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Cross-border savings flows and capital mobility in the G7 economies

by

Shelley Cooper

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Contents

Abstract

An earlier version of the attached paper was written as background for the BIS Economists meeting in November 1989. The theme of the conference was: international private capital flows and their role in determining exchange rate structures in a world with persistent current account imbalance. This paper was originally written to examine whether the savings of the G7 countries are more mobile and hence better able to finance current account imbalances. The major conclusions of the study are as follows: in the past decade in each of the G7 countries, measures have been taken to remove impediments to capital movement. A chronology of these measures is set out in Appendix One. Cross-border savings flows have increased in the past decade, particularly between 1984 and 1986. The increase largely reflects changes in the regulatory environment in Japan (and to a lesser extent Germany) which have increased the opportunity for savings to be intermediated overseas. As a percentage of nominal GDP, cross-border savings flows reached around 13% in the United Kingdom, 9% in Germany, around 8% in Japan, around 5% in France, just under 3% in Italy and Canada and less than 2% in the United States in 1989. The United States current account deficit was a smaller proportion of cross-border savings flows in 1989 than it has been for any year since 1982.

Tests of equality between onshore and offshore interest rates on bonds denominated in the same currency indicate that the extent of world capital market integration has been increasing. There are now almost no differences in interest rates on financial assets in the major economies that can be ascribed to the political or regulatory jurisdiction in which the asset is issued (Frankel, 1989). The early work of Feldstein and Horioka (1980) measured savings/investment correlations and interpreted the high correlations as indicative of a low degree of world capital mobility. This conclusion has now been challenged and the high correlations have been attributed to government behaviour and inventory changes (Bayoumi, 1989).

Introduction

One of the features of the past decade with floating exchange rates has been the growth and relative persistence of large current account imbalances. To what extent should this be a cause for concern? First, there is the question of the ease of financing deficits, and second, even if the imbalances can be easily financed, there is the issue of whether the financing itself contributes to a stable and gradual adjustment process or whether it aggravates adjustment by delaying necessary policy changes and contributing to exchange rate misalignment. One view is that a persistent current account deficit could lead to an accumulation of foreign liabilities, which if unchecked could at some point undermine market confidence and result in sudden and unpredictable changes in exchange rates and interest rates and thereby induce large adjustment costs. The other view is that current account deficits do not matter because they can be financed in the medium term with relative ease without serious macroeconomic disruption, whilst over the long term adjustment will tend to occur automatically.

In 1987, the financing of the United States current account deficit was achieved only through large flows into US Treasury paper and accompanied by large scale foreign exchange intervention to support the dollar. Since then, the United States has had little difficulty in financing the current account deficit with the burden shifting from official financing to private capital inflows (Dealtry and Van 't dack, 1989), but this situation may not continue indefinitely. The ease of financing the deficit is directly related to differences in expected real rates of return between the United States and other countries. However other factors such as the degree to which foreign investors are prepared to maintain or increase their portfolio share of US dollar denominated assets and the extent to which the domestic savings of the other countries are free to move across national borders, also affect the ease of financing the deficit. The former issue is addressed by Dealtry and Van 't dack (1989) while this paper focuses on the latter issue.

The paper looks at the issue of the ease of financing deficits in the wider context of capital mobility in the G7. To assess the degree of capital mobility one can look at changes in the regulation of capital flows and at gross and net capital flow transactions. The magnitude of gross transactions provides some indication of the impact of capital market liberalisation. Tests of covered and uncovered interest parity indicate how closely international capital markets are integrated. However, in order to look at the amount of capital available to finance deficits it is necessary to look at net transactions across borders. The paper sets out a measure of net cross-border savings flows, discusses policy changes in the regulation of capital flows and assess the literature on capital mobility.

Changes in impediments to capital movement

In the past decade in the G7 countries the preconditions have been set for domestic savings to be more internationally mobile. Measures to liberalise capital movements have been made in order to improve financial market efficiency and reduce distortions. The chronology of measures to liberalise capital flows is set out in Appendix One. Canadian exchange controls were lifted as early as 1951, and the US interest rate equalisation tax was removed in 1974. However, major barriers to the movement of saving across national borders remained for the United Kingdom until 1979 and for Japan until 1980 and Germany 1984, but for Italy as recently as 1988. Nevertheless, prudential restrictions on the composition of assets of some financial intermediaries in most of the G7 economies still operate to some degree as *de facto* exchange controls (Davis, 1990).

In the United Kingdom, the major change in the exchange control regime occurred in October 1979, when all barriers to inward and outward flows of capital were removed. In Japan, moves to deregulate capital flows were more piecemeal. The reform of the Foreign Exchange and Foreign Trade Control law in December 1980 liberalised the issue of bonds, the purchase and sale of securities, direct investment regulations and regulations on foreign currency deposits. However, many restrictions remained and in particular, controls on holdings of foreign securities by life insurance companies are still in force although they are not currently binding (Davis, 1990). Trust Fund Bureau, the funds of which primarily consist of savings held in post office accounts and state pension contributions, were only permitted to invest overseas from April 1987, with investment restricted to a ceiling of 10% of total funds. The major German liberalisation of exchange controls took place in March 1981, but the withholding tax on foreign holdings of German bonds was not abolished until August 1984 following the United States removal of withholding tax in July 1984. In France, the liberalisation of capital flow regulations has proceeded slowly with small changes made at intervals with all the changes completed in January 1990. In Italy, the exchange control regime was not changed to a system where all foreign transactions could be carried out freely unless specifically restricted until October 1988 and the last controls on Italian residents holding foreign bank accounts were removed in May 1990.

Regulatory restrictions on life insurance companies often function as a form of *de facto* exchange control in that they prohibit or restrict companies from acquiring foreign assets. In the United Kingdom, foreign assets may be held up to the level of 20% of domestic currency liabilities. In Japan, 30% of life insurance portfolios are permitted to be invested offshore. The limit is not currently binding. In the United States controls on the portfolios of investment companies are enforced by state laws. In all states except New York overseas investments are limited to 3% of life insurance portfolios. (The limit is 6% in New York.) However, pension funds are exempt from these controls if they are in

separate accounts. Davis (1990) notes that there are similar restrictions in Canada. In Germany, it is not permitted for assets held to meet contractural insurance liabilities to be invested in foreign assets. (These assets make up more than 90% of total life insurers' assets.) Foreign assets must not exceed 5% of other assets. In Germany and France domestic currency life insurance liabilities must be matched 100% with domestic assets and in France certain pension funds are effectively obliged to invest in domestic assets because there are tax disadvantages to holding foreign assets. Finally, in Italy, foreign currency assets are limited to the size of foreign currency liabilities (Davis, 1990).

A measure of cross-border savings flows

In this section an attempt is made to quantify cross-border savings flows in the G7 over the past decade and to assess whether the trends in savings flows reflect the easing of exchange control regulations. The definition of cross-border savings flows that has been used in this study is as follows: savings that have financed current account imbalances and/or financed desired overseas direct and portfolio investment. This is an ex post definition. Ideally, one would have wished to adopt an ex ante approach, measuring all savings that could move, including new flows and adjustable portfolio positions, but in practice it is difficult to distinguish which capital is 'potentially moveable'. The cumulative stock of potentially moveable savings could be measured by taking a certain percentage of national wealth, adjusted for exchange controls and financial regulation, but it would be difficult to specify what this percentage should be. There is the additional problem that any cumulative measure should incorporate revaluation adjustments but it is likely that these revaluations would far exceed new capital flows. For example, in the United Kingdom, changes in the stock of identified net external assets have been dominated by revaluation factors due to large changes in world equity prices and exchange rates (Bank of England *Quarterly Bulletin*, 1989).

Thus the preferred approach is to measure cross-border savings flows on a year-by-year basis, capturing all savings that have moved. This is the approach that was taken since the problems in defining 'potentially moveable' and the revaluation issue do not arise with an ex post flow measure. The study is confined to the G7 countries but as the G7 made up 86% of OECD GNP in 1987 the distortion arising from omission of other countries may not be that significant. The newly industrialising economies of Singapore and Hong Kong are likely to be the most serious omission, along with some OECD countries with large surpluses like the Netherlands and Belgium.

Capital outflows when positive (that is increases in external assets) and capital inflows when negative (that is decreases in liabilities to overseas residents) for each country were summed for the following categories in the balance of payments accounts: direct investment, trade credits, portfolio investment, loans, short-term banking flows and changes in international reserves. Appendix Two sets out the resulting calculations of cross-border savings flows for each of the G7 countries in spreadsheet form and details the data sources.

Statistical differences in the reporting of capital flow data across countries mean that there are some inconsistencies in the coverage of capital flows across countries. There are particular problems arising from the fact that different countries publish their capital account data at different levels of disaggregation. Hence, the results should be treated with caution particularly at a country level, although the trend in the aggregate should be fairly robust. In particular in the United Kingdom, the trends in the capital flows may not be all that reliable because of the large balancing item in the accounts.

The definition of cross-border savings flows as positive net capital outflows and negative net capital inflows causes several problems. One contentious point is the 'net capital outflows when positive' assumption. This assumption was made because the objective was to measure cross-border savings flows available or used for overseas investment in each year. Negative capital outflows reduce stocks of overseas assets and hence can be described as previous years' repatriated savings flows. The case arises in 1987 in the United Kingdom where there was a substantial repatriation of portfolio investment by UK institutions. The negative capital outflow on portfolio investment was not subtracted from the 1987 figures for cross-border savings flows, as conceptually the savings were available to finance investment in the United Kingdom rather than overseas. Nevertheless, it could be argued that the repatriation of this investment demonstrated how internationally mobile the funds were. Clearly in a stock measure it would be appropriate to subtract repatriated flows but not in a flow measure.

The conceptual basis for including negative net capital inflows in the measure can be illustrated in the following case: say in year 1 a UK company bought US shares. In the UK accounts this would be recorded as a positive capital outflow and hence would be included as UK cross-border savings flows. In the United States, the transaction would be reported as a positive capital inflow and hence not recorded as cross-border savings flows. In year 2 if the UK company sold half the shares back to the United States this would be recorded as a negative capital inflow in the United States (a transaction reducing US liabilities held by foreigners) and a negative capital outflow in the United Kingdom. If negative capital inflows were not recorded, the transaction in which US funds flowed to the United Kingdom to buy the shares would not be captured as US cross-border savings flows and indeed would not be captured as mobile capital at all. If negative capital inflows are not included there is a conceptual problem if the assets purchased with cross-border savings flows are later repurchased by the host country. This problem does not arise if the assets are repurchased by a third country. For example, if the US shares were sold to Japan, the transaction would be recorded as a positive capital outflow in Japan and hence captured as part of Japanese

cross-border savings flows. It is necessary to include both negative capital inflows and positive capital outflows to capture each of these transactions.

