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THE US EXTERNAL DEFICIT AND ASSOCIATED SHIFTS IN INTERNATIONAL PORTFOLIOS

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Introduction

The unprecedented capital inflows into the United States since the early 1980s have produced marked shifts in countries' international asset and liability portfolios: in the United States a huge increase in its external liabilities, which are now larger than its external assets; and in the rest of the world very substantial additions to claims on the United States.

The prospect that the United States will, barring a recession, continue to run large deficits on the current account of its balance of payments – and this is at present the general consensus of official forecasts – means that the rest of the world will go on adding substantially to its net claims on the United States. On what terms will private investors in the rest of the world be willing to accept the consequent changes in their asset portfolios? The view has been expressed that this may not be possible without disturbances in financial markets – that is, volatile movements in the prices of financial assets – that could have damaging effects both on the health of financial institutions and on the real economy. In its extreme form this view is that beyond a certain point there could be a decline in foreigners' willingness to invest in the United States so sharp that it would produce a 'hard-landing' for the dollar and possibly also for the world economy.

* The present paper owes very much to earlier work of Gunter D. Baer in which the basic framework was developed for analysing recent and prospective shifts in the portfolios of non-US private investors. In addition, the authors have received valuable help in the writing of this paper from Palle Andersen, Horst Bockelmann, Alexandre Lamfalussy and Helmut Mayer. They also wish to thank Walter Häusermann, Elmar Koch, Gerhard Randecker and Robert von Werra for their statistical work.

In this extreme scenario the 'hard-landing' of the dollar would come about through the exchange rate effects of a sharp reduction in private foreign demand for dollar assets. The view that an abrupt fall in the dollar's exchange rate might be associated with a hard-landing of the world economy is based on various considerations: firstly, that it might trigger a sharp drop in US equity prices which could be transmitted to other stock markets, and which, contrary to what happened in October 1987, would have contractionary effects on economic activity; secondly, that it would certainly lead to increases in US interest rates which, depending on their magnitude, could depress economic activity in that country; thirdly, that a major appreciation of other currencies against the dollar would lead to a slowdown of economic growth and a deterioration of business sentiment in other industrial countries; and fourthly, that the impact of a sharp dollar depreciation on US interest rates and economic activity in industrial countries would further complicate the debt problems of developing countries.

These concerns about possible future limits to private foreign financing of US current-account deficits have usually been related to the absolute nominal size of the needed further additions to private foreign holdings of US assets. This paper looks at the matter from a somewhat different perspective, namely that of the share of US assets in foreign private portfolios. It presents estimates of the extent to which that share has already increased since the US current account moved into deficit in 1982; and it addresses the question of the extent to which continued financing of such deficits through private capital inflows might further increase the share of such assets in non-US portfolios. In other words, what likelihood is there that in the next few years increases in that share might be large enough to trigger financial instability, or even the sort of 'hard-landing' sketched above?

There are very considerable difficulties, both statistical and analytical, in trying to answer that question. Firstly, there are major statistical problems in trying to measure past changes in the share of claims on the United States in foreign portfolios. The appendix to

this paper describes the methods used to estimate these changes. Here it will be enough to indicate some of the major problems involved.

One is that data on total stocks of foreign assets worldwide are very weak. This is shown by the fact that for the world as a whole there is every year a sizable excess of current-account deficits over current-account surpluses. The main source of that discrepancy is underestimation of the income countries receive on their foreign assets, which itself reflects underrecording of the stocks of those assets. Stocks of foreign assets for the world as a whole have therefore been estimated by aggregating data on foreign liabilities. Another statistical problem is the lack of data from creditor sources on countries' US assets. Published data on the geographical breakdown of US external liabilities have therefore been used as a proxy for those assets. For these, and other, reasons the past portfolio shifts shown in this paper represent at best rough orders of magnitude.

Secondly, there are analytical questions about what types of assets should be compared in estimating these portfolio shifts. For one thing, there are surely differences in the extent to which exchange risk considerations, which are at the base of concerns about the financing of future US payments deficits, are likely to affect foreigners' willingness to invest in different types of US assets. Investments in purely financial assets, that consist of a fixed nominal amount of dollars and the income on which is fixed in nominal dollar terms, are likely to be particularly affected by changes in market sentiment about the dollar; foreign direct investments in the United States, on the other hand, are usually based on longer-term considerations. For practical reasons this paper does not attempt to take account of these differences. The asset and liability data used to estimate portfolio shifts therefore include direct investments.

Another question about the types of assets to be compared in estimating portfolio shifts relates to the fact that US assets form only a part, although the most important one, of the rest of the world's total dollar assets. Private investors in the rest of the world hold a large volume both of dollar deposits in the Euro-market and of

Euro-dollar bonds. For reasons - both statistical and analytical - given in Part III of this paper, it is very difficult to estimate the share of total dollar assets in private non-US residents' portfolios but an attempt has been made to do so, as at end-1988, and to simulate possible future changes in that share.

Thirdly, the simulations of future changes in the share of US assets and, more broadly, total dollar assets in foreign portfolios given in Part III of the paper clearly depend heavily on the assumptions which underlie them, in particular assumptions about the future course of US current-account deficits and of private asset accumulation in the rest of the world.

The paper is in four parts: the first part summarises US balance-of-payments developments from 1982 onwards and quantifies the impact that the large increases in its liabilities to private foreigners have had on the international investment position of the United States; the second part estimates the increase during the same period in the share of claims on the United States in the private portfolios of investors in the rest of the world; the third part illustrates the extent to which, on certain assumptions about the future course of US current-account deficits, the share of US assets, and of total dollar assets, in the rest of the world's private portfolios would have to increase between now and the end of 1993 if those deficits were to be entirely financed through inflows of foreign private capital; and the fourth part summarises the paper's main points and conclusions.

I

The US balance of payments since 1982 and the accompanying changes in the international investment position of the United States

1. Balance-of-payments developments

During the period 1982-88 taken as a whole the main counterpart in the US balance-of-payments accounts to the series of large current-

account deficits, totalling $672 billion, was an increase in the rest of the world's identified private holdings of claims on the United States.[1] As measured in Table 1, the increase in those claims came to $666 billion. This figure is calculated to include all private foreign claims on the United States on a gross basis, except for claims of foreign banks on banks in the United States which are included on a net basis, i.e. after deducting the liabilities of foreign banks to banks in the United States. The reason why interbank flows are included in foreign private claims on the United States on a net, rather than gross, basis is that the gross interbank flows between the United States and the rest of the world reflect mainly the simultaneous booking of interbank assets and liabilities in the United States and are therefore of little relevance for this analysis.

The unprecedented volume of foreign private capital inflows into the United States during 1982-88 reflected the influence of developments both in the United States and elsewhere. In the United States, high interest rates, strong economic growth, declining inflation and the appreciation of the dollar surely provided strong incentives for non-residents to add to their US assets during the first part of this period. Outside the United States, the removal, or relaxation, of controls on outward capital movements in a number of industrial countries led to an international diversification of private investors' portfolios. The two most important factors in this diversification process were the complete abolition of all exchange controls in the United Kingdom at the end of the 1970s and the progressive relaxation in Japan of controls on outward capital movements during the 1980s.

While inflows of foreign private capital were the principal counterpart to the US current-account deficit during 1982-88 the link between the two did not always run from the deficits to capital inflows – up to 1984 the inflows were one cause of the growth of the

[1] During 1982-88 the deficits on the current account were not the only counterpart to the inflows of private foreign capital into the United States. As Table 1 shows, gross US investment in the rest of the world went up during that period by $202 billion.

