decline in investment, is a very general proposition; the natural mechanism is the increase in real interest rates, but the proposition must hold, no matter what happens to financial market prices.

An interesting question is how changes in national savings have been divided between changes in capital flow and changes in investment in prior historical episodes. Figure 5 shows U.S. national saving, investment and the current account surplus (capital outflow) over the last three decades, each as shares of GNP. The saving rate and investment rate move closely together; the difference between the two, the current account, moves



Source: 1985 *Economic Report of the President.*

Figure 5 U.S. National Saving (NS), Investment (I), and Current Account (CA) as Shares of GNP, 1955–84



Sources: Roger Ransom and Richard Sutch, "Domestic Saving as an Active Constraint on Capital Formation in the American Economy, 1839–1928: A Provisional Theory." University of California Project on the History of Saving, Working Paper no. 1. University of California-Berkeley, 1983, Tables 4 and E1; and U.S. Department of Commerce, *Historical Statistics of the U.S.*

Figure 6 U.S. National Saving (Private Saving plus Government Budget Surplus) (NS), Investment (I), and Current Account (CA) as Shares of GNP, 1870–1979

Table 14 Gross fixed capital formation as percentage of GDP (Part 1 of 5)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
United States	18.7	18.5	17.9	18.1	18.2	17.6	18.1	18.7	19.16	18.4
Japan	29.8	30.4	32.0	33.2	34.4	35.5	34.2	34.1	36.4	34.8
Germany	26.1	25.4	23.1	22.4	23.3	25.5	26.1	25.4	23.9	21.6
France	23.3	23.7	23.8	23.3	23.4	23.4	23.6	23.7	23.8	24.3
United Kingdom	18.5	18.5	19.1	19.4	18.9	19.0	18.9	18.7	20.0	20.9
Italy	19.3	18.8	19.5	20.3	21.0	21.4	20.4	19.8	20.8	22.4
Canada	23.5	24.5	23.2	21.5	21.4	20.8	21.8	21.7	22.4	23.0
Total of above countries	20.9	20.8	20.5	20.7	21.1	21.3	21.6	22.1	23.0	22.4
Austria	27.3	27.8	26.6	25.7	25.1	25.9	27.9	30.2	28.5	28.4
Belgium	22.4	22.9	22.9	21.5	21.3	22.7	22.1	21.3	21.4	22.7
Denmark	24.1	24.1	24.2	23.4	24.6	24.7	24.2	24.6	24.8	24.0
Finland	26.3	26.5	25.1	23.1	23.8	26.3	27.5	27.9	28.8	29.8
Greece	21.6	21.7	20.3	23.2	24.6	23.6	25.2	27.8	28.0	22.2
Iceland	27.2	28.5	32.1	32.7	25.7	25.0	30.7	29.2	31.6	33.9
Ireland	21.4	19.8	20.1	20.9	23.3	22.7	23.6	23.7	25.3	24.6
Luxembourg	28.0	26.6	23.9	22.1	22.2	23.1	28.4	27.8	27.3	24.5
Netherlands	25.2	26.3	26.4	26.9	24.6	25.9	25.4	23.6	23.1	21.9
Norway	28.2	28.7	29.7	26.9	24.3	26.5	29.7	27.7	29.3	30.5

Table 14 Gross fixed capital formation as percentage of GDP (Part 2 of 5)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Portugal	22.8	25.1	26.6	22.2	22.6	23.2	24.7	27.1	26.8	26.0
Spain	21.7	22.0	22.3	22.8	23.2	23.2	21.2	22.2	23.6	24.7
Sweden	24.7	24.8	24.8	23.9	23.2	22.5	22.0	22.2	21.9	21.5
Switzerland	28.7	27.4	26.0	25.6	25.8	27.5	29.2	29.7	29.4	27.6
Turkey	14.6	15.9	16.4	17.3	17.4	18.6	17.0	20.2	20.1	18.6
Total smaller European countries	24.0	24.3	24.1	23.7	23.4	24.1	24.2	24.5	24.7	24.3
Australia	27.7	27.3	26.5	26.9	26.7	26.5	26.9	25.2	24.4	23.8
New Zealand	21.9	21.9	20.3	18.5	19.6	20.8	20.7	22.5	22.7	25.9
Total smaller countries	24.4	24.6	24.3	24.0	23.7	24.3	24.5	24.5	24.6	24.3
Total OECD	21.3	21.3	21.0	21.1	21.5	21.7	22.0	22.4	23.2	22.7
Four major European countries	22.2	22.0	21.6	21.6	21.9	22.7	22.8	22.5	22.6	22.3
OECD Europe	22.7	22.7	22.4	22.2	22.3	23.2	23.3	23.1	23.3	23.0
EEC	22.4	22.3	22.0	22.0	22.2	23.0	22.9	22.7	22.8	22.6
Total OECD less the United States	23.9	24.0	24.0	24.1	24.5	25.3	25.3	25.3	26.0	25.5