The consistency of data across countries is also a problem particularly in the definitions of gross and net asset and liability flows. To take the assets case, some countries report net transactions in external assets, others gross transactions in external assets and others net transactions in net external assets. For example the Japanese report acquisitions and disposals of stocks whereas for several years the Italians reported only net flows into portfolio investment. An effort has been made to use the data in as consistent a fashion as possible. The value of net transactions in external assets was chosen as the basis for calculating flows for reasons of consistency and because figures for gross purchases of stocks include purchases which have been financed by sales of stocks earlier in the year. There are parallel problems for transactions in liabilities.

Short-term banking flows were treated differently in a crude attempt to remove interbank flows. The value of net transactions in net external assets when positive was used as the definition in this case, that is when lending to overseas outstrips the growth in deposits from overseas. Interbank business differs from lending to final users because it is instigated for liquidity management reasons, tax optimisation, or hedging, and hence does not fit within the definition of cross-border savings flows as set out above.

The data is also sensitive to the level of aggregation both across time and across instrument. An example is the case of UK long-term bank lending. There have been substantial net inflows into the United Kingdom in recent years (to finance the current account deficit and other capital outflows) and hence the figure is negative. The aggregation conceals positive outflows that should be included in cross-border savings flows and if the data was disaggregated over type of lending or into quarterly flows the total would be different.

Estimates of cross-border savings flows for the G7

Chart One shows the estimates of cross-border savings flows for the G7. The quantity of savings particularly increased between 1984 and 1986. This reflects the changes in the regulatory environment for capital flows especially in the high saving economies Japan and Germany. A reduction in the quantity of cross-border savings flows is evident in 1987 in Germany. This reduction is linked to the stock market crash and the repatriation of overseas investments. When cross-border savings flows are valued in SDRs (Chart Two) the trend is very similar but the growth since 1985 is not so pronounced. The path of mobile savings in each country seems to reflect macroeconomic factors and the easing of exchange control regulations.

In the United Kingdom the removal of exchange controls in October 1979 led to a large disequilibrium capital outflow as portfolio stocks were adjusted to include a proportion of foreign assets. Cross-border savings flows increased from $16 billion in 1978 to $22 billion in 1979. Taylor and Tonks (1989) estimate that the annual average portfolio investment outflow for the period 1980-83 was of the order of 1,800 times higher than flows between 1975-78. More recently the pattern of UK cross-border savings flows is related to current account developments and changes in the UK savings rate but sustained direct and portfolio investment outflows have actually increased the balance of payments financing requirement. Savings have continued to move offshore despite an increasing need to finance the current account deficit. Cross-border acquisitions and mergers and greater internationalisation of trade were two of the major factors behind the increase in outward direct investment in 1988 and the first half of 1989 (Bank of England *Quarterly Bulletin*, 1989).

The path for the United States also largely reflects current account developments but there are several other factors that are important. In the early 1980s cross-border savings flows fell as the US current account deficit worsened but more recently as the current account position has improved, so have international savings flows have increased. US banking outflows fell considerably after the debt crisis in 1982 and have not returned to pre-crisis levels since. Also in 1982-83 domestic saving was redirected into investment in the United States in response to tax enhanced investment opportunities (Makin, 1989). The strength of the dollar after 1984 led US companies to relocate outside the United States and increased the share of saving flowing abroad (Makin, 1989). The UK and US cross-border savings flows and current account figures (as a percentage of GDP) are shown in Charts Three and Four.

Table One

Cross-border savings flows in US$ billions

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Germany	13.9	23.2	18.1	11.1	16.0	22.0	34.3	78.5	53.5	87.7	107.5
Canada	5.8	6.9	19.6	10.8	7.8	9.6	7.7	11.9	11.9	19.6	11.3
France	7.9	10.9	9.9	8.1	13.3	8.1	5.1	20.0	21.9	21.6	45.3
United Kingdom	22.3	27.4	28.6	21.7	21.0	29.7	40.6	60.1	60.8	67.4	108.8
Japan	21.3	18.6	29.7	27.9	38.0	62.6	83.4	169.7	244.4	209.7	219.2
Italy	10.3	6.6	7.1	6.9	9.2	7.6	6.7	9.7	16.4	21.8	25.9
United States	51.8	75.4	68.8	67.9	26.3	25.0	28.8	35.0	43.9	30.8	79.0
Total	**133.2**	**169.0**	**181.7**	**154.4**	**131.6**	**164.5**	**206.5**	**384.8**	**452.9**	**458.5**	**596.8**

CHART ONE: CROSS-BORDER SAVINGS FLOWS (US$ BILLIONS)

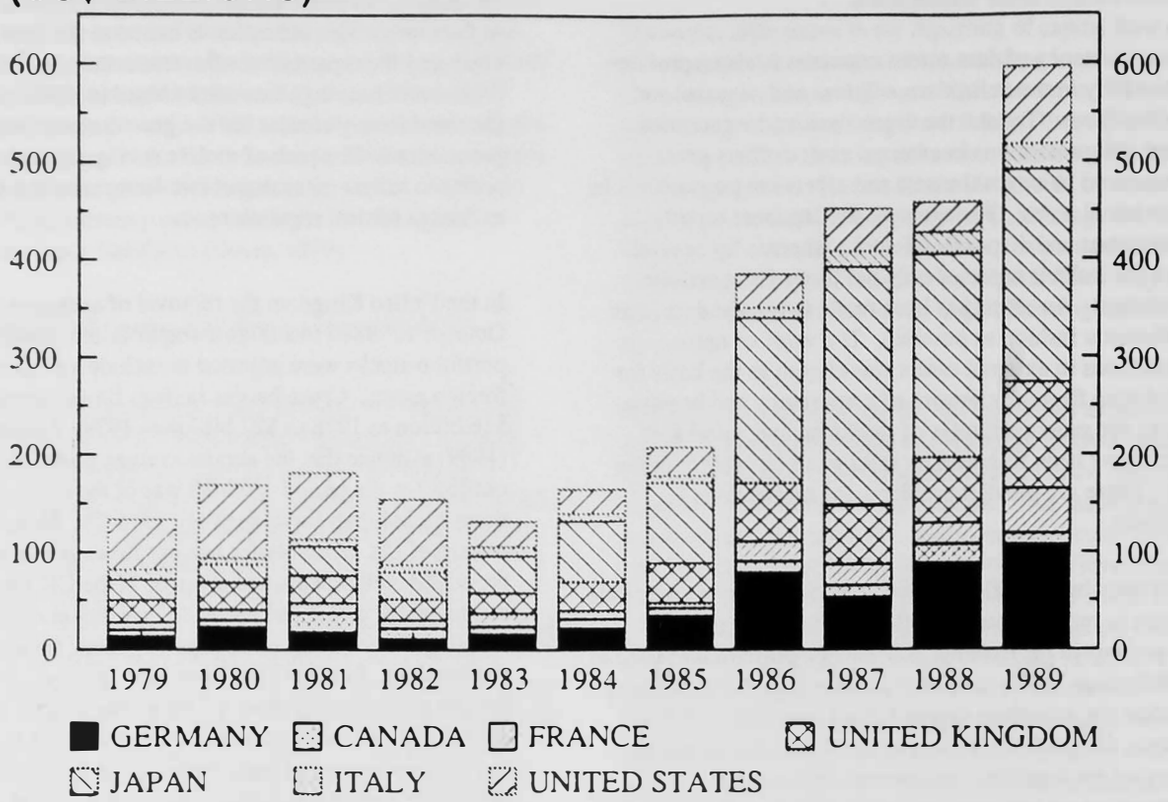


CHART TWO: G7 CROSS BORDER SAVINGS FLOWS (BN)