Table 1
United States: Summary balance of payments, 1982–88
(in billions of US dollars)

Items	1982–88	1982–85	1986–87	1988
	cumulative			
Current-account balance	−671.6	−268.2	−276.9	−126.5
Acquisition of foreign assets by private US residents[1]	−202.2	− 85.5	− 87.1	− 29.6
Acquisition of US assets by private non-residents	665.8	275.3	260.4	130.2
of which:				
Direct investment	209.5	70.1	81.0	58.4
Securities	282.8	136.9	109.3	46.6
Non-bank claims on US banks[2]	73.9	48.3	9.2	16.5
Other[3]	89.6	20.0	60.9	8.7
Statistical descrepancy	85.3	82.8	13.2	− 10.6
Official financing flows	122.7	− 4.5	90.6	36.6
US official assets (− = increase)	− 7.3	− 13.2	9.5	− 3.6
US official liabilities (− = decrease)	130.0	8.7	81.2	40.2

Note: Minus sign indicates a balance-of-payments outflow.

[1] Includes claims of US banks on non-bank foreign residents, as well as net US Government assets other than official reserve assets.

[2] Dollar claims only.

[3] Includes other US liabilities to non-bank foreign residents as well as net interbank flows. The latter include all net flows between US and foreign banks denominated in dollars and all net transactions of US banks denominated in foreign currencies, whether with banks or with non-bank customers.

Source: US Department of Commerce, *Survey of Current Business.*

deficit, as can be seen from the appreciation of the dollar. Nor was there, even in an accounting sense, always a very close relationship between the size of the inflows and the size of the deficits, since balance-of-payments accounts contain other important items, notably movements of resident capital and changes in official reserves.

The figures in Table 1 show that the relationship between the current-account deficit and private capital inflows was strongest in 1982-85, and in 1988. In 1986 and 1987, on the other hand, the relationship was less close. In those two years taken together, about one-third of the current-account deficit had a counterpart in recorded

official financing flows, mainly increases in foreign central banks' reserves held in the United States. These reserve movements resulted mainly from central banks' intervention in the exchange market to moderate the depreciation of the dollar in 1986 and, after the Louvre Agreement of February 1987, to try and stabilise its exchange rate.

The full extent of the shift from private capital inflows to official financing of the US current-account deficit after 1985 is not evident from Table 1. Particularly in 1987, it appears that foreign central banks channelled a substantial part of their dollar accruals into the United States via banks and security houses in their own countries. Those inflows were therefore recorded in the US data as increases in liabilities to private, rather than official, foreign holders. While no figures are available on these "disguised" inflows of official funds, it seems likely that in 1986-87 the true additions to foreign dollar reserves held in the United States may have been equal to more than half of the current-account deficit.

Furthermore, in 1988, when there was a shift back from official financing to foreign private capital inflows, the figures in Table 1 do not show its full extent. In 1988 additions to foreign reserves held in the United States were reported as having amounted to some $40 billion, although there was very little increase in total world dollar reserves during that year. The explanation of this appears to be that the indirect inflows of official funds into the United States during 1987, through foreign banks and security houses, were to a large extent converted into direct official holdings of dollars in the United States – thus leading to an understatement of the role of private capital inflows, and an overstatement of the role of official financing, in the US balance-of-payments data for 1988.

2. The evolution of the US international investment position

Changes in the private international investment position of the United States between end-1981 and end-1988 are shown in Table 2, on a gross basis and in current dollar terms, for all main categories of

assets and liabilities. Because of changes in asset prices and, to a lesser extent, the impact of exchange rate changes on the non-dollar component of US assets and liabilities, the flow figures which can be derived from them are not the same as the corresponding flows recorded in the US balance-of-payments accounts. The figures in Table 2 show that the gross private international assets of the United States rose over this period from $621 to 1,120 billion and its gross private liabilities from $398 to 1,464 billion. Consequently, the net private international investment position shifted between end-1981 and end-1988 from assets of $223 billion to liabilities of $344 billion. It should be mentioned that unidentified inflows of foreign private capital into the United States, which during the 1980s may have been quite substantial, are not, of course, included in the figures for US external liabilities. The true size of those liabilities is therefore larger than is shown in Table 2.

The deterioration of the US international investment position has led to a worsening of the balance on the country's international investment income account. Between 1981 and 1987 the net surplus on that account declined in round figures from $34 to 20 billion – an appreciable change but hardly a dramatic one. In fact, increased earnings from US direct investments abroad offset (partly, of course, as a result of the dollar's depreciation against other currencies) much of the rise in interest payments by the United States on the rest of the world's US assets.[2] In 1988, however, the surplus fell sharply to about $2 billion. Debits on the investment income account continued to go up while credits declined in dollar terms, owing to the appreciation of the dollar against other currencies.

To what extent may the deterioration of its international investment position pose a problem for the United States? Any

[2] US balance-of-payments accounting conventions are such that any changes in the dollar value of stocks of US-owned foreign assets are included every year in the current account as a credit item or debit item in the investment income balance. This means that when the dollar depreciates US investment income receipts are improved by the effects of the dollar's depreciation on the dollar value not only of actual income earned on foreign assets but of the assets themselves, and vice versa when the dollar appreciates.

Table 2
US private international investment position, 1981–88

Items	1981	1985	1988
	end-year figures, in billions of US dollars		
US liabilities to private foreigners[1]			
Direct investment	108.7	184.6	328.9
US Treasury securities	18.5	83.6	96.6
Other US securities	75.1	206.2	393.6
Other private non-bank liabilities	30.6	29.5	35.5
US bank liabilities	165.4	354.5	609.5
Total	398.3	858.4	1,464.1
US private assets[2]			
Direct investment	228.3	230.3	326.9
Foreign securities	63.2	112.2	156.8
Other private non-bank claims	35.9	29.0	32.9
US bank claims	293.5	447.4	603.8
Total	620.9	818.9	1,120.4
Net private investment position (− = net liabilities)	222.6	−39.5	−343.7

[1] Foreign assets in the United States, excluding foreign official assets.
[2] US assets abroad, excluding US official reserve assets and US Government assets.

Source: US Department of Commerce, *Survey of Current Business*.

consideration of this question needs to take a number of factors into account. Firstly, the external liabilities of the United States are overwhelmingly denominated in domestic currency. This means that foreigners holding US assets run mainly an exchange risk but are unlikely to be faced with a transfer problem for the servicing or repayment of their US assets of the kind that exists in countries whose external liabilities are denominated in foreign currencies. Secondly, an appreciable fraction (amounting in 1988 to almost 25%) of these liabilities consists of foreign direct investment in the United States and therefore does not constitute external debt the servicing of which represents a fixed charge. Thirdly, the degree to which the United States may be incurring an external liability problem cannot be gauged simply on the basis of its gross external liabilities without taking any account of the external asset position. In particular, the

"turntable" role which banks in the United States play in the international interbank market means that it makes little sense to look at the gross external banking liabilities in isolation from the gross banking assets, at any rate so far as interbank positions are concerned.

In short, both the US private international investment position, and the balance on its international investment income account, have deteriorated considerably since the early 1980s. However, this does not mean that the United States is, or will shortly become, a problem debtor country in the sense in which that term is customarily used. Comparisons that have sometimes been made in that respect between the United States and the major problem debtors of Latin America, on the basis of the size of their gross external liabilities, are, to say the least, rather far fetched. Indeed, the net investment position, relative to GNP, of the United States is at present still stronger than that of most industrial countries whose international liabilities exceed their international assets.

On the other hand so far as the United States will continue to run sizable deficits on its current external account, both its net international investment position and the balance on its international investment income account will deteriorate further. It is not impossible that further substantial additions to gross US external liabilities could at some point make their absolute size a factor in foreign private investors' decisions to add to their US assets. Moreover the prospective further deterioration of the balance on the international investment income account of the United States will make it progressively harder to reduce the size of the current-account deficit.