Table 14 Gross saving as percentage of GDP (Part 3 of 5)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
United States	17.0	17.1	18.3	19.5	19.8	18.5	17.8	16.5	16.8	17.9
Japan	32.5	31.2	30.2	30.4	31.7	31.6	30.7	29.7	28.3	27.8
Germany	20.4	20.1	20.2	20.7	21.8	22.7	21.8	20.5	20.6	20.3
France	23.3	23.3	22.3	21.4	21.5	21.9	21.4	20.8	19.8	18.9
United Kingdom	19.9	19.4	18.6	18.5	18.8	18.1	16.4	16.4	16.4	17.4
Italy	20.6	20.0	19.6	18.7	18.8	19.8	20.2	19.0	17.9	18.2
Canada	24.0	23.1	22.7	22.2	22.6	22.8	23.5	21.5	19.2	18.1
Total of above countries	21.0	20.8	21.2	21.9	22.3	21.8	21.1	19.9	19.5	19.9
Austria	26.7	26.0	26.7	25.6	25.1	25.5	25.2	23.0	22.2	21.8
Belgium	22.5	22.1	21.7	21.7	20.8	21.2	18.1	17.4	16.4	16.1
Denmark	21.1	23.0	22.1	21.7	20.9	18.8	15.6	16.1	15.9	17.3
Finland	31.3	27.9	27.0	24.0	23.2	25.3	25.0	24.9	25.1	23.4
Greece	20.8	21.2	23.0	23.9	25.8	24.2	22.3	20.2	20.3	18.6
Iceland	33.2	28.7	27.8	24.8	23.7	25.3	24.8	25.1	22.5	22.2
Ireland	22.7	25.0	24.8	27.7	30.5	28.6	29.1	25.9	22.7	21.0
Luxembourg	27.8	24.9	25.1	24.1	24.3	27.0	25.4	25.9	23.7	22.2
Netherlands	21.1	19.4	21.1	21.3	21.0	21.0	19.2	18.2	18.1	18.4
Norway	34.2	36.3	37.1	31.8	27.7	24.8	28.0	25.5	24.8	25.6

Table 14 Gross saving as percentage of GDP (Part 4 of 5)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Portugal	25.9	25.1	26.5	27.9	26.6	28.6	32.2	32.3	30.3	24.7
Spain	23.3	21.8	21.0	19.9	18.9	19.4	20.3	19.7	18.8	17.8
Sweden	20.9	21.2	21.1	19.4	19.8	20.2	19.2	18.8	18.7	18.4
Switzerland	24.0	20.6	20.7	21.4	21.8	23.8	24.1	23.1	23.3	23.3
Turkey	20.8	23.1	24.4	21.9	20.8	19.9	19.3	19.1	18.9	18.5
Total smaller European countries	23.5	22.9	23.1	22.2	21.6	21.8	21.4	20.6	20.2	19.7
Australia	24.2	24.1	23.8	23.8	23.1	23.9	25.6	24.8	22.3	21.8
New Zealand	27.0	24.8	22.4	20.8	18.2	18.2	21.2	23.0	22.7	21.5
Total smaller countries	23.6	23.1	23.2	22.4	21.7	22.0	21.9	21.2	20.5	20.1
Total OECD	21.5	21.2	21.5	22.0	22.2	21.8	21.3	20.1	19.7	19.9
Four major European countries	21.1	20.9	20.4	20.2	20.6	21.0	20.1	19.4	18.9	18.9
OECD Europe	21.9	21.6	21.3	20.9	21.0	21.3	20.5	19.8	19.3	19.2
EEC	21.4	21.0	20.7	20.5	20.7	21.0	20.1	19.4	18.9	18.7
Total OECD less the United States	24.2	23.8	23.5	23.4	23.5	23.6	23.4	22.4	21.7	21.6

Table 14 Gross saving as percentage of GDP (Part 5 of 5)

Source: National Accounts (annual OECD publication). The data in this table are measured according to the standard definitions of the OECD-United Nations system of accounts. (See A System of National Accounts, Series F, No. 2, Rev. 3. United Nations, 1968.)

Percentages for country groups. The percentages for each group of countries are calculated from the total GDP and gross fixed capital formation for the group, with both aggregates expressed in US dollars at current exchange rates.

From OECD Economic Outlook, May 1986, p. 176

less. That is, before the 1980s, foreign capital usually played a small role in financing U.S. investment.

But it would be wrong to conclude from this correlation alone that a change in national saving resulting from an exogenous change in fiscal policy is necessarily reflected in investment rather than in the current account. The close correlation between saving and investment rates in Figure 5 could result from the effect of a third factor on both, rather than a causal relationship between the two. The business cycle is the most obvious third factor: saving rates and investment rates are both known to rise in booms and fall in recessions.

There are several ways of attempting to address this problem. One would be to adjust saving and investment cyclically, or to use more sophisticated econometric techniques. A second is to look at saving and investment rates across countries rather than over time. Table 14 gives the investment rates for 24 countries to match the national saving rates in Table 13. It is clear that a country like the United States--or Belgium, Denmark and Sweden--that has a low rate of national saving, also tends to have a low rate of investment; the countries like Japan--or Finland, Norway and Switzerland--that have high saving rates tend to have high investment rates.

A third way to get around the problem of cyclical variation in saving and investment is to average yearly observations over somewhat longer time intervals to take out some of the cyclical effect. Figure 6 shows decade averages of saving, investment and the current account from the 1870s to the 1970s. The saving and investment rates are still highly correlated. The only time when the two diverged as widely as they have in the mid-1980s

was the 1910s. United States investment had fallen slightly below national saving, that is, the country had begun to run current account surpluses, in the 1890s. But this capital outflow reached its highest during World War I , as the United States was lending to finance dissaving in Europe. Subsequent divergences between saving and investment were much smaller.

The experience of the 1980s stands out among industrialized countries, even if we look only at the absolute magnitude of the net capital flow (as opposed to the direction). The United States and other economies, which erected barriers to trade and capital flows in the 1930s and 1940s, have become more integrated since. The increasing degree of integration of financial markets in the 1970s and 1980s allows countries to have different saving rates without the differences in investment rates having to be as large; international capital flows make up the difference.