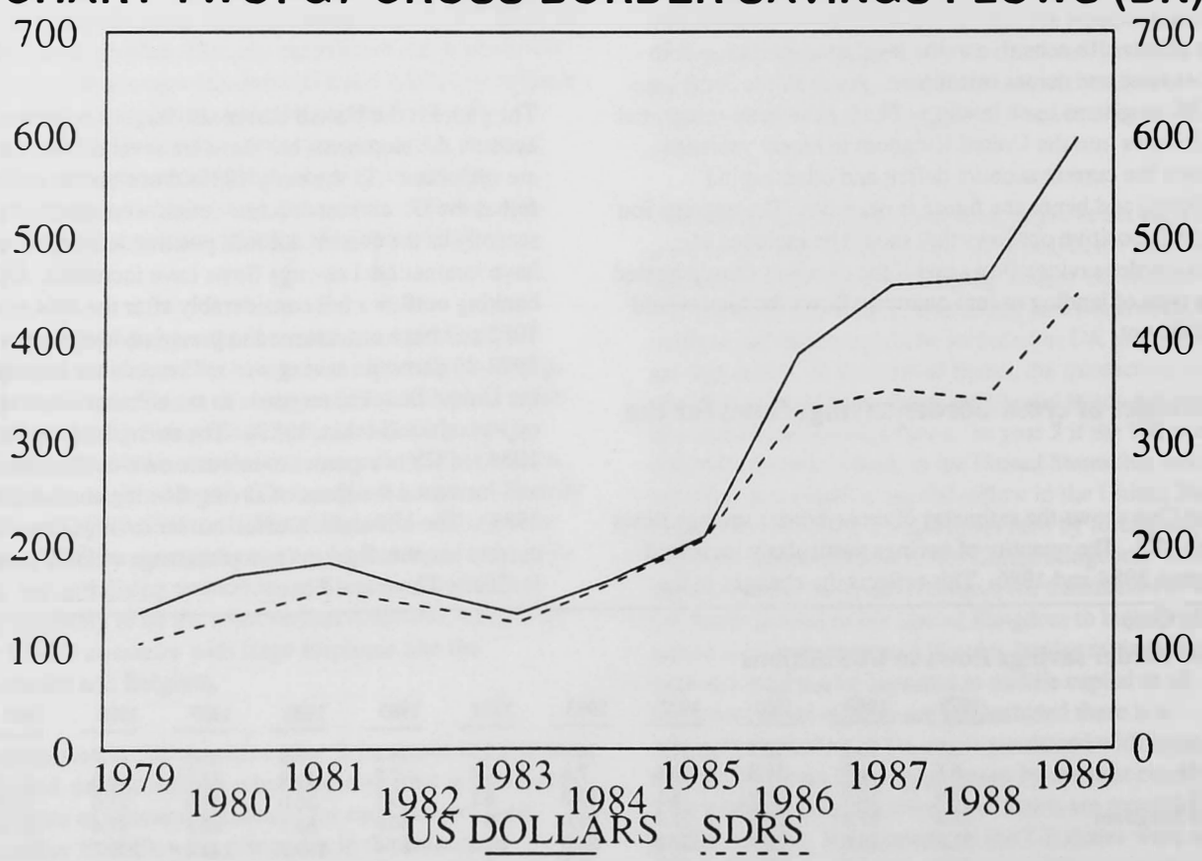


CHART THREE: UNITED KINGDOM CURRENT ACCOUNT AND CROSS BORDER SAVINGS FLOWS AS A PERCENTAGE OF GNP

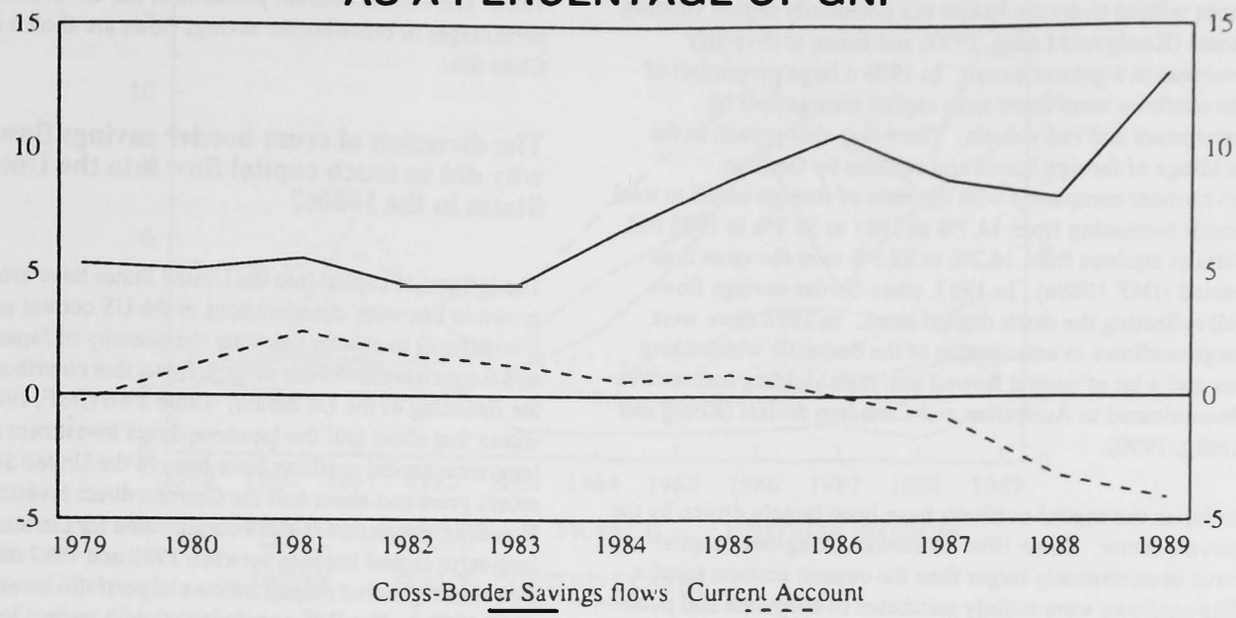
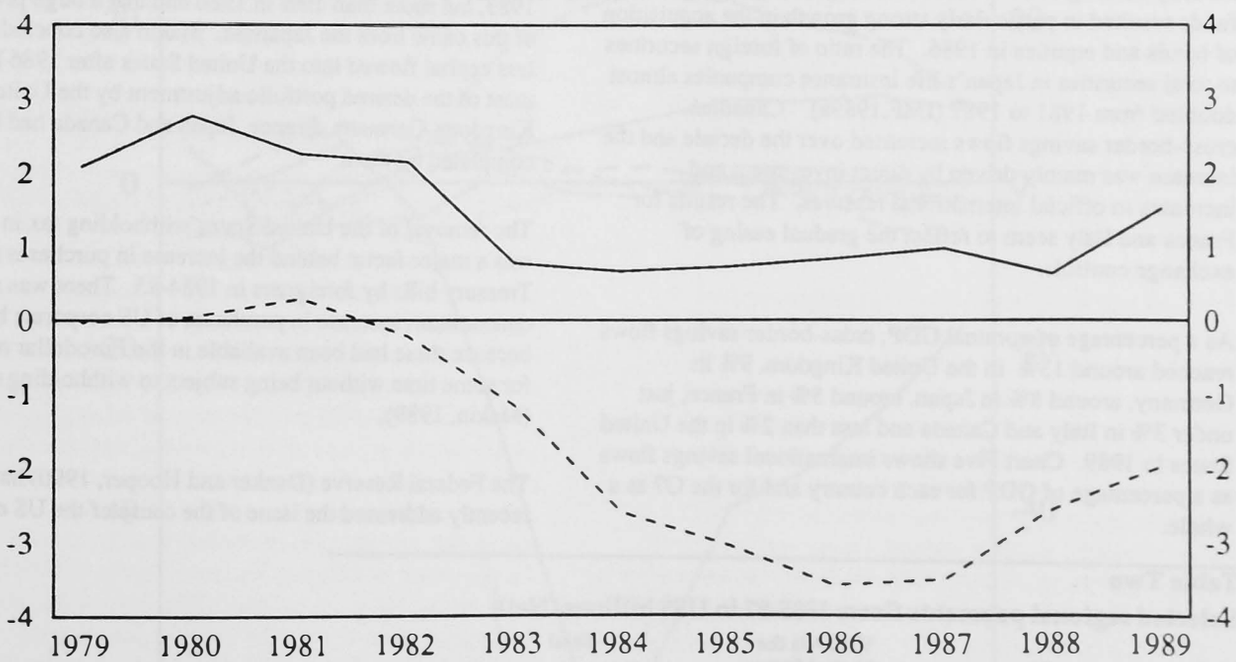


CHART FOUR: UNITED STATES CURRENT ACCOUNT AND CROSS BORDER SAVINGS FLOWS AS A PERCENTAGE OF GNP



In Germany since 1986 sustained current account surpluses, higher corporate saving and increasing financial assets resulted in large capital outflows. The increase in the stock of financial assets may have also prompted investors to be more willing to accept riskier but potentially higher yielding assets (Konig and Ledig, 1990) and hence to diversify overseas to a greater extent. In 1986 a large proportion of the outflows were short-term capital transactions by enterprises and individuals. There was also growth in the holdings of foreign bonds and equities by German investment companies with the ratio of foreign bonds to total bonds increasing from 14.7% in 1981 to 39.9% in 1988 and foreign equities from 16.2% to 23.3% over the same time period (IMF,1989a). In 1987, cross-border savings flows fell reflecting the stock market crash. In 1988 there were large outflows in anticipation of the domestic withholding tax and a lot of capital flowed into high yielding instruments denominated in Australian and Canadian dollars (Konig and Ledig, 1990).

In Japan the capital outflows have been largely driven by the private sector. Since 1984 outflows of long-term capital have been routinely larger than the current account surplus. The outflows were mainly purchases of corporate and public sector bonds (especially US Treasury securities) by institutional investors. It has been suggested that the expansion in the availability of high quality US government paper was a major factor in stimulating Japanese capital outflows. The easing of restrictions on foreign bond and security holding of life insurance institutions and pension funds resulted in particularly strong growth in the acquisition of bonds and equities in 1986. The ratio of foreign securities to total securities in Japan's life insurance companies almost doubled from 1981 to 1987 (IMF,1989a). Canadian cross-border savings flows increased over the decade and the increase was mainly driven by direct investment and increases in official international reserves. The results for France and Italy seem to reflect the gradual easing of exchange controls.

As a percentage of nominal GDP, cross-border savings flows reached around 13% in the United Kingdom, 9% in Germany, around 8% in Japan, around 5% in France, just under 3% in Italy and Canada and less than 2% in the United States in 1989. Chart Five shows international savings flows as a percentage of GDP for each country and for the G7 as a whole.

The United States current account deficit is a smaller proportion of cross-border savings flows in 1989 than it has been since 1982. The worst year for the US current account deficit as a percentage of international savings flows was 1984. The current account positions of the G7 countries as percentages of cross-border savings flows are shown in Chart Six.

The direction of cross-border savings flows: why did so much capital flow into the United States in the 1980s?

The inflows of capital into the United States have broadly grown in line with deteriorations in the US current account. It is difficult to exactly calculate the quantity of Japanese and German cross-border savings flows that contributed to the financing of the US deficit. Table Two (IMF, 1989a) shows that about half the Japanese direct investment and long-term capital outflows have been to the United States in recent years and about half the German direct investment. However, the picture is more complicated for German long-term capital because between 1983 and 1987 the Germans registered overall inflows of portfolio investment (IMF,1989a). The IMF conclude that with respect to long-term capital flows 'the channels from Japan to the United States are more direct than those from Germany to the United States'. Makin (1989) estimated that of the gross saving of Japan, Germany, France, Canada and the United Kingdom about 11% was directed to the United States in 1983, but more than 19% in 1986 and that a large proportion of this came from the Japanese. Makin also concludes that less capital flowed into the United States after 1986 because most of the desired portfolio adjustment by the United Kingdom, Germany, France, Japan and Canada had been completed by then.

The removal of the United States withholding tax in 1984 was a major factor behind the increase in purchases of US Treasury bills by foreigners in 1984-85. There was no concomitant increase in purchases of US corporate bonds because these had been available in the Eurodollar market for some time without being subject to withholding tax (Makin, 1989).