II
Portfolio shifts in the rest of the world since end-1981

The deterioration of the international investment position of the United States is only one aspect of the changes in international portfolios that have resulted from the large inflows of capital into the

United States since 1982. The other aspect is the very substantial increase in the rest of the world's claims on the United States. Given the role of the dollar as the world's leading international investment currency and the prospect that continued US current-account deficits will have to be financed in the years to come, the rest of the world's asset preferences will be a vital factor in determining both how, and on what terms, these deficits will be financed and, more generally, also the future course of the external adjustment process in the United States.

This part of the paper looks at the evolution of the share of gross US assets in the rest of the world's private financial asset portfolios. The discussion therefore centres on gross portfolio shifts, i.e. changes in the proportion of asset portfolios held in the form of claims on the United States. From a theoretical point of view, it might be argued that the evolution of net foreign exposures in US assets, i.e. the share in foreigners' net financial worth of gross US assets minus the corresponding liabilities, is more indicative of portfolio preferences. For a number of reasons this net approach has not been adopted. Firstly, the statistical difficulties which it involves are considerable. Secondly, decisions to acquire assets and to take on liabilities may be made by different agents. Finally, techniques for hedging foreign exchange exposures have developed considerably in recent years. Even measures of investors' net spot exposures may not capture the full extent of their portfolio preferences.

Table 3 compares the increases since end-1981 in the total privately-held foreign assets of the rest of the world as a whole, and of industrial countries other than the United States, with the increases in US assets held by private investors in those two groups of countries. It also compares the growth of financial assets, domestic as well as foreign, of the enterprise sector in the industrial countries other than the United States with that of US assets held by private investors in those countries. A detailed account of how these figures are arrived at is given in the appendix to the paper. The main points that need to be borne in mind in looking at the figures in Table 3 are the following:

- data on stocks of foreign assets of the whole world outside the United States have been estimated from the liabilities side, owing to the weakness of the data on stocks of assets;

- on the other hand data on stocks of foreign assets held by industrial countries other than the United States have been calculated from the assets side, using national sources;

- data on foreigners' holdings of US assets are not available from national sources of the countries concerned. The published US data on external liabilities to private foreigners have therefore been used as a proxy for these assets;

- the stock of private financial assets of industrial countries other than the United States includes all the financial assets of the enterprise sector (financial institutions and non-financial firms), i.e. its holdings of domestic and foreign bank deposits, bonds, shares and loans. Moreover, foreign direct investments are also included in these stock figures, but not the domestic real assets, such as plant and equipment, of the enterprise sector in these countries. Severe measurement problems and a significant degree of double-counting are the main reasons for not taking a broader concept of the enterprise sector's asset holdings. The risk of double-counting is also the reason why the financial assets of the household sector are not included in the stock of financial assets of industrial countries other than the United States. Double-counting would arise for that share of households' financial asset holdings placed with domestic financial institutions. The exclusion of this sector, however, also gives an upward bias to the ratios discussed below, as households in some of these countries hold directly a substantial amount of government debt or of industrial bonds and equities.

The growth rates of the stocks of assets shown in Table 3 are given on two bases: firstly, on the basis of stock changes measured at current exchange rates and asset prices; and secondly, on the basis of flow data which exclude the effects of movements in exchange rates and asset prices.

The figures in Table 3 illustrate two main points. Firstly, that outside the United States privately-held US assets, whether measured

Table 3
Estimated changes in portfolios of non-US private investors, 1982–88[1]

Items	End-1981	End-1988	Average annual changes	
			Stocks at current exchange rates and asset prices	Estimated flows[2]
	in billions of dollars		in percentages	
World (excluding the United States)				
Foreign private assets	1,750	4,200	13.3	9.0
Industrial countries (excluding the United States)				
Foreign private assets	1,210	3,005	13.8	9.5
Financial assets of the enterprise sector	11,020	31,080	16.0	10.3
Memorandum items:				
US assets of private non-residents[3]	*235*	*1,025*	*23.4*	*19.8*
Of which:				
In other industrial countries	*200*	*875*	*23.4*	*21.2*

Note: Stock figures are rounded to the nearest $5 billion.

[1] Excluding interbank assets.

[2] Balance-of-payments flows and financial flow-of-funds as a percentage of the respective stocks at the end of the preceding year. These growth rates measure the additions to the stocks, excluding the effects of exchange rate changes and changes in asset prices.

[3] The figures on US assets of private non-residents in this table differ from those in Table 2 because of the exclusion of interbank asset stocks and the inclusion of US Government liabilities which are not considered to be official reserve assets of foreign monetary authorities.

Source: Appendix Tables 1–4.

in current dollar terms or excluding stock changes that resulted from movements in exchange rates and asset prices, were growing on the average significantly more rapidly than total foreign assets during 1982-88. This was true both for the rest of the world taken as a whole and for industrial countries other than the United States. Secondly, that industrial countries' private US assets also grew more rapidly than the financial assets of their enterprise sectors.

Estimates of the extent to which the share of US assets in these various foreign portfolios increased between end-1981 and end-1988

are shown in Table 4, using stock data expressed in current dollar terms.

Claims on the United States, measured as a percentage of privately-held foreign assets in the rest of the world taken as a whole, rose strongly, from 13.4% at the end of 1981 to 24.5% seven years later. This reflected an increase in holdings of US assets equivalent to about one-third of the total increase in foreign assets during this period.

For the industrial countries other than the United States the increase in this ratio was slightly more marked, from 16.5% at the end of 1981 to 29% at the end of 1988. This reflected an increase in holdings of US assets equivalent to about 37% of the total increase in foreign assets during this period.

There was also quite a marked relative increase in the share of US assets in financial assets of the enterprise sector in industrial countries other than the United States. However, in absolute terms the change from 1.8 to 2.8% was rather modest.

It may also be noted that the share of foreign assets in total financial assets of the enterprise sector in other industrial countries actually declined a little between end-1981 and end-1988, from 11 to 9.7%. This reflected the rapid rate of growth of the enterprise sector's total financial assets (see Table 3).

All these ratios reached a peak in 1985 or 1986, subsequently declining somewhat and then rising again in 1988. Broadly speaking this pattern reflected the effects of the dollar's appreciation from the beginning of this period until early 1985, its subsequent depreciation and then its renewed rise against other currencies in 1988. It may be noted, however, that during 1986, the first of the two full years in which the dollar depreciated strongly, the share of US assets in foreign private portfolios was still increasing. In part, this may have reflected particularly large additions to Japanese-owned US assets during that year following liberalisation of capital outflows from Japan.

Since the ratios in Table 4 are derived from stock data expressed in current dollar terms they do not indicate how much of the

Table 4
Estimated changes in the share of US assets in the rest of the world's private asset portfolios, 1981–88

Items	End of 1981	1982	1983	1984	1985	1986	1987	1988
US assets as a percentage of the rest of the world's private foreign assets	13.4	13.2	15.7	18.6	21.4	23.0	22.8	24.5
US assets as a percentage of industrial countries' private foreign assets	16.5	17.2	21.0	25.2	28.2	28.8	27.0	29.0
US assets as a percentage of financial assets of the enterprise sector in industrial countries	1.8	1.9	2.4	3.1	3.1	3.1	2.5	2.8
Memorandum item: *Private foreign assets of industrial countries as a percentage of financial assets of their enterprise sectors*	*11.0*	*11.1*	*11.3*	*12.2*	*11.0*	*10.6*	*9.4*	*9.7*

Note: Ratios are derived on the basis of end-year stock figures and therefore include valuation changes in the stock of assets of the rest of the world induced by changes in the exchange value of the dollar vis-à-vis other currencies and changes in asset prices.