6. The United States as a net debtor

The U.S. current account at present stands out, even more than by virtue of its absolute magnitude, because a wealthy country is running persistent deficits. Through most of the 20th century the United States has run current account surpluses, as we have seen. Even in the 1970s, when the two oil shocks raised import spending, the current account was on average equal to zero.

As the direct implication of the current account surpluses from the 1980s to the 1960s, the United States was accumulating net claims on foreigners. During World War I the country passed from being a net debtor vis-a-vis the rest of the world, to being a net creditor. By 1981 the United States had attained a recorded net investment position of $140.7

billion (with 37 percent of the private assets consisting of direct investment and 47 percent consisting of bank-reported claims).[65]

Net interest and other income on this investment position earned $34.1 billion in 1981, more than enough to pay for the deficit in merchandise trade and leave a surplus in goods and services or in the overall current account. But the current account went into deficit in 1982, as we have seen, as a result of the pattern of high U.S. real interest rates, capital inflow from abroad, strong dollar, and U.S. trade deficit. The situation deteriorated rapidly. By 1985 the current account deficit reached $117.7 billion. (Despite the depreciation of the dollar that began in March 1985, the current account deficit in 1986 was in the neighborhood of $135 billion.) It took only three years of current account deficit to undo a century of accumulation of foreign assets. Sometime in early 1985[66] the country on the books returned to net-debtor from net-creditor status, as Table 15 shows. By the end of 1986 the U.S. recorded position was approximately -$225 billion, a debt far higher than the creditor position was at its peak. Even if the depreciated dollar leads to an improved trade balance in 1987, as it is expected to in line with the customary lags, the United States will probably continue to run substantial trade deficits for quite a few years, and the net debt will continue to mount rapidly.

Even if the 1985-86 depreciation of the dollar soon reduces the trade deficit to a plateau of $100 billion, the net debt position would reach the vicinity of $600 billion by the end of 1989. Simply multiplying by an interest rate would suggest that the annual cost of interest and dividends to investors in other countries would then run on the order of $40 to $50 billion. In other words, to eliminate the overall current account deficit

Table 15

International Investment Position of the United States at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of Investment	Position 1984[r]	Changes in position in 1985 (decrease (-))					Position 1985[p]
			Capital flows (a)	Attributable to: Price changes (b)	Attributable to: Exchange[1] rate (c)	Other changes[2] (d)	Total (a+b+c+d)	
1	Net international investment position of the United States (line 2 less line 20)	4,384	-94,670	-24,335	7,007	174	-111,824	-107,440
2	U.S. assets abroad	898,187	32,436	11,991	8,540	1,212	54,180	952,367
3	U.S. official reserve assets	34,187	3,436	.....	4,400	-6	8,252	43,185
4	Gold	11,096	.....			[3] -6	-6	11,090
5	Special drawing rights	5,641	897	.....	755	.....	1,652	7,293
6	Reserve position in the International Monetary Fund	11,541	-908	.....	1,314	.....	406	11,947
7	Foreign currencies	6.656	3,869	.....	2,331	.....	6,200	12,856
8	U.S. Government assets, other than official reserve assets	84,636	2,824	.....	-42	.....	2,782	87,418
9	U.S. loans and other long-term assets[4]	82,657	2,935	.....	-7	2	2,930	85,587
10	Repayable in dollars	80,487	2,961	.....	1	2	2,964	83,811
11	Other[5]	1,810	-26	.....	-8	.....	-34	1,776
12	U.S. foreign currency holdings and U.S. short-term assets	1,979	-111	.....	-35	-2	-148	1,831
13	U.S. private assets	778,618	25,754	11,991	4,182	1,218	43,146	821,764
14	Direct investment abroad	212,994	18,752	.....	.....	921	19,673	232,667
15	Foreign securities	89,997	7,977	11,991	4,182	.....	24,150	114,147
16	Bonds	62,071	4,018	5,688	1,648	.....	11,354	73,425
17	Corporate stocks	27,926	3,959	6,303	2,534	.....	12,796	40,722
18	U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	29,996	-1,665	.....	.....	-111	-1,776	28,220
19	U.S. claims reported by U.S. banks, not included elsewhere	445,631	691	.....	.....	408	1,099	446,730

Table 15 (continued, left side, page 2)

International Investment Position of the United States at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of Investment	Position 1984[r]	Changes in position in 1985 (decrease (-)) Attributable to: Capital flows (a)	Price changes (b)	Exchange rate[1] (c)	Other changes[2] (d)	Total (a+b+c+d)	Position 1985[p]
20	Foreign assets in the United States	893,803	127,106	36,326	1,533	1,038	166,004	1,059,807
21	Foreign official assets in the U.S.	199,127	-1,324	4,507	.....	-2	3,181	202,308
22	U.S. Government securities	143,014	-841	1,563	.....	.....	722	143,736
23	U.S. Treasury securities	135,510	-546	1,072	.....	.....	526	136,036
24	Other	7,504	-295	491	.....	.....	196	7,700
25	Other U.S. Government liabilities[9]	14,798	483	.....	.....	-1	482	15,280
26	U.S. liabilities reported by U.S. banks,	26,090	522	.....	.....	-1	521	26,611
27	Other foreign official assets	15,225	-1,488	2,944	.....	.....	1,456	16,681
28	Other foreign assets in the United States	694,676	128,430	31,819	1,533	1,040	162,823	857,499
29	Direct investment in the United States	164,583	17,856	.....	.....	512	18,368	182,951
30	U.S. Treasury securities	58,330	20,500	5,002	.....	.....	25,502	83,832
31	U.S. securities other than U.S. Treasury securities	128,560	50,859	26,817	1,533	.....	79,210	207,770
32	Corporate and other bonds	32,724	46,004	1,569	1,533	.....	49,107	81,831
33	Corporate stocks	95,836	4,855	25,248	.....	.....	30,103	125,939
34	U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	31,024	-1,172	.....	.....	-750	-1,922	29,102
35	U.S. liabilities reported by U.S. banks,	312,179	40,387	.....	.....	1,278	41,665	353,844