The Federal Reserve (Danker and Hooper, 1990) have recently addressed the issue of the cause of the US capital

Table Two
Selected regional payments flows 1985-87 in US$ billions (Net)

	Vis-à-vis the United States			Total		
	1985	1986	1987	1985	1986	1987
Japan						
Direct investment	-2.0	-7.8	-9.0	-5.8	-14.3	-18.4
Other long-term capital	-31.1	-57.9	-52.0	-58.7	-117.2	-118.2
Germany						
Direct investment	-2.9	-5.1	-3.7	-4.1	-8.3	-7.2
Other long-term capital	-1.8	1.6	-1.6	-0.5	23.6	-5.9

CHART FIVE: CROSS-BORDER SAVINGS FLOWS (AS A PERCENTAGE OF NOMINAL GNP/GDP)

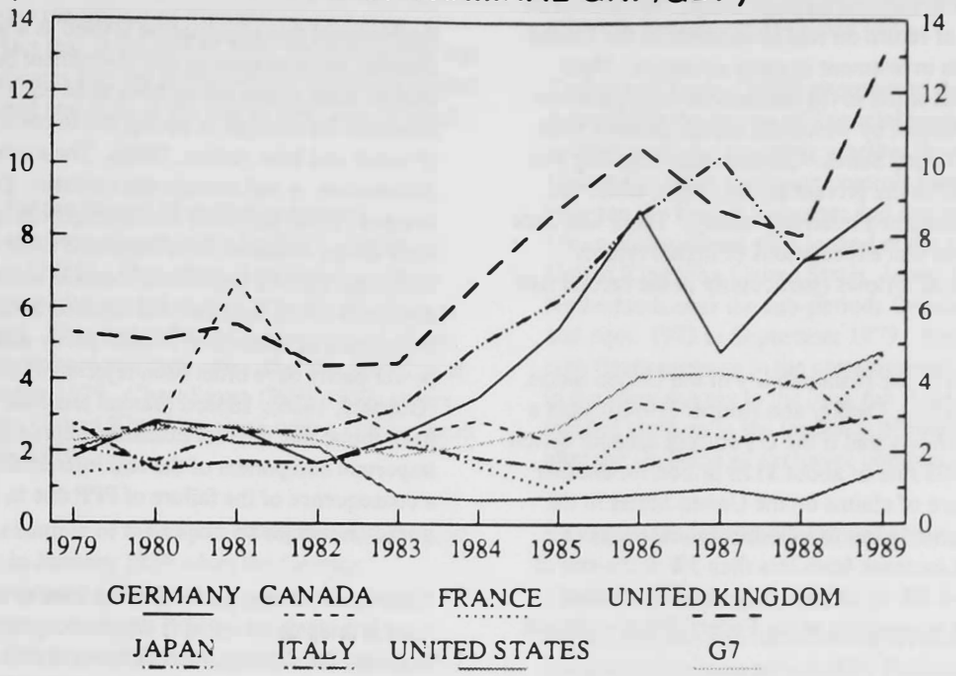
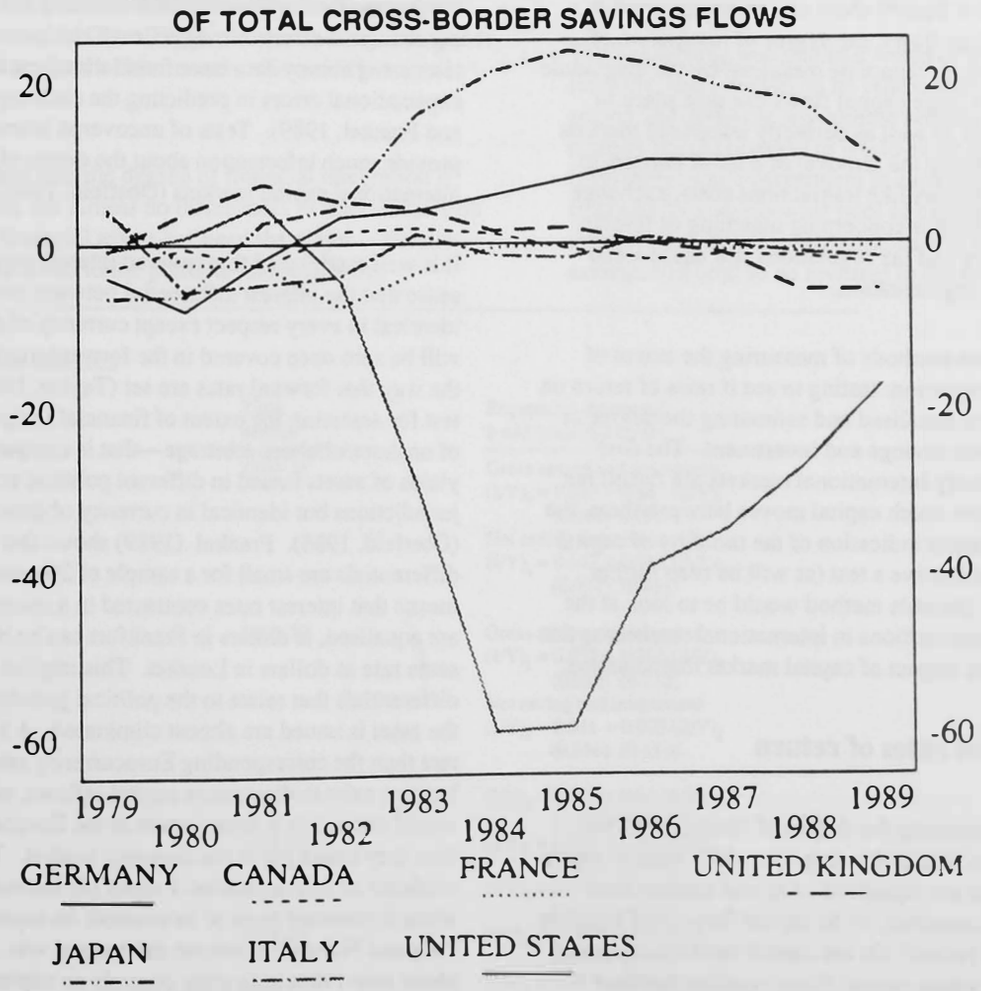


CHART SIX: CURRENT ACCOUNT AS A PROPORTION OF TOTAL CROSS-BORDER SAVINGS FLOWS



Negative sign denotes current account deficit

account surplus in the 1980s. They tested two alternative explanations: the shift of the US government into deficit and the associated fall in national savings versus the increase in the expected rate of return on real investment in the United States compared to investment in other countries. Their conclusion was that shifts in the national savings ratio was the primary mechanism by which the capital inflows were induced into the United States. Government dissaving was reinforced by a fall in the private savings ratio, while the investment ratio remained relatively steady. There was little evidence to suggest that expectations of higher returns generated the capital inflows (particularly in the second half of the decade).

As to the question of the sustainability of the United States current account deficit, Danker and Hooper (1990) quote a BIS study which shows that if the US current account deficit remained at its 1988 rate of about $125 billion for another five years, the share of claims on the United States in the portfolios of the private sector in industrial countries businesses would increase from less than 3% at the end of 1988 to less than 4.5% by 1993. They also cite similar results from work in progress at the Federal Reserve Board.

Attempts to quantify the level of world capital market integration

Although the above figures show an increasing trend in cross-border savings flows, the degree of integration of world capital markets cannot be measured by the magnitude of capital flows as large capital flows can take place in segmented markets as well as perfectly integrated markets (Stulz, 1986). Despite the removal of a lot of barriers to capital mobility, factors like transactions costs, exchange risk, official regulations concerning matching of foreign exchange exposure and tax regulations still cause some degree of market segmentation.

There are two main methods of measuring the extent of capital market integration: testing to see if rates of return on financial assets are equalised and estimating the degree of correlation between savings and investment. The first indicates how closely international markets are linked but not necessarily how much capital moves between them, the second provides some indication of the mobility of capital but is not very conclusive a test (as will be seen further below). Another possible method would be to look at the amount of gross transactions in international markets as this would indicate the impact of capital market liberalisation.

Equalisation of rates of return

One method of assessing the degree of financial market liberalisation is to look at the extent to which rates of return on financial assets are equalised. Are real interest rates equalised across countries, or do capital flows only equalise expected rates of return? Or are capital markets integrated only to the point where capital flows equalise nominal interest rates across markets when contracted in a common currency?

Real interest rate equalisation is used as a test for capital mobility because savings and investment depend on real interest rates which would have to be equalised across countries for changes in saving not to crowd out investment (Frankel and Mac Arthur, 1988). The evidence is that large differentials in real interest rates remain. Dornbusch and Frankel (1988) point out that divergences in real interest rates across countries have increased since 1973. It is not surprising that the hypothesis that real interest rates are equalised across currencies is rejected because the hypotheses of uncovered interest parity and purchasing power parity have often been rejected in the literature (Obstfeld, 1986). Indeed Frankel and Mac Arthur (1988) have found that the real exchange depreciation is the most important component of the real interest differential which is a consequence of the failure of PPP due to imperfect integration of goods markets.

Uncovered interest parity is often used as a test of financial market integration—that is whether capital flows equalise expected rates of return on different country's financial assets despite exposure to exchange risk. If forward rates are set in line with interest differentials, then testing uncovered interest parity reduces to testing whether the forward rate is an unbiased predictor of the spot rate. Deviations from uncovered interest parity may be due to expectational errors or may reflect a risk premium. Recent tests using survey data have found that there are systematic expectational errors in predicting the exchange rate (Froot and Frankel, 1989). Tests of uncovered interest parity do not provide much information about the extent of integration of international capital markets (Obstfeld, 1986).

It is well established that covered interest parity holds in the sense that the interest differential between two assets that are identical in every respect except currency of denomination will be zero once covered in the forward market because of the way that forward rates are set (Taylor, 1988). A better test for assessing the extent of financial integration is a test of onshore/offshore arbitrage—that is comparing nominal yields of assets issued in different political and regulatory jurisdictions but identical in currency of denomination (Obstfeld, 1986). Frankel (1989) shows that these interest differentials are small for a sample of 25 countries, which means that interest rates contracted in a common currency are equalised, ie dollars in Frankfurt can be borrowed at the same rate as dollars in London. This implies that interest differentials that relate to the political jurisdiction in which the asset is issued are almost eliminated. A higher onshore rate than the corresponding Eurocurrency rate indicates that barriers exist to discourage capital inflows, as investors would not accept a lower return in the Eurocurrency market than they could get in the domestic market. There was some evidence of this in Frankel's study for Germany until 1974 when it removed most of its controls on capital inflows. For Italy and France the interest differential was negative, until about mid-1986, indicating controls on capital outflows.

The sharp reduction of the differential (to almost zero) coincided with the EMS realignment in mid 1986 and partially reflected the impact of dismantling exchange controls. The fact that at the end of 1987 the differential was almost zero indicates that the impact of the remaining capital controls in France and Italy at the end of 1987 was of small order.