Source: Appendix Tables 1–4.

increased share of US assets in the rest of the world's portfolios since end-1981 has come about through actual purchases of additional US assets, i.e. through private capital inflows to the United States, and how much through changes in the dollar value of foreigners' asset portfolios resulting from movements in exchange rates and asset prices. An attempt to separate the influence of these two factors is made in Table 5. The ratios given in that table estimate, on a year-to-year basis, the marginal propensity of private investors in industrial countries to make additions to their stocks of assets in the form of claims on the United States. These marginal propensities have been estimated in two ways: firstly, on the basis of stock data expressed in current US dollars (the A ratios); and secondly, on the basis of stock data adjusted to exclude the effects of movements in exchange rates and asset prices (the B ratios). The B ratios therefore show the year-by-year marginal propensity of private investors to make new investments in the form of purchases of US assets.

Table 5

Industrial countries' private portfolio diversification into US assets: estimated additions to claims on the United States as a percentage of changes in different portfolios

Items		1982	1983	1984	1985	1986	1987	1988
Increases in US assets as a percentage of:								
(a) Increases in private foreign assets of industrial countries	A	32.0	114.2	95.9	41.4	30.7	19.5	51.5
	B	40.8	35.8	57.3	78.4	58.7	50.8	41.2
(b) Increases in financial assets of the enterprise sector in industrial countries	A	4.7	19.2	..*	3.2	2.9	1.2	7.5
	B	3.7	3.7	6.5	8.7	6.4	3.9	4.7
Memorandum item: Increases in private foreign assets of industrial countries as a percentage of increases in financial assets of their enterprise sectors	A	14.8	16.8	..*	7.6	9.5	6.3	14.5
	B	9.0	10.2	11.4	11.1	10.9	7.6	11.4

A = Flow ratios derived from stock changes valued at current exchange rates and asset prices.
B = Flow ratios derived from balance-of-payments capital transactions and flow-of-funds data.

* The absence of ratio figures is due to the fact that the financial assets of the enterprise sector in industrial countries, measured in current dollar terms, declined in 1984.

A comparison of the A and B ratios in Table 5 shows the following main points:

- during 1982-84 the private sector in other industrial countries not only accepted increases in the share of US assets in its foreign portfolios as a result of the dollar's appreciation against their currencies, but also added in volume terms substantially to the stock of its US assets. This can be seen from the size of the B ratios for those years;
- from 1985 to 1987, when the dollar depreciated strongly against other currencies, the marginal propensity of the private sector in other industrial countries to accept additions to its foreign assets in the form of claims on the United States was greater if measured in constant dollar and asset price terms (the B ratios) than it was in current dollar terms (the A ratios). The evolution of the A and B

ratios during those three years suggests two conclusions. Firstly, investors more than offset in 1985 and 1986, but not in 1987, the automatic reductions in the share of US assets in their foreign portfolios that would otherwise have occurred as the dollar depreciated. This is shown by a comparison of the relevant A ratios in Table 5 with the corresponding stock ratios in Table 4. Secondly, their marginal propensity to allocate part of their new foreign investments to purchases of claims on the United States, i.e. to make actual exports of capital to the United States, was, on the average, higher during these years than it had been during 1982-84. This is suggested by a comparison of the relevant B ratios for the two periods 1982-84 and 1985-87. Probably the largest single cause of the increase in the marginal propensity to invest in the United States between these two periods was the relaxation of restrictions on capital outflows from Japan;

– in spite of the shift from private to official financing in 1987, the marginal propensity of the private sector in other industrial countries to invest in the United States actual additions to their foreign assets (the B ratio) was rather high in that year, while in 1988, when an opposite shift took place, it was relatively low. These somewhat surprising developments might have reflected the substantial additions during 1987 to industrial countries' dollar reserves channelled to the United States via private institutions and the partial reversal of this process in 1988.

III
The possible future evolution of the share of US and dollar assets in non-US private portfolios

The previous section illustrated the considerable increases in the share of US assets in foreign private portfolios during the period 1982–88. The present section looks ahead up to the end of 1993 and presents simulations of the further increases that, on certain specific assumptions, would take place if the United States continued to run

substantial current-account deficits and if those deficits – plus some continued outflow of resident capital from the United States – were to be financed entirely through inflows of foreign private capital. Clearly, the outcome of such simulations depends not only on how large the deficits are assumed to be but also on a number of other assumptions, notably about the course of the dollar's exchange rate and the rate at which private wealth continues to accumulate in the rest of the world. As the bulk of the past inflows of foreign private capital originated from industrial countries, and this could be expected to remain true of future capital inflows, the discussion will be mainly concerned with the possible future trend of the share of US assets in those countries' private asset portfolios.

The basic scenario for the period 1989–93 developed in this section is one that might be called a "no change" scenario, since to a large extent it extrapolates existing situations or trends into the future. To test its sensitivity to alternative specifications, some of its basic assumptions are individually varied in the subsequent analysis. Lastly, the simulations are extended to total dollar assets of private residents in industrial countries other than the United States, whether held in the United States or elsewhere.

The assumptions which underlie the basic scenario, the results of which are shown in Table 6, include the following:

– that the US current-account deficit remains at its 1988 level of $126 billion;

– that, in addition to current-account deficits of that size, there are outflows of resident capital from the United States that need financing. The assumption is that the total stock of privately owned US foreign assets grows at the same average rate (excluding valuation changes) as in 1982–88 (about 6% per annum);

– that the dollar's exchange rate against other currencies remains at its end-1988 level;

– that the annual average growth rates of the broader asset portfolios of private foreigners remain the same as they were in 1982–88, excluding valuation changes (see right-hand column of Table 3);

– that private investors in other industrial countries continue to take up 85% of total additions to private foreigners' US assets.

The scenario abstracts from any possible official financing of future US payments deficits. In other words, changes in US official reserve holdings and dollar reserves held by foreign monetary authorities in the United States are assumed to be zero. Similarly, net unidentified inflows or outflows of funds between the United States and the rest of the world, recorded under the statistical discrepancy of the balance of payments, are assumed to be zero.

None of the assumptions on which the scenario is based is intended as a forecast of what will actually happen between now and the end of 1993. The simulations are designed to serve an illustrative purpose and to provide a framework in which prospective trends can be analysed.

In the scenario set out above, the share of US assets in total private foreign assets held by the rest of the world as a whole would

Table 6
Simulated evolution of the share of US assets in the rest of the world's private asset portfolios, 1989–93[1]

Items	End of					
	1988	1989	1990	1991	1992	1993
US assets as a percentage of the rest of the world's private foreign assets	24.5	26.2	27.5	28.5	29.2	29.7
US assets as a percentage of industrial countries' private foreign assets	29.0	30.9	32.4	33.4	34.0	34.4
US assets as a percentage of financial assets of the enterprise sector in industrial countries	2.8	3.0	3.1	3.2	3.2	3.2
Memorandum items:						
Private foreign assets of industrial countries as a percentage of financial assets of their enterprise sectors	*9.7*	*9.6*	*9.5*	*9.5*	*9.4*	*9.4*
Assumed US financing requirements[2]	..	*172*	*175*	*178*	*181*	*184*
Of which:						
Current-account deficit	*126*	*126*	*126*	*126*	*126*	*126*

[1] The assumptions underlying these simulations are spelled out in the text.
[2] Sum of the current-account deficit and capital outflows of private US residents.

increase from its end-1988 level of 24.5% to 29.7% at the end of 1993. A similar increase – from 29% at end-1988 to about 34½% at end-1993 – would occur in the corresponding ratio for other industrial countries. There would also be an increase in the share of US assets in the total financial assets of the enterprise sector in other industrial countries, but the absolute level of that share would remain fairly low. In short, the share of US assets in foreign private portfolios would continue to rise in the years ahead, but on the average the rates of increase would be well below those recorded in 1982-88. The pattern over the course of the simulation period shows a relatively sharp rise during the initial years, when foreign investors' marginal propensity to make additions to their foreign portfolios in the form of US assets would need to be almost as high as in 1982-88. By the end of the period, however, the share of US assets in foreign private portfolios would start levelling off.