Table 15 (continued, center, page 1)

International Investment Position of the United States at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of Investment	Position by area					
		Western Europe		Canada		Japan	
		1984	1985	1984	1985	1984	1985
1	Net international investment position of the United States (line 2 less line 20)	-150,522	-198,480	56,511	52,926	-19,269	-45,531
2	U.S. assets abroad	272,148	316,552	115,006	118,670	48,362	56,288
3	U.S. official reserve assets	4,119	8,491	(*)	(*)	2,037	4,365
4	Gold	.....	.....	.....	.....	.....	.....
5	Special drawing rights	.....	.....	.....	.....	.....	.....
6	Reserve position in the International Monetary Fund	.....	.....	.....	.....	.....	.....
7	Foreign currencies	4,119	8,491	(*)	(*)	2,037	4,365
8	U.S. Government assets, other than official reserve assets	10,511	10,179	709	619	443	361
9	U.S. loans and other long-term assets[4]	10,419	10,036	676	589	425	339
10	Repayable in dollars	10,172	9,815	676	589	425	339
11	Other[5]	247	221	.....	.....	.....	.....
12	U.S. foreign currency holdings and U.S. short-term assets	92	143	33	30	18	22
13	U.S. private assets	257,518	297,282	114,297	118,051	45,882	51,562
14	Direct investment abroad	92,017	106,762	46,830	46,435	7,920	9,095
15	Foreign securities	31,414	50,063	40,662	46,806	3,508	5,383
16	Bonds	19,667	29,748	29,671	33,297	659	1,532
17	Corporate stocks	11,747	20,315	10,991	13,509	2,849	3,851
18	U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	9,479	9,796	5,158	4,429	1,544	1,491
19	U.S. claims reported by U.S. banks, not included elsewhere	124,608	131,261	21,647	20,381	32,910	35,593

Table 15 (continued, center, page 2)

International Investment Position of the United States at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of Investment	Position by area					
		Western Europe		Canada		Japan	
		1984	1985	1984	1985	1984	1985
20	**Foreign assets in the United States**	422,670	515,032	58,485	65,744	101,819	188,729
21	Foreign official assets in the U.S.	72,322	77,862	1,686	1,473	([8])	([8])
22	U.S. Government securities	([7])	([7])	([7])	([7])	([8])	([8])
23	U.S. Treasury securities	([7])	([7])	([7])	([7])	([8])	([8])
24	Other	([7])	([7])	([7])	([7])	([8])	([8])
25	Other U.S. Government liabilities[9]	2,684	3,098	157	156	1,564	1,361
26	U.S. liabilities reported by U.S. banks,	([7])	([7])	([7])	([7])	([8])	([8])
27	Other foreign official assets	([7])	([7])	([7])	([7])	([8])	([8])
28	Other foreign assets in the United States	350,348	437,170	56,809	64,271	([8])	([8])
29	Direct investment in the United States	108,211	120,906	15,286	16,678	16,044	19,116
30	U.S. Treasury securities	([7])	([7])	([7])	([7])	([8])	([8])
31	U.S. securities other than U.S. Treasury securities	89,519	150,117	19,718	25,317	4,193	10,542
32	Corporate and other bonds	25,585	67,453	1,290	1,579	2,910	8,628
33	Corporate stocks	63,934	82,664	18,428	23,738	1,283	1,914
34	U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	11,412	11,986	3,022	2,388	2,475	2,969
35	U.S. liabilities reported by U.S. banks, not included elsewhere	([7])	([7])	([7])	([7])	([8])	([8])

Table 15 (right side, page 1)

International Investment Position of the U.S. at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of investment	Position, by area: Latin American Republics and other Western Hemisphere		Position, by area: Other Countries international organizations and unallocated	
		1984	1985	1984	1985
1	Net international investment position of the United States (line 2 less line 20)	78,311	54,048	39,350	29,597
2	U.S. assets abroad	267,040	266,102	195,630	194,755
3	U.S. official reserve assets	500	.....	28,277	30,330
4	Gold	.....	.....	11,096	11,090
5	Special drawing rights	.....	.....	5,641	7,293
6	Reserve position in the International Monetary Fund	.....	.....	11,541	11,947
7	Foreign currencies	500	.....	.....	.....
8	U.S. Government assets, other than official reserve assets	15,510	16,535	57,462	59,723
9	U.S. loans and other long-term assets[4]	15,154	16,245	55,983	58,377
10	Repayable in dollars	14,730	15,854	54,844	57,213
11	Other[5]	424	391	1,139	1,164
12	U.S. foreign currency holdings and U.S. short-term assets	356	290	1,479	1,346
13	U.S. private assets	251,030	249,567	109,891	104,702
14	Direct investment abroad	25,229	29,479[6]	40,998[6]	40,896
15	Foreign securities	2,689	2,225	11,724	9,670
16	Bonds	2,087	1,548	9,987	7,300
17	Corporate stocks	602	677	1,737	2,370
18	U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns	10,237	9,457	3,578	3,047
19	U.S. claims reported by U.S. banks,	212,875	208,406	53,591	51,089

Table 15 (right side, page 2)

International Investment Position of the U.S. at Yearend, 1984 and 1985

(Millions of dollars)