Similar results for the impact of exchange control liberalisation have been shown in the United Kingdom by Artis and Taylor (1989). They show that deviations from onshore/offshore parity tended to zero after the abolition of exchange control. This was reflected in the removal of the wedge between onshore and euro-rates after the abolition of controls in October 1979. Chart Seven (IMF, 1989) shows this result for the United Kingdom along with a similar result for Japan also in 1979.

A more recent example of the impact of regulation of capital flows was seen in January 1989 when the German government introduced a withholding tax of 10% for all German domestic instruments held by residents and non-residents. The tax was first announced in October 1987 and this resulted in a capital outflow and the onshore-offshore differential widened as the onshore rate increased to compensate for the tax. After the announcement in April 1989 that the tax was to be repealed, the onshore and offshore rates moved back into equality. This is illustrated in Chart Eight. Any remaining divergence between onshore and offshore rates reflects differences in credit quality.

It is fairly clear that the degree of financial integration is such that there are almost no differences in interest rates on comparable financial assets between the major currencies that can be ascribed to the political and regulatory jurisdiction in which the asset is issued although exchange rate risk premiums persist and there may be expectational errors in forecasting exchange rates.

Taylor and Tonks (1989) approached the problem of quantifying the degree of financial market integration from another angle by assessing whether the removal of the United Kingdom exchange controls increased the linkages between the United Kingdom and overseas stock markets. Using cointegration they looked at the stock markets of the United Kingdom, United States, Japan, Germany and the Netherlands over the sub-periods October 1979 to June 1986 and April 1973 to September 1979. They found no significant increase in the correlation of stock market returns in the short run but in the long run there did appear to be a marked increase in the tendency of markets to move together after the abolition of exchange controls.

Savings-investment correlations

The first cross-section results

Further evidence on the extent of world capital market integration has been provided by Feldstein and Horioka (1980) who caused some controversy with the claim that since countries' rates of national saving are very highly correlated with their rates of investment the level of world capital mobility must be very low.

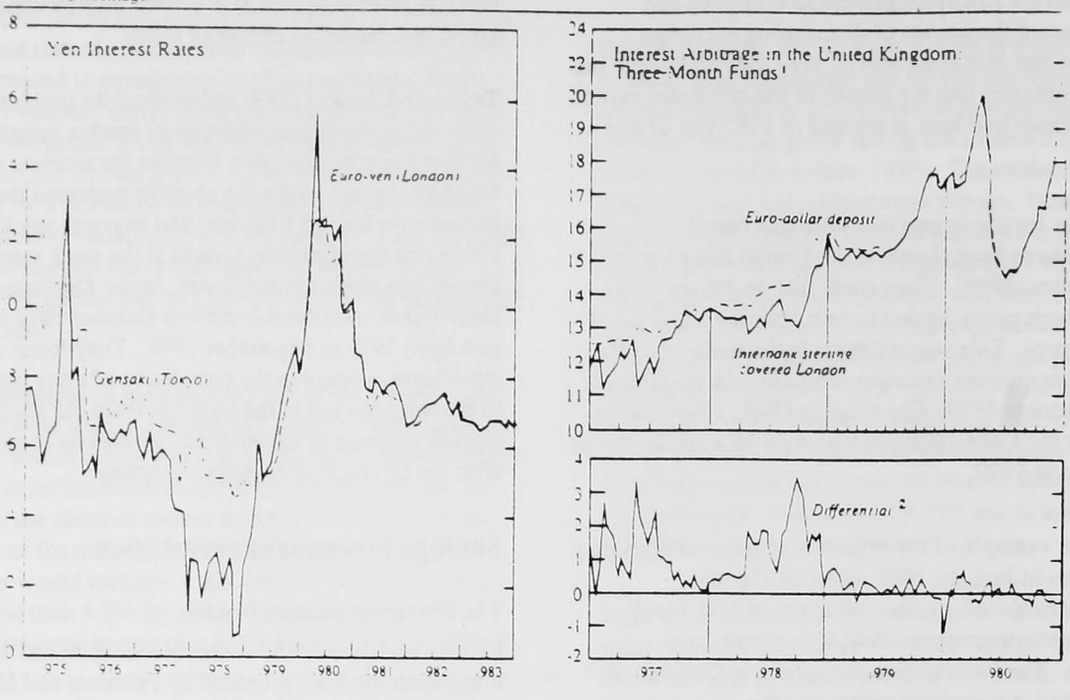
Their reasoning was that in a world of perfect capital mobility, there should be no relation between domestic saving and domestic investment because saving in each country should respond to world-wide opportunities for investment while investment in each country should be financed by a world-wide pool of capital at the going real interest rate. If however, world capital is not that mobile, savings will tend to be invested in the country of origin, and

Table Three
Cross-section studies

Author	Time period	Regression estimated *b* and (standard error)
Feldstein and Horioka (1980)	1960-74	Gross saving and investment $(I/Y)_i = 0.035 + 0.887\ (S/Y)_i$ (0.018) (0.074) Net saving and investment $(I/Y)_i = 0.017 + 0.938\ (S/Y)_i$ (0.014) (0.091)
Feldstein (1983)	1960-79	Gross saving and investment $(I/Y)_i = 0.057 + 0.796\ (S/Y)_i$ (0.028) (0.112) Net saving and investment $(I/Y)_i = 0.011 + 0.993\ (S/Y)_i$ (0.016) (0.111)
Dean et al (1989)	1963-67	$(I/Y)_i = 0.033 + 0.91\ (S/Y)_i$ (0.016) (0.064)
	1968-72	$(I/Y)_i = 0.053 + 0.80\ (S/Y)_i$ (0.020) (0.079)
	1973-77	$(I/Y)_i = 0.077 + 0.77\ (S/Y)_i$ (0.044) (0.181)
	1978-82	$(I/Y)_i = 0.085 + 0.71\ (S/Y)_i$ (0.035) (0.156)
	1983-87	$(I/Y)_i = 0.094 + 0.58\ (S/Y)_i$ (0.021) (0.098)

Figure 7. Financial Liberalization in Japan and the United Kingdom: the Impact on the Offshore/Onshore Differential

(Annual percentage)



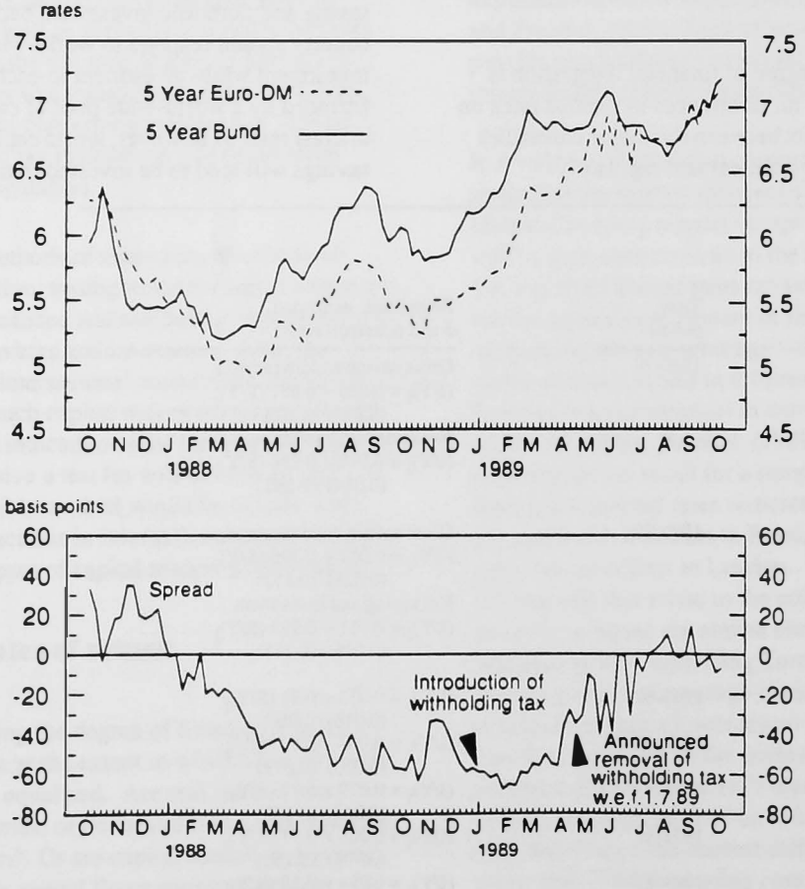
Source: Frenkel (1989), based on *Economic Report of the President* (1984)

[1]Averages for week ending Wednesday.

[2]Plus = + favors dollar assets.

Source: IMF Staff Studies, September 1990, Artus and Bayoumi

Chart 8 : 5 Year Foreign DM/Bund Rates and Spread



differences among countries in investment rates should correspond closely to differences in saving rates. The basic regression hypothesis that was used to test this was as follows:

$$(I/Y)_i = a + b\,(S/Y)_i$$

where *i* represents different countries and the hypothesis is tested in a cross-section framework. In this framework, a coefficient on *b* close to 1 would indicate a very low degree of capital mobility whilst zero would indicate perfect mobility. Feldstein and Horioka's controversial result was that *b* was very close to one for the period 1960-74. To some extent this result could be explained by the time period over which the equation was estimated. However, their findings were reinforced by Feldstein (1983) who found no evidence that the saving investment correlation had fallen over time in a regression estimated over the period 1960-79.

This work has been updated by the OECD (Dean et al, 1989) who have estimated savings investment correlations on a cross section basis for 23 countries over the following data periods: 1963-67, 1968-72, 1973-77, 1978-82 and 1983-87. They report a declining trend on the coefficient on savings over these periods.

Explaining the savings/investment correlation

Endogeneity of savings

All of the results have been subjected to a great deal of econometric criticism. The most serious problem is that saving is endogenous to the system and hence estimates of the coefficient on saving will be inconsistent due to simultaneity bias. Private saving may be influenced by government fiscal policy and public saving may be used to target the current account (Frankel, Dooley and Mathieson, 1986).

In efforts to minimise the endogeneity problem, in the cross-section framework, some writers have used instrumental variables (Frankel, Dooley and Mathieson, 1986) such as military expenditure to proxy government saving and the dependency ratio to proxy private sector saving. However, Frankel, Dooley and Mathieson found that the instrumental variable estimation does little to change the results. Bayoumi (1989) came to a similar conclusion after using instrumental variables and bootstrap regression techniques. Feldstein and Horioka (1980) used a two stage least squares instrumental variables model to capture intercountry differences in saving rates and found that the two stage least squares results were quite similar to the OLS results described above. Consequently, it seems that the OLS results are not changed significantly by the use of econometric techniques to correct the endogeneity problem.