The outcome of the scenario depends crucially on the assumptions made about three basic variables: (a) the size of the future current-account deficits; (b) the exchange rate of the dollar; and (c) the rate of growth of foreign asset portfolios. In what follows, each of these assumptions will be individually modified, leaving the others unchanged. It is worth repeating that these alternative specifications are also purely illustrative, since changes in one assumption would be likely, in the real world, to have an impact on other variables.

As far as the US current-account deficit is concerned, an alternative assumption to its remaining constant in nominal terms would be to keep it constant as a percentage of US GNP at the 1989 level implied by the basic scenario.[3] On this alternative assumption, the cumulative US financing requirements between 1989 and 1993 would be almost $95 billion higher than in the basic scenario.[4]

[3] For the purpose of this alternative simulation, the annual growth rate of nominal US GNP between 1989 and 1993 has been set at 7%.

[4] A similar increase in US financing requirements would occur if it were assumed that the demand for foreign assets by US private residents, which grew at a rather low rate in 1982–88 compared with the growth rates of the other asset portfolios considered in this paper, would be more buoyant in 1989–93.

Consequently, the share of US assets in foreign private portfolios would rise somewhat more than in the basic scenario. For instance, the share of such assets in other industrial countries' private foreign assets at the end of 1993 would be 36%, or 1½ percentage points higher than before. Moreover, throughout the projection period the marginal propensity to invest in US assets would not fall below 45%, so that signs of a levelling-off of the stock ratios before end-1993 would be much less visible.

On the other hand, if the US current-account deficit were to improve between 1989 and 1993 by an amount that reduced the cumulative financing requirements over that period by $95 billion, the share of US assets in the foreign portfolios of private residents in other industrial countries would rise by end-1993 by some 1½ percentage points less than in the basic scenario. Moreover, by end-1993 that share would be starting to decline.

Alternative assumptions, of the kind made above, which do not vary the size of the US current-account deficit drastically, affect the trend of the portfolio shares only to a limited extent. If, however, a really major change is made in the balance-of-payments assumption, then one or other of two things would seem to follow: if a major deterioration in the current-account balance is assumed, that in itself would be likely to curtail sharply foreigners' willingness to invest in the United States on going terms; if, on the other hand, it is assumed that the current-account balance shows a major improvement, the likelihood of there being problems in financing it through the markets would diminish sharply. On either of these two assumptions short-term considerations would probably outweigh, at least temporarily, the more fundamental investment decisions based on the share of US assets in foreign private portfolios, or on its trend.

If the balance-of-payments assumption adopted in the basic scenario is retained but a 3% annual depreciation of the dollar is assumed for 1990–93, the increase in the share of US assets in foreign private portfolios would be less marked, to 33% in 1993 in the case of the stock of private foreign assets in industrial countries. Moreover, by 1993 the share of US assets in the total financial assets of the

enterprise sector in industrial countries would begin to decline slightly. The basic reason for these developments is that the dollar depreciation amplifies the growth rate, expressed in current dollar terms, of the non-dollar components of asset portfolios in the rest of the world.[5]

A third alternative assumption considered here involves a slowdown during 1989-93 in the assumed growth rate of the total financial assets of the enterprise sector in other industrial countries, while keeping the balance-of-payments and exchange rate assumptions as they are in the basic scenario. During the period 1982-88 the average annual growth rate of those assets, excluding the effects of movements in exchange rates and asset prices, is estimated to have been 10.3%. If some reduction in nominal income growth or a higher propensity to invest in real assets domestically rather than in financial assets at home and abroad is assumed, that growth rate could very well fall below the rate recorded in 1982-88. Clearly, any reduction in the rate of financial asset accumulation will tend to accentuate the rise in the share of US assets in private asset portfolios outside the United States.[6] However, to cause this share to rise appreciably more between end-1988 and end-1993 than in the basic scenario, the slowdown in asset accumulation abroad would need to be rather substantial. For instance, a one percentage point reduction in the growth rate of the total financial assets of the enterprise sector in industrial countries other than the United States would by end-1993 increase the share of US assets in foreign private assets from 34.4% in the basic scenario to 35.7%. If, however, the slowdown in asset accumulation were to reach three percentage points, the US assets/foreign assets share would rise to just over 39% by end-1993.

[5] To calculate the impact of the dollar depreciation on the stocks of assets held by private residents in the rest of the world, it is assumed that the non-dollar component amounts to one-third in the case of foreign assets and to 93% in the case of total financial assets.

[6] It is assumed that the degree of cross-border asset diversification remains the same as in the basic scenario.

As noted earlier in this paper, claims on the United States form only part of non-US residents' total dollar claims. Their total holdings of dollar assets outside the United States – chiefly Euro-dollar deposits with banks and holdings of dollar securities issued by non-US residents – are now very substantial. Indeed, some individual holders of dollars may invest most, or in some instances perhaps all, of them outside the United States. Investors' decisions about holding, or adding to, assets in the United States are likely to be a function of the size of their total dollar portfolios, since the exchange risk is the same in both cases.

There are, however, two major difficulties in attempting to estimate the share of total dollar assets in the portfolios of private non-US residents. In the first place, it is not possible to measure with any real degree of accuracy the total of non-US residents' Euro-dollar assets. The estimates that are used here, and are described in greater detail in the appendix, have been arrived at by adding together identified holdings by non-US non-bank residents of dollar deposits with banks outside the United States and an estimate of their holdings of dollar bonds issued by non-US residents. This method results in a conservative estimate of the total size of non-US residents' dollar assets held outside the United States. It ignores, for instance, banks' holdings of Euro-dollar assets that have been funded through switching out of domestic or third currencies, and thus represent real investments and not just one link in a chain of interbank dollar deposits. The second difficulty is that claims on the United States and Euro-dollar claims cannot simply be added together without giving rise to some (unquantifiable) degree of double-counting. The basic reason for this is that some of the funds raised in the Euro-market or some of the Euro-dollar deposits made by non-US non-bank residents may be used for investing or onlending in the United States and therefore have a counterpart in foreign claims on the United States itself.

Bearing in mind these very substantial limitations in the data, Table 7 presents a simulation of the possible evolution of the share of total dollar assets in private portfolios of industrial countries other

Table 7
Simulated evolution of the share of dollar assets in industrial countries' private asset portfolios, 1989–93*

Items	End of					
	1988	1989	1990	1991	1992	1993
Dollar assets as a percentage of industrial countries' private foreign assets	39.4	42.0	43.9	45.3	46.1	46.6
Dollar assets as a percentage of financial assets of the enterprise sector in industrial countries	3.8	4.0	4.2	4.3	4.3	4.4

* The assumptions underlying these simulations are the same as those underlying the calculations in Table 6.

than the United States over the period 1989–93, using the same basic scenario as for claims on the United States.[7] Comparing the ratios in Table 7 with those in Table 6, at the end of 1988 the share of dollar assets in total privately held foreign assets of industrial countries other than the United States is 10½ percentage points higher than that of US assets alone, while in relation to the total financial assets of the enterprise sector in those countries the difference between the share of total dollar assets and that of US assets is one percentage point. By end-1993 the share of dollar assets in those countries' private foreign asset portfolios is over 45%, but their share in the total financial assets of the enterprise sector of those countries is no more than 4½%.