Line	Type of investment	Position, by area: Latin American Republics and other Western Hemisphere 1984	Latin American Republics and other Western Hemisphere 1985	Other Countries international organizations and unallocated 1984	Other Countries international organizations and unallocated 1985
20	**Foreign assets in the United States**	188,729	212,054	156,280	165,158
21	Foreign official assets in the U.S.	9,359	11,781	(8)	(8)
22	U.S. Government securities	(7)	(7)	(8)	(8)
23	U.S. Treasury securities	(7)	(7)	(8)	(8)
24	Other	(7)	(7)	(8)	(8)
25	Other U.S. Government liabilities[9]	908	766	9,487	9,899
26	U.S. liabilities reported by U.S. banks,	(7)	(7)	(8)	(8)
27	Other foreign official assets	(7)	(7)	(8)	(8)
28	Other foreign assets in the United States	179,370	200,273	(8)	(8)
29	Direct investment in the United States	16,201	17,050	8,841	9,201
30	U.S. Treasury securities	(7)	(7)	(8)	(8)
31	U.S. securities other than U.S. Treasury securities	8,107	12,314	7,023	9,480
32	Corporate and other bonds	1,236	1,826	1,703	2,345
33	Corporate stocks	6,871	10,488	5,320	7,135
34	U.S. liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns	7,190	4,654	6,925	7,105
35	U.S. liabilities reported by U.S. banks, not included elsewhere	(7)	(7)	(8)	(8)

NOTES TO TABLE 15

r. Revised.

p. Preliminary.

*. Less than $500,000 (+ or -)

1. Represents gains or losses on foreign currency-denominated assets due to their revaluation at current exchange rates.

2. Includes changes in coverage, statistical discrepancies, and other adjustments to the value of assets.

3. Reflects U.S. Treasury sales of gold medallions and commemorative and bullion coins; these demonetizations are not included in international transactions capital flows.

4. Also includes paid-in capital subscriptions to international financial institutions and outstanding amounts of miscellaneous claims that have been settled through international agreements to be payable to the U.S. Government over periods in excess of 1 year. Excludes World War I debts that are not being serviced.

5. Includes indebtedness that the borrower may contractually, or at its option, repay with its currency, with a third country's currency, or by delivery of materials or transfer of services.

6. Includes, as part of international and unallocated, the estimated direct investment in international shipping companies, in operating oil and gas drilling equipment that is moved from country to country during the year, and in petroleum trading companies.

7. Details not shown separately are included in totals in lines 21 and 28.

8. Details not shown separately are included in line 20.

9. Primarily includes U.S. Government liabilities associated with military sales contracts and other transactions arranged with or through foreign official agencies.

in the 1990s would then require not just an elimination of the remaining $100 billion trade deficit, but a reversal to a trade surplus of $40 to $50 billion in order to earn the money to service the debt that has been incurred in the meantime.

Calculation of the interest and dividend payments is more complicated than this, however, because different assets pay different rates of return and the composition of U.S. overseas assets is different from the composition of U.S. liabilities. Foreign investments in the United States are somewhat more concentrated in Treasury and other bonds (19.3 percent of privately-held assets) as opposed to direct investment (21.3 percent) and bank-reported liabilities (41.3 percent). (Corporate stocks are 14.7 percent, and other U.S. liabilities are 3.4 percent.) This is as compared to U.S. investments abroad which are relatively less concentrated in bonds (8.9 percent of private assets) and relatively more in direct investment (28.3 percent) and bank-reported assets (54.4 percent). (Corporate stocks are 5.0 percent, and other U.S. assets are 3.4 percent.) Earnings on direct investment and bank loans tend to be greater than interest earned on bonds; as a result, recorded earnings on U.S. assets abroad still exceed recorded payments on foreign investments in the United States, even a year after its return to net debtor status. In 1986 (first three quarters), the recorded return on all U.S. investments abroad ran at an average 9.7 percent, the payment rate on U.S. liabilities at only 6.5 percent. If this differential holds up, the recorded balance on overseas investment income will decline more slowly than one would otherwise think. But an unprecedented decline will nevertheless take place. Estimates by the Institute of International Economics place the likely 1990 investment income balance in

the range of -$15 to -$25 billion (Islam, 1987).

If the funds borrowed from abroad in the 1980s were being used to finance productive investment in plant and equipment, then the additional output would be available in future decades to service the debt. Unfortunately, as we have seen, the funds have been going to finance the federal budget deficit (or, equivalently, to offset crowding out of private investment). As many less developed debtor countries have discovered over the last five years, military arms or consumer goods don't generate the foreign exchange earnings needed to service the debt incurred when they were purchased.

It must be noted that all of the above figures on the U.S. net indebtedness position are subject to more than the usual amount of measurement error. The two major sources of error go in opposite directions. On the one hand, if most of the statistical discrepancy in the balance of payments, which has run at roughly $25 billion a year from 1979 to 1986, is unreported capital inflows, then the true net indebtedness is worse by some $200 billion.[67] On the other hand, some of the foreign assets acquired in the past, particularly direct investment, have undergone increases in value that are not reflected in the figures, suggesting that the true position may be better than recorded. It seems likely that the first effect is at least as important as the second. The Federal Reserve Board estimates that the country may have become a net debtor in 1983 rather than 1985, with net indebtedness reaching $235 billion in 1985.[68] In any case, the sheer magnitude of the current account deficits guarantees that the net indebtedness position is deteriorating very rapidly.