Ricardian equivalence and private savings

Ricardian Equivalence suggests that the private sector offsets changes in government saving in order to allow for changes in future tax liabilities. Bayoumi (1989) examined whether there was any evidence of Ricardian Equivalence by regressing private saving on public saving in a time series equation for the major six economies, plus four smaller OECD countries. The results showed some evidence of Ricardian Equivalence and an adjusted private saving series was constructed by adding 25% of government saving to private sector saving to account for the fall in private saving when government saving increases. The correlation between the adjusted saving data and the private investment data was considerably lower than in the Feldstein-Horioka results. This suggests that part of the reason for the high savings/investment correlations observed by Feldstein and Horioka is the tendency for movements in government saving to be partly offset by private saving. There was also some consideration of the endogeneity of investment decisions in this study by looking at the effect of government fixed investment on private fixed investment. However, the results did not show any evidence of an investment crowding out effect.

Government policy and the endogeneity of savings

Several studies have looked at the question of whether there is statistical evidence of monetary or fiscal policy being used to target the current account. Summers (1988) found some evidence of the government targeting the current account using fiscal policy by identifying a relationship between the government deficit and the private sector saving/investment balance.

Artis and Bayoumi (1989) have estimated monetary policy and fiscal policy reaction functions for the United States, Japan, Germany and Italy. The equations were estimated as reduced forms with the government policy variable as the dependent variable and the lagged values of policy targets as the independent variables. Output growth, inflation and the size of the current account were policy targets. The coefficient on the current account was significantly different from zero for both Japan and Germany, but was totally insignificant for the United States and marginal for Italy. No stable functions could be found for fiscal policy. The results suggested that the current account was a policy target in the 1970s for all the countries in the study except the United States but that it was accorded less importance in the 1980s.

The conclusion that government policy contributes to the strength of the saving/investment correlation is further

Table Four
Cross-section regression with Ricardian equivalence adjusted savings

Author	Time period	Regression estimated *b* and (standard error)
Bayoumi (1989)	1965-1986	$(I/Y)_i = a + 0.31(S/Y)_i$ (0.07)

supported by evidence of a strong negative correlation between savings and investment balances of the private and government sectors in Artis and Bayoumi (1989). The correlation is either a reflection that any imbalance in savings and investment in one area of the economy requires an offsetting imbalance in another sector, government responds to shifts in private behaviour to maintain a target level of the current account or that the private sector responds to changes in government behaviour, or some combination of these factors.

Also Bayoumi (1989) showed that private sector saving and investment were less correlated than total savings and investment, implying that part of the correlation stems from government policy targeting the savings/investment balance. Second, a comparison was made between the saving/investment correlation during the period of the Gold Standard and post-war. In the period 1880-1913 there were large current account deficits, high capital mobility and little government intervention. The savings investment correlation is very low for the Gold Standard period in comparison with the post-war period. This could be due to the fact that there was much less government intervention in the Gold Standard period, or that capital was much more mobile. Capital may be less mobile now than in the Gold Standard period because of the difference in the exchange rate regime. Floating exchange rates may act to make capital less than perfectly mobile because savers are averse to exchange rate risk and the cost of cover for relevant horizons may be high.

Bayoumi also compares the average size of current account imbalances during the Gold Standard period with the post-war period. He points out that the imbalances were much larger in the Gold Standard period and concludes that larger imbalances are one of the implications of the recent liberalisation and that they are not unusual in a world where capital is very mobile.

Disturbances to the economy affecting savings and investment

Clearly, the above evidence on the endogeneity of saving has indicated that the correlation coefficients do not provide much information about the degree of capital mobility. The usefulness of the correlations is weakened further by models that show that savings and investment move together due to disturbances to the economy. If savings and investment react to the same endogenous shocks, OLS coefficients will be upwardly biased, but the two stage least squares results discussed above (Feldstein and Horioka, 1980) suggest that the bias is not that large.

Tesar (1988) constructed a range of theoretical models that demonstrate that in a world with some restrictions on international markets and/or labour immobility, savings are likely to be correlated with investment for reasons apart from low capital mobility. In a model with labour immobility, increases in population or productivity growth rates can lead to movements in both savings and investment in the long run. Tesar also shows that as non-traded goods and immobile factors are introduced into the analysis, the level of domestic investment becomes increasingly linked to the supply of domestic savings. Demand shocks, aggregate supply shocks and changes in world interest rates can also induce joint movements in saving and investment in models with non-traded capital goods.

In order to test whether aggregate demand and supply shocks were partially responsible for the savings investment correlations, Bayoumi (1989) compared time series regressions of changes in total savings on changes in total investment, to regressions of changes in total saving on changes in total fixed investment for ten OECD economies. The correlations declined when inventory changes were excluded implying that aggregate demand and supply shocks contributed to the saving/investment correlations.

Table Five
Government policy

Author	Time period	Regression estimated *b* and (standard error)
Bayoumi (1989)	1880-1913	$(I/Y)_i = a + 0.29(S/Y)_i$ (0.46)
	1965-1986	Total Investment / Total Saving $(I/Y)_i = a + 0.97(S/Y)_i$ (0.11)
Bayoumi (1989)	1965-1986	Private Fixed Investment / Private Saving $(I/Y)_i = a + 0.58(S/Y)_i$ (0.29)
Artis and Bayoumi (1989)	1972-1986	
	United States	$Priv\ (S-I)/Y_t = a + -1.07\ Govt(S-I)/Y_t$ (0.13)
	Japan	$Priv\ (S-I)/Y_t = a + -1.05\ Govt(S-I)/Y_t$ (0.28)
	Germany	$Priv\ (S-I)/Y_t = a + -0.83\ Govt(S-I)/Y_t$ (0.21)
	France	$Priv\ (S-I)/Y_t = a + -0.98\ Govt(S-I)/Y_t$ (0.21)
	United Kingdom	$Priv\ (S-I)/Y_t = a + 0.43\ Govt(S-I)/Y_t$ (0.52)
	Canada	$Priv\ (S-I)/Y_t = a + -0.99\ Govt(S-I)/Y_t$ (0.15)

Table Six

The impact of inventory behaviour

Author	Time period	Regression estimated *b* and (standard error)
Bayoumi (1989)	1961-1986 United States	Total investment $D(I/Y)_t = a + 1.00\ D(S/Y)_t$ (0.10)
		Total fixed investment $D(I/Y)_t = a + 0.49\ D(S/Y)_t$ (0.07)
	1966-1986 Japan	Total investment $D(I/Y)_t = a + 0.84\ D(S/Y)_t$ (0.15)
		Total fixed investment $D(I/Y)_t = a + 0.55\ D(S/Y)_t$ (0.11)
	1961-86 United Kingdom	Total investment $D(I/Y)_t = a + 0.33\ D(S/Y)_t$ (0.18)
		Total fixed investment $D(I/Y)_t = a - 0.02\ D(S/Y)_t$ (0.10)

Sample bias

A further econometric criticism that applies particularly to cross-section studies is that the inclusion of large industrialised countries in the sample may upwardly bias in the estimated correlation between saving and investment (Tesar, 1988). Obstfeld (1986) found that the savings investment correlation is an increasing function of country size for time series regressions on seven OECD economies. These results indicate that the pooling of time series data on different countries for cross section regressions may distort the results (Obstfeld, 1986). However, Obstfeld's results may not be too reliable given the small sample size.

Time series regressions

The problems with the endogeneity of savings, disturbances to the economy affecting saving and investment and sample bias indicate that the single equation cross section approach to measuring the degree of international capital mobility is not likely to yield useful results. A better approach is to use time series regressions on private sector saving and private sector fixed investment in a simultaneous equation framework. There are some studies that have moved toward this approach.

Frankel (1989) estimated an instrumental variables time series model of total saving and investment the United States economy using decade averages for each variable (to minimise cyclical correlation) with data from 1956 to 1987. He found a very low correlation for the period 1975-87, considerably below the estimates for 1956-87 and 1956-73, implying a very high degree of capital mobility in the US in the most recent period. However, the model is still subject to criticism because it uses total (rather than private sector) savings and investment and is not in a simultaneous equation framework.

In time series regressions of saving and investment over the period 1958-1984 for Australia, Canada, Germany, Japan, United Kingdom and United States, Obstfeld (1986) has found that in all of these economies except Australia that the correlation between saving and investment fell in the period after 1972. This is consistent with the view that the degree of world capital mobility increased after 1972 but is subject to the same criticisms as Frankel's work.

Bayoumi's work is the most promising because it uses private sector data, with inventory investment excluded in a time series context. The results show no stable relationship between changes in private saving and changes in private fixed investment for the data period 1966-86 for ten OECD economies. Bayoumi (1989) concludes: 'overall, the time series results indicate that the correlation between total saving and investment identified in the literature seems to reflect a combination of endogenous inventory investment behaviour and government behaviour' (page 15, 1989). There is also no evidence of any changes in capital mobility

Table Seven

Time series studies

Author	Time period	Regression estimated *b* and (standard error)
Frankel (1989)		Instrumental variables (cyclically adjusted)
	1956-87	$(I/Y)_t = -0.137 + 0.476(S/Y)_t - 0.013(\text{Time})$ (0.302) (0.848) (0.026)
	1956-73	$(I/Y)_t = -0.635 + 0.872(S/Y)_t$ (0.140) (0.153)
	1975-87	$(I/Y)_t = 0.579 + 0.311(S/Y)_t$ (0.305) (0.156)

between the periods 1960-73 and 1974-86, from F tests on the stability of the parameters over the two sub-periods. This result is disturbing as it does not accord with what would be expected given the relaxation of capital controls. However, the conclusion may be related to the choice of data periods—a clear rise in world capital mobility might be evident comparing 1960-73, 1974-79, and 1980-90.

Will the increase in world capital mobility continue?