Given the uncertainties attaching to the ratios in Table 7, they should be regarded as no more than a reminder that the total dollar element in the private asset portfolios of non-US residents is appreciably higher than the element represented by claims on the United States, but not necessarily by the amount that the comparison of the figures in Tables 6 and 7 would suggest. Whatever its precise quantitative impact, however, the broadening of the analysis to cover

[7] In addition, it is assumed that holdings of Euro-dollar assets grow at the same rate as holdings of US assets during the simulation period.

all dollar assets does imply that, to the extent that foreign investors become increasingly risk-averse at higher degrees of dollar exposure, any marked weakening of confidence in the dollar might give rise to greater reluctance to accumulate further dollar balances than an analysis which takes no account of the share of Euro-dollar assets in their portfolios might suggest.

In short, if large future deficits on the US current account are to be financed by private foreign inflows, the basic scenario used for the period 1989–93 suggests further moderate overall increases in the share of US assets, and more broadly, total dollar assets, in private non-US asset portfolios. Small variations in the principal assumptions on which the scenario is based make little difference to that conclusion. At the same time, the present levels of these shares and the higher levels which they could reach by end-1993 might also become a factor which needs to be taken into account in judging the outlook for the dollar and for the continued orderly financing of large US current-account deficits out of private foreign savings.

Summary and conclusions

Since the current account of the US balance of payments moved into deficit in 1982, inflows of foreign, mainly private, capital have produced a major deterioration in the international investment position of the United States and a substantial increase in the relative share of claims on the United States in private asset portfolios in the rest of the world. Most of the inflows of foreign private capital into the United States during this period came from other industrial countries. In addition, private investors in the rest of the world have added substantially to their holdings of dollar assets outside the United States since 1982, so that there has also been a marked, although more difficult to estimate, rise in the share of total dollar assets in foreign private portfolios.

The estimated increases in the orders of magnitude of the share of US assets in foreign private portfolios during 1982–88 that are given

in this paper represent averages for the rest of the world as a whole and for all industrial countries other than the United States taken together. Disaggregated figures for individual countries or key categories of foreign investors would show even sharper increases in some instances, most notably in the case of Japanese institutional investors.

During the period in which these portfolio shifts occurred there was on balance a substantial depreciation of the dollar against other major currencies – for instance by about 20% against the Deutsche Mark and by over 40% against the yen. As the stock data on non-US investors' asset portfolios used in this paper have been valued in current dollar terms, this means that the rate of growth of those portfolios during 1982–88 was boosted by valuation effects resulting from these exchange rate movements. Consequently, additions to foreign portfolios made in the form of US assets derived from changes in the stocks valued at current exchange rates understate the share of foreign financial savings that actually flowed into the United States.

Looking to the future, if during the next few years continued large deficits on the current account of the US balance of payments are to be financed in an orderly way, i.e. without an excessive depreciation of the dollar, through inflows of foreign private savings, the key question concerns the extent to which investors, particularly in other industrial countries, would have to further increase the US, or dollar, element in their portfolios. The basic scenario used in the paper for addressing that question does not suggest that a dramatic further increase in the relative share of those components would be required. Moreover, that tentative conclusion would not be substantially modified unless very major changes were made in the assumptions on which the scenario is based.

However, the trend movement of the share of US, or total dollar, assets in the portfolios of investors outside the United States cannot by itself be considered as the decisive factor in assessing their readiness to accommodate further large increases in their holdings of such assets. Their attitudes and their investment decisions may also

be a function of the actual share of such claims in their portfolios. That share is very different according to whether it is measured simply in relation to portfolios of foreign assets or to the total portfolios of financial assets, both foreign and domestic, of the private sector in industrial countries other than the United States. At end-1988 claims on the United States or, more broadly, total dollar claims accounted for a very significant proportion of the estimated total foreign assets of private investors in other industrial countries. The financing of continuing large US current-account deficits would cause that proportion to increase further by end-1993. On the other hand, the shares of claims on the United States, or, more broadly, total dollar claims in the total financial assets of the enterprise sector in other industrial countries, although they are markedly higher now than in the early 1980s, will in any event remain modest over the next few years. Moreover, if the financial assets of the household sectors in other industrial countries were brought into the calculations, these shares would, of course, be lower still.

Notwithstanding the already substantial shares of claims on the United States, or, still more, total dollar claims in other industrial countries' privately-held foreign asset portfolios, may there not be scope for a further increase in the shares of such claims in their total financial asset portfolios? That question is part of a broader one about the scope for, or likelihood of, a further diversification of such portfolios into foreign assets generally. Two factors that are relevant to any consideration of that question and that have been spectacular features of the 1980s are the process of the globalisation of financial markets and the progressive elimination of regulations standing in the way of greater cross-border diversification of portfolios of key classes of investors. It seems plausible to suppose that these factors, which have enormously increased the international mobility of capital, have helped to facilitate the huge private capital inflows into the United States that have taken place since the early 1980s. Can a case be made for saying that globalisation and deregulation of financial markets may not yet have run their full course, or that their full effects have not yet been felt?

Various considerations can be put forward that would tend to support that view. There is, for example, still scope for further liberalisation of capital controls and further deregulation of financial markets in some industrial countries. There are surely still owners or managers of asset portfolios who have not yet taken full advantage of the investment opportunities that exist outside their own countries. Furthermore, one aspect of the wave of financial innovations that has characterised the 1980s has been the development of new techniques for hedging exchange risks.

To sum up, the analysis in this paper suggests that purely from the point of view of the further portfolio shifts in the rest of the world that might be required, the financing of further large deficits on the current account of the US balance of payments through inflows of foreign private capital, need not lead to major financial market disturbances in the coming years. Two considerations in particular would seem to lend support to that conclusion. Firstly, on anything like the basic assumptions about the course of events between now and the end of 1993 that are used in this paper, the further increases in the share of dollar assets in the rest of the world's privately-held foreign asset portfolios would not be dramatic. Secondly, in the industrial world outside the United States, which would be the main source of future inflows of foreign capital to the United States, the share of the dollar in total private financial asset holdings is modest. Given that the process of internationalisation of asset portfolios may not yet have run its full course, that share may be more relevant to the outlook for private financing of future US current-account deficits than the much higher share of the dollar in those countries' foreign assets.

The validity of the conclusion suggested above, however, depends crucially on one proviso. In a world of high and rapid international capital mobility the prices of financial assets are strongly influenced by expectations, including expectations about exchange rates. Non-US investors, therefore, if they are to continue adding to their dollar assets, must be convinced that they will not be running major exchange risks in doing so. They must believe that the US authorities

– and those in the main surplus countries too – are committed to resisting firmly any sharp downward movement of the dollar and, more fundamentally, to pursuing policies that will build on, and extend, the progress already made in reducing their current-account imbalances. Putting this last point more generally, even if the globalisation and deregulation of financial markets continues in the years to come, giving a further impetus to international portfolio diversification, the degree to which capital movements are influenced by expectations, including expectations about the future course of current-account imbalances, suggests that countries would be unwise to abandon their traditional concern with this component of their international payments positions.