6. Conclusion

Massive U.S. borrowing from the rest of the world in the 1980s is the result of massive borrowing by the U.S. government. By 1980, the U.S. government had accumulated a debt of $914 billion over two centuries. This debt precisely doubled by 1985, and is estimated to have reached $2,130 billion by the end of 1986.[69] The role of foreigners in financing the U.S. budget deficit is dramatized by the fact that foreign owership of Treasury securities is rising rapidly; recorded private holdings stood at $84 billion as of the end of 1985, and official holdings at $136 billion. But from an economic viewpoint, it is immaterial whether foreign residents buy U.S. government debt directly or whether they lend the money to private U.S. residents who use it to buy government debt.

The big increase in government borrowing after 1980 was not on the whole accommodated by monetary policy. While the total federal debt doubled, the debt held by the Federal Reserve went up by somewhat less and consequently the debt held by the public went up somewhat more. The borrowing drove up real interest rates in the United States, attracting capital inflows from all parts of the world and in all forms. This capital inflow has been made easier by reduced taxes and controls on international capital movements and a general trend of liberalization and innovation. The favorable aspect of the inflow is that by helping to finance the federal deficit it has kept U.S. real interest rates lower than they would otherwise be. The unfavorable aspect is that the counterpart to the record capital account surpluses are the record trade and current account deficits.[70]

The widespread feeling is that these imbalances are unsustainable. The U.S. trade deficit may be politically unsustainable, in the sense that Congressmen will be pushed, by those of their constituents that suffer from the international competition, into enacting protectionist barriers. This would be very costly both for the country as a whole and for the world trading system as a whole.

It is also possible that the borrowing from abroad is unsustainable in the sense that at some point foreigners will tire of accepting ever-larger quantities of U.S. assets into their portfolios. The consequence then could be a sharp fall in the value of the dollar combined with a sharp increase in U.S. interest rates. For the dollar by itself to accomplish enough trade improvement to return the country to current account equilibrium, the depreciation would have to be considerably larger than what we have already seen in 1985 and 1986.

The unpleasant alternative is that the same improvement in the trade balance would at some point instead be accomplished by a recession, reducing imports. The large stock of debt that is already outstanding means that U.S. policy-making will from now on find itself much more restricted in its ability to respond to adverse developments. Because the federal deficit is already large despite four years of economic expansion, the government will not be able to respond to any future recession by reducing taxes or raising expenditure. Still less will the Federal Reserve be able to respond to a recession by lowering interest rates, if the source of the recession is a reduction in the willingness of foreign investors to keep supplying the United States with capital. Indeed, the outstanding debt to foreigners means that a likely scenario is the one in which

investors' fears that the U.S. will have difficulty maintaining the future value of those assets will cause the depreciation of the dollar to accelerate and interest rates to rise. In such a scenario the Federal Reserve would be reluctant to expand monetary policy because that might further enhance fears of inflation and dollar depreciation. At that point there might be no alternative to a combination of sharply higher interest rates and recession in order to reduce imports and restore the confidence of financial markets. This position, a familiar one to many debtors, would be a new one for Americans.

As of the beginning of 1987, the financial markets are still absorbing the imbalances with little difficulty. The decline of the dollar has been a "soft landing" rather than a "hard landing" in the sense that interest rates have come down since 1984 rather than gone up. This is probably because the dollar depreciation has been the result of a combination of (1) easier monetary policy, (2) perceptions of reduced future budget deficits under the Gramm-Rudman legislation and (3) a confidence-inspiring process of consultation and coordination between U.S. and other authorities, most dramatically represented by the September 1985 Plaza Accord. The federal budget deficit and trade deficit will each probably decline in a minor way in 1987. But the policies now in place imply continued massive federal deficits, and as a result continued capital inflows and trade deficits, into the indefinite future.

Footnotes

1. In Table 1, the private capital outflow is measured as increases in U.S. "private assets abroad" (which appear with negative signs because they are accounting debits) less increases in other foreign assets in the U.S. (which appear with positive signs because they are accounting credits).
2. Under the floating exchange rate system, when investors increase their demand for dollar assets, this can take the form of an increase in the exchange value of the dollar and does not need to show up as an actual inflow of capital.
3. This figure is arrived at by assuming that the statistical discrepancy represents primarily unreported capital flows.
4. If the statistical discrepancy is interpreted as unrecorded private capital inflows, then the true private capital account was approximately in balance in 1979-80 (a surplus in 1979 for the first time in decades, and a deficit in 1980). The recorded private capital account continued to show a deficit in 1979 and for several years thereafter.
5. See Levich (1985) for a survey of empirical evidence on efficiency in international financial markets.
6. See Levich (this volume) for elaboration on such innovations.
7. Cooper (1986, p. 10).
8. Levich (1985, pp. 997-99).
9. Press release, August 20, 1986. The figures have been adjusted to eliminated double-counting of transactions between institutions.
10. Press release, Bank of England, August 20, 1986.

11. The calculation is the average of the bid-ask spread as a percentage of the rate, quoted 3 p.m. daily by Barclay's Bank in London. A Bank of Canada study shows the pound ahead of the mark and yen in bid-ask spreads for 1973-81; Longworth, Boothe and Clinton (1983, p. 63).

12. In the London foreign exchange market, the ranking by volume is: pound, mark, yen, Swiss franc, French franc, lira and Canadian dollar. (The sources on 1986 trading volume are the press releases cited above.)

13. Frankel (1984) reports figures on how much of Japanese trade is invoiced in yen. Table 11 below gives the figures for shares of dollars, yen and other currencies in the foreign exchange reserve holdings of central banks.