If we discount the econometric evidence on savings investment correlations as not being particularly helpful for assessing the degree of world capital mobility and focus on the evidence on onshore/offshore interest parity, cross-border savings flows and the changes in the impediments to capital movement it is fairly clear that there has been a major increase in world capital mobility. However, the question remains as to whether the increase has been a product of special circumstances rather than a lasting structural change. Frankel (1989) considers that the dramatic fall in US government saving is the cause of the increased capital mobility and as discussed above this conclusion has been supported by recent work cited by the Federal Reserve Board (Danker and Hooper, 1989). The Nomura Research Institute (1989) has pointed to the combination of events ranging from the removal of British and Japanese restrictions on capital flows in 1979 and 1980, to the high interest rate policies of the US Federal Reserve from October 1979 in combination with the expansionary fiscal policies of the Reagan administration in 1981 and the extremely tight fiscal policies of the Japanese government in the same year. To this list could be added the increased investment demand resulting from accelerated capital depreciation allowances and investment tax credits in the United States in 1981-82 (causing a sharp reduction in the marginal effective tax rate on new investment) and errors of judgement by Japanese investors who continued to buy US dollars without realising the size of the trade deficit and the capital inflow that would result from the increased demand for United States dollars (Krugman, 1989).

It is difficult to determine whether the increased capital flows of the last few years represent a permanent increase in world capital mobility, a one off stock adjustment to the composition of investors' portfolios due to the liberalisation of exchange controls or a response to the unique combination of world macroeconomic policies.

Consequences of the increase in world capital mobility

The increased level of world capital mobility has important implications for the meaning of sustainability (Artis and Bayoumi, 1989). It also has consequences for the importance of the current account as a policy target and has changed the way that exchange rate/current account linkages work. The movement of capital flows away from their earlier function of financing current account imbalances has opened up the possibility of uphill capital flows, that is structural capital flows moving in the opposite direction to that needed to finance the current account (as have been seen in the United Kingdom).

In discussions on the sustainability of current account deficits the analysis is usually built on a model of a world with limited capital mobility where the cost of borrowing rises as the stock of debt rises, eventually very sharply and so there is a liquidity constraint. 'Unsustainable' is usually defined as 'not financeable by private sector capital flows at current interest and exchange rates' (BIS,1990). As we move toward a world of more fully integrated capital markets it is likely that liquidity constraints will be less binding (Artis and Bayoumi, 1989) and interest rates will need to shift less to induce large capital flows. This change can be seen at the moment where despite the present uneasiness about the size and projected continuation of the United States current account deficit, the deficit is 'sustainable' by private capital flows because liquidity constraints are less binding than they have been in the past. The BIS (1990) has argued that in some cases desired private sector portfolio shifts have had interest rate and exchange rate consequences that have tended to prolong or even cause current account imbalances, rather than finance them.

The linkages between the current account deficit and the exchange rate are different under different degrees of capital mobility. When capital mobility is low, an increase in the current account deficit must generate a depreciation of the exchange rate. However, when capital mobility is high it is possible for the economy to sustain a current account deficit and the capital inflows needed to finance it may cause an appreciation of the exchange rate. The exchange rate appreciation has perverse implications for current account imbalances as it causes a deterioration in competitiveness. Some writers have suggested that a further implication of high capital mobility is that the current account is determined as a residual. It can be seen as the outcome of a process where 'some will draw savings from the rest of the world, others will invest in the rest of the world' (Artis and Bayoumi, 1989). However Artis and Bayoumi suggest several reasons why the current account will not be a matter of indifference to policymakers and the real importance of current account balance is currently a question on which there are varying opinions.

Extensions

The measure of cross-border savings flows in this study covers the period from 1979 but the process of large scale international capital movement really began in 1973-74 with the breakdown of the Bretton Woods agreement, the recycling of the OPEC surpluses and the removal of the United States interest equalisation tax. The study could be extended back to 1972 to look at the growth in mobile savings from the Bretton Woods period. In the 1970s and early 1980s it would be of particular interest to look at the capital outflows of the oil exporters and in the late 1980s the

newly industrialising Asian economies could be included in the aggregate. A further extension would be to look at the savings of the other large OECD economies.

The issues raised about new definitions of sustainability and the importance of the current account in an environment of high capital mobility would also be interesting to pursue.

Conclusions

The major conclusions of the study are as follows: in the past decade in each of the G7 countries, measures have been taken to remove impediments to capital mobility and this has been reflected in an increase in cross-border savings flows. Tests of equality between onshore and offshore interest rates on bonds denominated in the same currency indicate that the extent of world capital market integration has been increasing. There are now almost no differences in interest rates on financial assets in the major economies that can be ascribed to the political or regulatory jurisdiction in which the asset is issued (Frankel, 1989). The early work of Feldstein and Horioka (1980) measured savings/investment correlations and interpreted the high correlations as indicative of a low degree of world capital mobility. This conclusion has now been considerably weakened and the high correlations have been attributed to government behaviour and inventory changes (Bayoumi, 1989).

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Appendix One
Chronology of G7 liberalisation of capital flows since 1979[1]

February 1979 **Japan**	All restrictions on non-resident purchases of yen bonds were lifted.
April 1979 **United States**	US banks were given permission to lend more than 10% of their funds to a foreign government and its agencies.
May 1979 **Japan**	A seven point plan for relaxing restrictions on capital inflows was introduced, including extending access to the Japanese gensaki market to non-residents. Japanese authorities also allowed Japanese and foreign banks operating in Japan to issue yen-denominated negotiable certificates of deposit with 3 to 6 months to maturity.
June 1979 **United Kingdom**	Restrictions on the reinvestment of profits from outward direct investment were removed and a substantial allowance of official exchange for the financing of such investments was introduced.
July 1979 **United Kingdom**	All remaining restrictions on outward direct investment were abolished and significant steps were taken to liberalise outward portfolio investment.
October 1979 **United Kingdom**	All remaining barriers to inward and outward flows of capital removed.
March 1980 **Japan**	A further package of measures to facilitate the inflow of foreign funds particularly through the banking system was introduced. The raising of funds from abroad through inter-office free yen accounts by authorised foreign exchange banks was permitted on a more flexible basis. Yen deposits held by foreign banking institutions were exempted from the legal ceiling on interest rates. The private placement abroad by Japanese firms of yen bonds would be permitted more freely in some cases. Medium and long-term impact loans (foreign currency loans to residents by banks in Japan) were permitted.
March 1980 **Germany**	Rules governing the sale abroad by commercial banks of DM denominated promissory notes were relaxed and the minimum maturity for domestic fixed-interest securities eligible for sale to non-residents was lowered in March and November.
June 1980 **France**	Restrictions on direct investment by non-residents in France and by residents abroad were relaxed.
August 1980 **France**	Foreign companies domiciled in any EC country were permitted to acquire any participation in the equity capital of a French company.
December 1980 **Canada**	Licensed foreign-owned banks which permitted such banks to accept deposits while constraining their domestic assets to 20 times their authorised capital and total domestic assets of all such banks to 8% of total domestic assets of all banks operating in Canada.
December 1980 **Japan**	The Foreign Exchange and Foreign Trade Control Law was liberalised, permitting Japanese residents to issue bonds abroad and non-residents to issue bonds in the domestic market subject to prior notification instead of prior approval. The purchase and sale of securities for portfolio investment was also freed. The previous approval requirement for direct investment was replaced by a requirement for prior notice. Also the requirement for prior permission for foreign currency deposits by residents over the equivalent of ¥3 million was eliminated.
December 1980 **United States**	The International Banking Act was implemented with the objective of achieving parity between foreign and domestic deposit-taking institutions with respect to Fed reserve requirements and restrictions on interstate banking activities. The Federal Reserve Board proposed the creation of international banking facilities in the United States that could make loans to non-US residents and would be authorised to accept foreign deposits free from reserve requirements and interest rate restrictions.

(1) In compiling this appendix, there was occasional disagreement between the data sources on the timing and nature of capital liberalisation measures. The IMF's Exchange Restrictions and Exchange Arrangements has been treated as the most authoritative reference.

January 1981 **Canada and Japan**	In a reciprocal banking agreement Canada and Japan agreed to allow their commercial banks to operate five branches in each others' country in 1981 and an additional two by the end of 1982.
January 1981 **Japan**	The suspension on private placement of bonds by non-residents was lifted.
February 1981 **Germany**	The reserve requirements applicable to foreign currency deposits were lifted, partly to encourage capital inflows.
March 1981 **Germany**	The German government announced it would approve all applications for sale by residents to non-residents of certain money-market papers, bills and domestic fixed-interest securities with a maturity of up to two years, implying *de facto* abolition of restrictions on capital transactions. Subsequently, in August the application requirement was eliminated.
April 1981 **Germany**	New issues of deutschemark-denominated bonds by non-residents were permitted.
April 1981 **Japan**	The reserve requirements applicable to foreign currency deposits was lowered, partly to encourage capital inflows.
May 1981 **France**	The reserve requirements applicable to foreign currency deposits was lowered, partly to encourage capital inflows.
May 1981 **Japan**	The Minister of Finance permitted overseas branches of Japanese banks to lend freely Japanese currency held overseas as short-term deposits to non-residents to finance international trade.
June 1981 **United States**	Reserve requirements and regulations governing payment of interest on deposits were amended so as to permit establishment of international banking facilities in the United States from December.
June 1981 **Japan**	Japanese banks were allowed to guarantee their overseas subsidiaries bond issues in foreign capital markets and subsidiaries were allowed to issue bonds in foreign markets of their choice.
February 1982 **UnitedStates**	The Federal Board of the United States permitted banks and bank holding companies to invest in foreign companies, including banks that transact business in the United States.
June 1982 **Japan**	Under revised bank rules, Japanese banks were permitted to open two additional overseas branches in the two fiscal years 1981/82 and 1982/83.
June 1982 **Canada**	The administrative procedures of the Foreign Investment Review Act were simplified to liberalise direct investment.
March 1983 **Japan**	Japanese residents were permitted to purchase commercial paper and negotiable certificates of deposit issued abroad. In April, banks and securities companies started to deal in these financial assets and funds thus raised could be used by the subsidiary parent bank for lending abroad.
March 1983 **France**	The limit applicable to prior authorisation of external borrowings by residents was increased.
April 1983 **Japan**	The amount of foreign currencies allowed to be converted into yen by foreign banks was increased and the minimum required net overall foreign exchange position of foreign banks was increased to US$ 1 million.
June 1983 **Japan**	Short-term Euro-yen lending by Japanese banks was liberalised.
December 1983 **Italy**	Certain direct investment abroad by industrial countries and banks was exempted from the 50% non-interest-bearing deposit requirement.
January 1984 **France**	Foreign direct investment by small and medium-sized firms was exempted from foreign financing obligations and the limit for exemption from foreign financing obligations was increased. Also for direct investment in EC countries the proportion of foreign direct investment that is required to be financed abroad was reduced.