Appendix

Statistical sources and estimation techniques

As already indicated in the main body of the paper, many of the ratios presented in this study are derived from estimates of stocks and flows of assets and liabilities. This appendix describes the various sources of the data and the estimation procedures used in compiling those statistical series for which no basic sources are available. From the outset it should be noted that the various stocks (and flows) of assets, characterised in this study as private assets, are not strictly privately-held assets. Given that for most stocks, with the exception of those available from US statistics, it is impossible to identify asset holdings of the public sector which are not considered to be official reserve assets, the term private assets in the text captures all assets except official reserve assets. The non-reserve assets of the public sector are therefore included in the concept private assets. Moreover, because, as explained in Part I, asset stocks are liable to be somewhat artificially inflated by the inclusion of funds redeposited between banks, the asset stocks (and flows) on which the calculations are based exclude cross-border interbank assets.[1]

1. US private foreign assets and foreign private assets in the United States (see Appendix Table 1)

The data on the stock of US private foreign assets are derived by subtracting from total US assets the US official reserve assets, as well as the stock of interbank assets of banks located in the United States. The source for total US foreign assets and US official reserve assets is the annual presentation of the US international investment position by the US Department of Commerce. Although that Department also

[1] In the rest of this appendix all references to interbank assets are to cross-border positions.

Table 1
US private foreign assets and foreign private assets in the United States
(in billions of US dollars)

Items	1981	1982	1983	1984	1985	1986	1987	1988
I. *Stocks* (end-of-year)								
Total US foreign assets	720	825	875	895	950	1,075	1,170	1,255
of which: Official reserve assets	30	35	35	35	45	50	45	50
Interbank assets[1]	175	255	275	295	305	360	405	450
US private foreign assets, excluding interbank assets	515	535	565	565	600	665	720	755
Foreign assets in the United States (= US foreign liabilities)	580	690	785	895	1,060	1,340	1,550	1,785
of which: Assets of official foreign holders	170	175	180	185	185	225	270	310
Interbank assets[1]	175	255	275	295	305	360	405	450
Foreign private assets in the United States, excluding interbank assets	235	260	320	415	570	755	875	1,025
of which: In industrial countries[2]	200	220	280	355	480	645	745	875
II. *Flows*[3]								
US private foreign assets, excluding interbank transactions	55	40	25	10	20	55	65	45
Foreign private assets in the United States, excluding interbank transactions	45	45	45	80	105	130	110	140
of which: In industrial countries[4]	35	40	40	70	100	120	100	130

Notes: (a) Figures are rounded to the nearest $5 billion.
(b) The data in this table are not directly comparable with those in Table 2 of the main text since the latter table deals exclusively with privately-held assets and liabilities whereas the present table includes under "private" assets and liabilities those of the public sector which are not considered as official reserve assets.

[1] Data on interbank assets are not strictly comparable between 1981 and 1982 because of the establishment of International Banking Facilities in December 1981.
[2] Estimated as 85% of US liabilities to private foreigners.
[3] Derived from balance-of-payments statistics.
[4] Estimated on the basis of partial data on the geographical composition of major capital outflows.

Sources: US Department of Commerce, *Survey of Current Business* and BIS, *International Banking and Financial Market Developments.*

publishes data on the stock of outstanding interbank claims of banks located in the United States, preference is given here to statistics on interbank assets collected by the BIS. Firstly because these statistics are also the basis for the various series on stocks of interbank assets

held outside the United States, and secondly because they also include the interbank assets of banks located in the United States which are denominated in currencies other than the dollar.

Since they are unavailable from statistics provided by creditor countries, figures for the stock of foreign assets in the United States are also based on data published by the US Department of Commerce. Privately-held foreign assets in the United States are, accordingly, derived as the stock of total foreign liabilities of the United States minus reserve holdings in the United States of foreign monetary authorities and interbank asset stocks. It should be noted that US Government liabilities, other than US Government securities, are not treated as foreign official reserve assets since they are in many instances tied to military sales contracts or other transactions and are therefore not available for intervention purposes as is the case for the other foreign official assets.

The geographical split of the stock of foreign private assets in the United States, or of US liabilities to private residents in the rest of the world, is not complete, being available only for direct investment and US securities other than US Treasury securities. Of the latter two stocks, a relatively stable share of around 85% appears to have been held in portfolios of the private sector in industrial countries other than the United States.[2] For working purposes, it is therefore assumed that a fixed share equivalent to 85% of the stock of total US liabilities to private residents in the rest of the world is held in industrial countries' portfolios.

The flow figures on US private foreign assets and the rest of the world's private US assets are derived from US balance-of-payments statistics, adjusted for capital flows initiated by holders of official reserve assets and interbank transactions. As the geographical composition of capital flows is also incomplete, a similar procedure to that used for stocks is followed in estimating the share of industrial countries in these flows. That is, the share of industrial countries in

[2] The definition of the term "industrial countries" is the same as that employed by the IMF, but excludes Australia, Iceland and New Zealand.

the capital-account flows for which the US Department of Commerce provides a geographical breakdown is applied to the totality of capital-account flows so as to approximate the industrial countries' share in these overall flows. In contrast to the stock figures, which are more stable and for which a fixed ratio is applied throughout the entire period, the allocation of capital flows to industrial countries is carried out on a year-by-year basis.

2. Stocks and flows of private foreign assets of the rest of the world outside the United States (see Appendix Table 2)

Statistics on stocks of privately-held foreign assets worldwide are notoriously weak, or indeed non-existent. Given that for the world as a whole total foreign assets (private as well as official) should in theory equal total foreign liabilities, the problem of estimating stocks of privately-held world foreign assets has been approached by using more reliable data on countries' foreign liabilities. More precisely, the data on private foreign assets held by the rest of the world outside the United States are arrived at as follows. Total (private and official) foreign liabilities of distinctive groups of countries are added together, these groups being the industrial countries, the developing countries and eastern Europe. Using the theoretical identity between total world foreign assets and liabilities, these total liabilities are taken as a proxy for total world foreign assets. To arrive at private foreign assets held by the rest of the world outside the United States, official reserve holdings of each group of countries, world interbank asset stocks and US private foreign assets are subtracted in successive steps from total world foreign assets.

By analogy with the method used to derive the stock figures on private foreign assets of the rest of the world outside the United States, flow figures are also obtained from the liability side, although the method of computation is varied depending on the country group. Whereas for industrial countries flow figures can be derived from balance-of-payments statistics on non-resident transactions,

Table 2
Estimated private foreign assets outside the United States
(in billions of US dollars)

Items	1981	1982	1983	1984	1985	1986	1987	1988
I. *Stocks* (end-of-year)								
Foreign liabilities (= foreign assets)	3,745	4,005	4,215	4,425	5,205	6,470	7,905	8,505
Industrial countries (including the United States)	2,815	2,960	3,110	3,275	3,955	5,110	6,400	6,970
Other countries[1]	935	1,045	1,105	1,155	1,250	1,360	1,500	1,535
Official reserves	515	465	470	480	545	630	865	875
Industrial countries (including the United States)	315	290	290	285	330	405	580	585
Other countries[1]	200	175	180	195	215	225	285	290
Interbank assets of BIS reporting banks in industrial countries	965	1,065	1,100	1,150	1,415	1,890	2,475	2,675
World private foreign assets, excluding interbank assets	2,265	2,475	2,645	2,795	3,245	3,950	4,565	4,955
US private foreign assets, excluding interbank assets	515	535	565	565	600	665	720	755
Private foreign assets, excluding interbank assets, outside the United States	1,750	1,940	2,080	2,220	2,645	3,285	3,845	4,200
II. *Estimated flows*[2]								
Private foreign assets, excluding interbank transactions, outside the United States	..	210	190	205	160	185	235	390

Note: Figures are rounded to the nearest $5 billion.

[1] Eastern European and developing countries; for eastern European countries, foreign liabilities and official reserves are approximated by their estimated convertible currency debt and their deposits with BIS reporting banks respectively.

[2] For details of the estimation method, see text.