14. See Table 3. The figures are for 1984, from the Federal Reserve Board's Flow of Funds.

15. For a description of Germany's controls, see Dooley and Isard (1980).

16. January 1975-April 1979. The variance of the differential was 3.29. The source is Frankel (1984, p. 23).

17. The mean differential was 0.26 and the variance 0.22 for the period May 1979 to November 1983. Source: Ibid.

18. Also, the rate of increase in long-term liabilities abroad fell from $14.759 billion to $7.124 billion. The source is the Bank of Japan, Balance of Payments Monthly, as reported in the OECD Economic Survey on Japan, August 1985, p. 21.

19. Eurodollar rate, covered, relative to Yen Gensaki. Ito (1986, p. 240).

20. Morgan Guaranty, World Financial Markets, September 1986.

21. When there is a large and variable differential (even with the offshore interest rate measured in domestic currency) it means that barriers must

exist, in the form of either capital controls or the sort of political risk discussed below. Although there is no sure-fire way of telling which sort of barrier is operating just by looking at the interest rates, there is a useful rule-of-thumb. When a country is seen to experience an increase in perceived riskiness, due to high budget or balance-of-payments deficits or political instability, if the offshore rate rises relative to the onshore rate it signifies that controls are preventing the free outflow of capital; if the onshore rate rises relative to the offshore rate, it signifies that political risk is scaring off investors and so a higher return is needed to clear the market.

22. U.S. corporations issue bearer bonds in the Euromarket. In October 1984, the U.S. government began to do the same, in the form of "specially targeted treasury notes." The premium that investors were willing to pay to hold these securities, relative to regular registered Treasury notes, fluctuated from around 40 basis points to zero, apparently as foreign perceptions fluctuated as to how onerous was a requirement that bond-dealers certify that the beneficial owners are not U.S. citizens or residents. (Merrill Lynch, 1985, p. 14).

23. However IBFs remain subject to several important restrictions that do not apply to Eurobanking. (Chrystal, 1984, p. 6).

24. One (intended) result of the abolition of the U.S. withholding tax was the demise of large-scale Eurobond issues by U.S. corporations through subsidiaries in the Netherlands Antilles to avoid the tax. This corporate borrowing, which previously showed up in the balance of pyaments accounts as reductions in U.S. direct investment claims on foreigners, now takes its true form, foreign purchases of U.S. securities.

25. The source is Folkerts-Landau (1985), or Edwards (1986).

26. Interestingly, U.S. Treasury securities issued in the Euromarket often must pay a higher yield than Eurobonds issued by top-rated U.S. corporations, suggesting some perceived default risk. (Gonzales (1985, Table 14)).

27. Golub (1986, 8a) estimates that net borrowing in dollars by 18 OECD governments alone rose from $2.619 billion in 1972 to a peak of $25.852 billion in 1982. Dollar borrowing by developing countries was much greater, at least until recent years.

28. The recorded capital inflow (change in foreign assets in the United States less U.S. assets abroad, not counting official reserve assets) did not turn positive until 1983, and climbed to $99.852 billion in 1985. Most of the statistical discrepancy is thought to be unrecorded capital inflows; hence, the higher capital inflow numbers in the text. But some fraction of the discrepancy is probably unreported service exports, particularly interest earnings, so that the capital inflow numbers in the text may be a little overstated.

29. The subsequent discussion draws on Isard and Stekler (1985).

30. The borrowing via Netherlands Antilles subsidiaries was reversed, following the abolition in 1984 of the U.S. withholding tax; in 1985, U.S. corporations began retiring the past debt issued through the subsidiaries.

31. The source is the Survey of Current Business, e.g., Table 1, p. 35 and Table 8, p. 50, in March 1985 issue. Isard and Stekler (1985, pp. 222-23) admit that decisions on how to adjust the data are necessariliy somewhat arbitrary.

32. The U.S. figures are from Survey of Current Business, June 1986, Table 10, p. 65. The Japanese figures are from the Japan Center for International Finance.

33. Survey of Current Business, June 1986, Table 3, p. 31.

34. For more on foreign direct investment, see Lipsey (1987).

35. Mann, Federal Reserve Bulletin, May 1985, p. 279.

36. Ibid. and Johnson, Federal Reserve Bulletin, May 1986, p. 295.

37. Ibid.

38. Giordano (1986).

39. Federal Reserve Bulletin, Table 3.15, August 1982 and June 1986. More than 100 percent of this decline in dollar holdings occurred in 1981. Liabilities to foreign official institutions actually rose from then until 1985. However this rise in dollar holdings can be completely accounted for by interest earnings.

40. IMF Annual Report, 1986, Table 1.3, p. 61.

41. Central banks make the decision to trade their own currencies for foreign reserve currencies on the basis of macroeconomic considerations. But the decision how to allocate a given portfolio of foreign currency reserves is influenced by expected returns on the various currencies. Admittedly the distinction can be blurred because some countries habitually do their foreign exchange intervention in dollars, perhaps for the sake of convenience. The argument that central bank portfolio behavior is destabilizing is due to Bergsten and Williamson (2001).

42. The argument that official reserve transactions should be classified together with the private capital account, validates the decision made by the Department of Commerce ten years ago to cease reporting the "official

settlements balance" in the balance of payments statistics, to force readers to look at the trade or current account balances in its place. See Stern (1977). Table 9 here compromises, by reporting some net balances within the capital account, both private and official.

43. Kidwell, Marr and Trimble (1986) document this differential in more detail. But it is possible that the apparent differential is simply due to different composition of the corporations issuing the bonds in the two markets. Maharajan and Fraser (1986) test the widespread perception that U.S. corporations can borrow more cheaply in the Euromarket than at home, by examining 92 pairs of bond offerings that are closely matched with respect to corporate parent, rating, maturity and other characteristics between 1975 and 1983. They find, to the contrary, no differential.

44. For the periods 1980-81 and 1983-84, increases in the interest differentials do not support the safe-haven explanation of the dollar appreciation. Similarly, the period when the differentials resumed their decline, 1985-86, is the period when the dollar was finally depreciating, not continuing to appreciate as one would expect under the safe-haven hypothesis. Even in 1982, the one year in which movement in the long-term interest differential supports the hypothesis, the evidence from short-term differentials goes the other way, as we saw in Section III.

45. The United Kingdom, France, Germany, Italy, Canada and Japan. The interest rates are yields on government bonds, in their own currencies, with maturities ranging from 10 years or more for Japan and Canada to 20 years for the United States and Canada. The weights are moving averages of GNP shares. The source is the International Monetary Fund.

46. Morgan Guaranty's index. The weights are based on 1980 U.S. bilateral trade in manufactures and the price levels are wholesale prices of non-food manufactures.

47. The three statistics are simple averages of dollar depreciation against other currencies: the mark, yen, pound, French franc, and Swiss franc in the case of the American Express and Economist surveys, and the first four currencies in the case of the Money Market Services survey. For further description and analysis of the survey data, see Frankel and Froot (1986).

48. If arbitrage equates the nominal interest differential to investors' expected nominal depreciation, then the real interest differential will equal expected real depreciation.

49. The peak real interest differential by this measure was 4.2 percent. The expected inflation rates in the Figure are calculated by the International Monetary Fund from distributed lags on actual inflation rates.

50. The interest rates are on 10-year bonds from Morgan Guaranty. The trading partners are the United Kingdom, France, Germany and Japan, weighted by GNP shares. Following the logic of the footnote-before-last, one might infer from a 1984 10-year real interest differential of 3 percent that investors must have expected the dollar to depreciate in real terms over the next ten years at an average rate of 3 percent a year, or approximately 30 percent cumulatively. If 10 years is thought to be a long enough time to guarantee a return to long-run equilibrium, this rough calculation suggests that in 1984 the market considered the dollar to be about 30 percent above its equilibrium. (Note that investors

do not respond directly to real interest differentials, but rather to nominal interest differentials and expected exchange rate changes; Frankel, 1986.)

51. Now owned by Morgan Stanley.

52. The average of the four end-of-quarter figures. Frankel (1986, Table 2-1).

53. Such bandwagon expectations are supported by survey data at horizons of one week to one month, shorter-term than the survey data shown in Figure 3c.

54. Economic Indicators, September 1986. The Federal Reserve Bank of St. Louis, September 12, 1986, reports 9.9 percent at a compounded annual rate of change.

55. Economic Indicators, September 1986.

56. The identity is that investment is equal to national saving plus the net capital inflow from abroad.

57. In this framework, how would we interpret an increase in real interest rates caused by a monetary contraction as in 1980-82? One could think of it as a fall in the private saving rate associated with the recession.

58. Reductions in personal income taxes were more important to the suply-siders in the Reagan camp than the corporate investment tax incentives.

59. Investment net of depreciation shows more of a decline after 1980 than gross investment because the capital consumption allowance is higher in the 1980s than in the 1970s.

60. Bosworth (1985). Feldstein (1986) finds no evidence of an effect of changes in corporate tax rates and investment incentives on interest rates. He estimates that the increase in projected budget deficits was

responsible for about two-thirds of the rise in interest rates between 1977-78 and 1983-84.

61. It should be noted that an upward shift in firms' desire to invest could lead to an increase in real interest rates, without an increase in the quantity of investment actually undertaken, if the sources of saving available to finance investment were competely unresponsive to interest rates. But even if domestic U.S. saving, both private and public, is indeed unresponsive to interest rates, the available supply of foreign saving is to the contrary highly responsive to the U.S. interest rate. Thus the failure of the observed investment rate to rise in the 1980s is valid evidence against the claim that enhanced investment incentives can alone explain the increase in the U.S. interest rate and the capital inflow.

62. Economic Report of the President, 1986, p. 284.

63. U.S. Department of Commerce, British Central Statistical Office, West German Bundesbank, and Japanese Economic Planning Agency.

64. Changes in private or public saving also tend to affect the level of income, when the economy is operating at less than full employment. To focus on the relationship among saving, investment, and overseas borrowing as percentages of aggregate income, it helps to think of monetary policy in the background holding income constant. It is, in fact, not unrealistic to think of the Federal Reserve as having targeted nominal GNP in recent years.

65. Economic Report of the President, 1986, p. 371.

66. The 1982-84 figures were revised in 1985 to incorporate the results of a 1982 benchmark survey of U.S. direct investment abroad. On the revised figures, the United States passed into net debtor status in January 1985.

67. The uncertainties are particularly large vis-a-vis Latin America. Much capital flight to the United States is unreported. Furthermore, one might not wish to count the loans of U.S. banks to troubled debtors at full value as they now appear on the books. A 50 percent write-down, for example, would wipe out over $100 billion of claims on Latin America alone.

68. Federal Reserve Bulletin, May 1986, p. 294. A separate point is that a precise definition of the term "net debtor" would include only loans and bonds, excluding corporate stock and direct invesment. See Van der Ven and Wilson (1986, p. 11). However, investment income has to be paid to foreign residents not just in the form of interest on the debt, but equally in the form of dividends and repatriated earnings on the rest.

69. Economic Indicators, October 1986.

70. From the viewpoint of other countries, the favorable aspect of the capital flow is their trade surpluses vis-a-vis the United States, and the unfavorable aspect is that their real interest rates are higher than they would otherwise be. Both points are particularly relevant for troubled debtors who must compete with the United States for funds.

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