Sources: US Department of Commerce, *Survey of Current Business;* BIS, *International Banking and Financial Market Developments;* OECD, *Financial Market Trends;* IMF, *World Economic Outlook;* national sources; and BIS estimates.

flow figures for developing and eastern European countries are estimated by adjusting the stock change figures for the impact that exchange rate changes might have had on them. For this purpose, an assumption is made about the currency composition of private external liabilities of developing and eastern European countries, viz.

that they contain a share of dollar-denominated liabilities, equivalent to 80% of the total stock between 1981 and 1984 and progressively declining to 66% by 1988; a share of liabilities denominated in currencies which have moved broadly in line with the Deutsche Mark, equivalent to 15% of the total between 1981 and 1984 and rising thereafter to 20% by 1988; and a share denominated in Japanese yen, equivalent to 5% in 1981-84 and rising to 14% in 1988.[3]

The statistical sources underlying these calculations are the following. Foreign liabilities and official reserve assets of industrial countries are derived directly from national sources, in the case of stocks from statistics on these countries' international investment positions, in the case of flows from balance-of-payments statistics. Foreign liabilities of developing countries are assumed to comprise their gross external debt, as estimated by the IMF in its semi-annual *World Economic Outlook,* as well as the stock of foreign direct investment in these countries. According to the OECD[4] this stock of foreign direct investment amounted to about $117 billion in 1980. It is assumed to have grown by about $10-15 billion per year thereafter. The source for official reserve holdings of the monetary authorities in LDCs is also the IMF's *World Economic Outlook.* Foreign liabilities of eastern European countries that are not members of the IMF are approximated by using data on their external debt in convertible currencies.[5] These countries' official reserve holdings are assumed to equal their deposits with BIS reporting banks. Finally, the stocks and flows of world interbank assets are approximated by data on the stocks and exchange rate adjusted flows of interbank claims of BIS reporting banks, compiled by the BIS in its *International Banking and Financial Market Developments.*

[3] These shares are selected on the basis of observed changes in the currency composition of claims of BIS reporting banks on developing and eastern European countries and exclude foreign liabilities denominated in domestic currency.

[4] OECD, *International Investment and Multinational Enterprises,* 1987.

[5] Source: OECD, *Financial Market Trends,* February 1989.

3. Stocks and flows of financial assets of industrial countries, excluding the United States (see Appendix Tables 3 and 4)

Stock data on private foreign assets of industrial countries, excluding the United States, are arrived at by eliminating from these countries' total external assets official reserve holdings and interbank assets. The flow figures correspond to balance-of-payments transactions of private residents of these countries, adjusted for interbank capital outflows. Stock and flow figures are derived from national sources, while the adjustment for interbank stocks and flows is made on the basis of BIS statistics on banking transactions (see Appendix Table 3).

Financial asset stocks and flows, domestic as well as foreign, of residents in industrial countries, excluding the United States, are based on financial balance-sheet and flow-of-funds statistics respectively. Financial assets of private residents in these countries comprise only the financial assets of the enterprise sector, i.e. both

Table 3
Estimated private foreign assets of industrial countries (excluding the United States)
(in billions of US dollars)

Items	1981	1982	1983	1984	1985	1986	1987	1988
I. *Stocks* (end-of-year)								
Total foreign assets	2,285	2,335	2,400	2,510	3,105	4,115	5,365	5,765
of which: Official reserve assets	285	255	255	250	285	355	530	535
Interbank assets	790	805	825	860	1,105	1,530	2,075	2,225
Private foreign assets, excluding interbank assets	1,210	1,275	1,320	1,400	1,715	2,230	2,760	3,005
II. *Flows*								
Private resident transactions	..	135	155	200	270	510	530	545
of which: Interbank flows	..	40	45	75	145	305	335	235
Private resident transactions, excluding interbank flows	..	95	110	125	125	205	195	310

Note: Figures are rounded to the nearest $5 billion.

Sources: National sources and BIS, *International Banking and Financial Market Developments.*

Table 4

Estimated financial assets of the enterprise sector in industrial countries (excluding the United States)
(in billions of US dollars)

Items	1981	1982	1983	1984	1985	1986	1987	1988
I. *Stocks* (end-of-year)								
a. G-7, excluding the United States								
Total private financial assets	13,890	14,360	15,005	14,830	20,035	27,125	37,420	39,890
of which: Household sector	4,385	4,550	4,785	4,755	6,405	8,635	11,750	12,535
Private financial assets, excluding the household sector	9,505	9,810	10,220	10,075	13,630	18,490	25,670	27,355
b. All industrial countries[1]								
Private financial assets, excluding the household sector	11,810	12,205	12,535	12,315	16,660	22,585	31,440	33,305
Private financial assets, excluding the household sector and interbank assets	11,020	11,400	11,715	11,455	15,550	21,055	29,365	31,080
II. *Flows*								
a. G-7, excluding the United States[2]								
Private financial investments, excluding the household sector	995	880	925	965	1,045	1,775	2,360	2,580
b. All industrial countries[1]								
Private financial investment, excluding the household sector	..	1,095	1,130	1,180	1,280	2,170	2,890	3,140
Private financial investment, excluding the household sector and interbank transactions	..	1,060	1,085	1,105	1,135	1,860	2,555	2,730

Note: Figures are rounded to the nearest $5 billion.

[1] For details of the estimation method, see text.

[2] Data for the United Kingdom are estimated on the basis of stock changes.

Sources: National sources and BIS, *International Banking and Financial Market Developments.*

the stocks and transactions of the public sector and those of the household sector are excluded. The latter adjustment is made because the household sector in most countries invests mainly through the intermediary of the financial enterprise sector, and its investment decisions are thus captured in the figures for that sector. In addition, the household sector typically tends not to invest significantly in foreign assets, at least not directly. As in the other data series, interbank assets are excluded from the stock and flow figures. The

asset stocks considered here do not include stocks of real or fixed assets for essentially three reasons: (i) funds placed in fixed assets are not available for international investment to the same extent as funds placed in financial assets; (ii) including fixed assets would lead to a certain amount of double-counting; and (iii) the computation of real asset values is subject to severe measurement problems and is not standardised across countries.

As timely data on private financial asset stocks and flows are only available from national sources for six large countries, viz. Japan, Germany, France, the United Kingdom, Italy and Canada, the respective stocks and flows for the entire group of industrial countries under consideration are estimated by assuming that the ratio of private financial assets to GNP which can be calculated for the six larger industrial countries is also applicable to the smaller countries for which little or no up-to-date information on financial balance-sheet developments is available. A similar procedure is followed to estimate asset flows in the smaller industrial countries. As such, series of stocks and flows of private financial assets of all industrial countries, excluding the United States, can be constructed and are presented in Appendix Table 4.

4. Stocks of privately-held dollar assets, other than US assets, in industrial countries excluding the United States at the end of 1988

Holdings of dollar assets, other than US assets, by private residents in industrial countries excluding the United States at the end of 1988 are defined to include:

(a) data on bank deposits denominated in dollars which are held with banks located outside the United States. These data form part of the international banking statistics reported to the BIS; and

(b) data on the outstanding volume of dollar bonds issued in the Euro-bond market.

Estimates of dollar deposits held in the Euro-market by private investors in industrial countries (excluding the United States) are obtained by collecting from BIS statistics data on outstanding dollar liabilities of BIS reporting banks, other than those in the United States, to non-bank residents of those countries. At the end of 1988 these liabilities amounted to about $60 billion.

Estimates of the holdings of Euro-dollar bonds by private investors in industrial countries have been made by subtracting from the total of such securities that were outstanding at end-1988 (about $410 billion):

(a) those Euro-bonds issued by US residents (about $110 billion); and

(b) estimates of the amounts of Euro-dollar securities issued by non-US residents that are held by central banks and by residents in non-industrial countries (about $50 billion). These estimates are, of course, very rough ones.

For these two categories of dollar assets, holdings of private residents in industrial countries other than the United States are therefore estimated to have amounted to $310 billion at end-1988.

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