April 1984
Japan

Japan further liberalised capital markets by abolishing the real demand principle in foreign exchange forward contracts so that it was possible for Japanese corporations to issue bonds abroad that could be swapped into yen. Restrictions on Euro-yen bond issues were relaxed for residents and residents and non-residents were permitted to swap non-yen bonds into yen (either using the forward exchange market or currency swaps). The notification requirement on sales of yen-denominated securities to foreigners was relaxed further and permission was granted for sales of foreign certificates of deposit and foreign commercial paper in the Japanese market. The rules of eligibility for yen bonds to be issued in Tokyo were relaxed and the limit on the amount of each yen bond issued by an international agency was increased to ¥30 billion. The practice of setting guide-lines for lending abroad by Japanese commercial banks was also abolished.

May 1984
Japan

A bill was passed to eliminate the 'designated company' system and to liberalise non-resident acquisition of real estate in Japan. Also issuance of foreign currency denominated government bonds in foreign markets was permitted. The Japanese government committed itself to further liberalise its financial markets, internationalise the use of the yen and facilitate the access of foreign institutions to Japanese capital markets.

June 1984
Japan

Limits on the net conversion of foreign currency into yen by Japanese banks and branches of foreign banks were abolished. Also, permission was granted to Japanese and foreign banks to extend Euro-yen lending with maturities of 1 year or less to Japanese residents for any purpose. Trading of foreign currency denominated bonds in the Gensaki market was also permitted.

July 1984
France

Exchange controls were eased by raising the threshold for bank domiciliation of exports and imports funds and the ban on use of personal credit cards abroad was lifted.

July 1984
Japan

Practices on the Tokyo exchange market were modified to allow Japanese banks to engage directly with each other in foreign exchange transactions, other than Yen-US$ transactions without a broker.

July 1984
United States

The US government repealed the 30% witholding tax on interest paid to foreign investors in US securities, removing a barrier that had prevented US borrowers, (including the US Treasury) from issuing bearer bonds to foreign investors.

August 1984
Germany

The 25% withholding tax on interest from domestic fixed-interest securities held by non-German nationals was abolished.

October 1984
France

The withholding tax of 25% on dividend earnings by non-resident holders of French bonds was abolished (with retroactive effect to August).

November 1984
France

Exchange controls were eased further as individuals were no longer required to produce justification in respect of transfers abroad and payments by cheque to non-residents provided these do not exceed certain limits. For direct investment in the EC area, the percentage required to be financed by foreign currency loans was reduced. Access for European Community institutions to the Paris financial market was improved by allowing increased security issues in francs and issuance of securities denominated in ECUs. Also these institutions were and exempted from the devise titre regulations.

December 1984
Japan

Restrictions on yen-denominated foreign bonds (Samurai) were gradually eased. Bond issuing methods were diversified so that it was possible for Japanese residents to issue Euro-yen dual currency bonds. Foreign and Japanese banks, foreign private corporations, state and local governments and government agencies, were authorised to issue, from their offices abroad, short-term (6 months or less) negotiable Euro-yen certificates of deposit (CDs).

December 1984
Italy

The non-interest-bearing deposit requirement in respect of investments abroad held for at least 1 year was reduced and the deposit requirement in respect of investment in foreign securities by mutual funds within a limit of 10% of their total assets was abolished.

April 1985
Japan

Qualification standards for the issues of Euro-yen bonds and yen-denominated bonds by non-residents were relaxed in April and again in July and October. Restrictions on Euro-yen loans to non-residents were dismantled. Withholding tax on interest income in Euro-yen bonds owned by non-residents was also eliminated.

May 1985
Germany

The access to lead manage foreign deutschemark bond issues was extended to foreign banks, subject to certain conditions.

February 1985 **Japan**	Japanese bankers were allowed to deal in Yen/US$ transactions without a broker.
February 1985 **France**	The size of foreign direct investment in France which is exempt from prior authorisation was increased.
April 1985 **France**	Issues of Eurobonds in French Francs were permitted again, after being discontinued since 1981.
June 1985 **Japan**	Early in the month a yen denominated banker's acceptance market was established and then later floating-rate notes, dual currency bonds, currency conversion bonds, deep discount bonds and zero-coupon bonds issued by non-residents were allowed on the Euro-Yen market. Some foreign banks were permitted to participate in the management of corporate pension funds in Japan.
June 1985 **Italy**	The 1981 regulations on foreign monetary and financial transactions with the external sector were eased. Non-residents were permitted to acquire holdings in Italian mutual funds, Italian residents were allowed to trade holdings in foreign mutual funds. Also there was an increase in the limits on financial borrowing abroad by residents without authorisation.
September 1985 **Italy**	The Eurolira bond market was opened.
September 1985 **France**	The proportion of investment denominated in French Francs which residents were allowed to make outside Common Market countries was increased.
October 1985 **Italy**	The compulsory deposit requirement in lira for direct investment abroad was abolished and the mandatory non-interest-bearing deposit requirement for purchase of foreign securities was lowered. Residents' foreign exchange deposits were permitted to be freely convertible into other currencies and the ban on transfer of foreign securities and loans between residents was lifted.
December 1985 **Italy**	The Bank of Italy lifted the ceiling on foreign borrowing by the banking sector.
December 1985 **Japan**	The Tokyo Stock Exchange decided to grant membership to ten securities companies, including six foreign securities companies.
December 1985 **France**	Regulations for outward portfolio and direct investment liberalised.
April 1986 **France**	Certain controls on purchases of foreign securities by residents and on outward foreign investment were removed. The requirement for prior authorisation for foreign investment exceeding FF15 million per year per investor was eliminated.
April 1986 **Japan**	Residents were allowed to issue currency conversion and floating-rate Euro-yen bonds and the maximum maturity of Euro-yen CDs was increased. The limits on the life insurance industry were liberalised. Previously, foreign security holdings were limited to 10% of total assets and no more than 20% of the total increase in assets in any month. The limit was increased to 25% of total assets and 40% of asset increase.
April 1986 **France and Italy**	France and Italy eased restrictions on transactions in cash loans and certain financial instruments, such as foreign securities and currency options.
April 1986 **Italy**	The amount of foreign exchange that could be freely exported was raised from L1 million to L5 million. Italian banks were allowed to grant credits denominated in lira to foreign banks and ceilings on banks' spot against forward foreign currency positions were raised.
May 1986 **France**	The 'Devise-titre' or investment currency pool was abolished and hence purchases of foreign currency were no longer required to be matched with the proceeds from sales of foreign securities by residents.
May 1986 **France**	Blanket authorisations for transfers abroad on production of receipts for gifts, purchases of real estate, securities on foreign markets and short-term instruments denominated in foreign currency were reintroduced.

	Forward cover facilities were extended for imports, interest payments on loans, transactions on French futures markets and technical arbitraging on foreign markets and international brokerage transactions. Notification and prior authorisation were no longer required for direct French investment abroad.
August 1986 **Japan**	The limit on holdings of foreign securities by life insurance companies was raised to 30% and the limitation on monthly purchases was removed altogether.
August 1986 **Italy**	The non-interest-bearing deposits that Italian residents are required to hold as a counterpart for the acquisition of foreign securities were reduced and constraints were eased on borrowing by Italian residents from abroad.
November 1986 **EC**	The 1960 Capital Movements Directive was revised. The revision required unconditional liberalisation of long-term commercial credits, removal of remaining barriers to acquisition of securities by residents of other member states and the abolition of exchange control restrictions on the admission of foreign securities to national capital markets by February 1987.
November 1986 **France**	French banks were allowed to make loans in francs to non-residents up to the amounts of francs at their disposal from non-resident deposits and Euro-franc borrowings.
January 1987 **France**	French banks and foreign banks were permitted to make Eurofranc issues.
January 1987 **Canada**	The Federal Government submitted plans to establish international banking centres in Montreal and Vancouver. Participating banks would be restricted to making loans to and taking deposits from non-residents, but would benefit from tax and other concessions.
February 1987 **Italy**	Subsidiaries of foreign banks were authorised to operate freely throughout the territory.
March 1987 **Italy**	The compulsory non-interest-bearing deposits for investment abroad in securities and real estate was abolished.
April 1987 **Japan**	Trust Fund Bureau were permitted to invest overseas with investment restricted to 10% of total funds.
May 1987 **France**	Residents were allowed to contract foreign currency loans freely and borrow in Francs up to FF50 million. Regulations relating to domestic foreign currency accounts were eased and permission was granted to non-banks to maintain accounts abroad under certain conditions.
May 1987 **Italy**	Maximum holding periods for funds credited in foreign exchange accounts and the period within which residents must surrender foreign currency holdings were lengthened and amount exempted from surrender was increased. Restrictions on portfolio investment abroad by residents were relaxed. Penalties on non-authorised debt position of non-residents' lire denominated deposits were abolished.
May 1987 **Canada**	A bill was introduced to allow federally-regulated financial institutions to own securities dealer subsidiaries, including permission for institutions controlled by non-residents to buy up to 50% of a securities dealer from end of June 1987 and 100% from 30 June 1988.
June 1987 **Germany**	The Bundesbank rescinded the ban on the incurring of ECU-denominated liabilities by German residents.
June 1987 **Canada**	The Ontario Securities Commission granted domestic financial institutions and banks and foreign dealers unrestricted access to all investment dealer activities.
September 1987 **Italy**	Reserve requirements on net increases in bank deposits in foreign currency were removed.
January 1988 **Japan**	Issuance of commercial paper by non-residents in the domestic market was permitted.

January 1988 **Germany**	A 10% witholding tax was introduced on all German instruments held by residents and non-residents.
June 1988 **France**	Domestic residents were permitted to operate foreign currency accounts without restriction and the restriction on borrowing abroad in excess of FF50 million was abolished.
June 1988 **EC**	A new capital movements directive was adopted. All capital controls both on intra-EC flows and flows to and from third countries were to be abolished by 1 July 1990 (1992 for Ireland and Spain 1995 for Greece and Portugal). Provision was made for controls to be reimposed for short periods of currency crisis, subject to Commission approval.
June 1988 **Italy**	Residents were authorised to make out cheques drawn on Italian bank accounts in Italy or abroad to non-residents up to L 5 million and restrictions on tourist spending were eased.
September 1988 **France**	Prior authorisation was no longer required for direct investments by residents of non-EC countries, except in cases where acquisition of existing French firms is involved.
October 1988 **Italy**	The exchange control regime was changed to a system under which foreign transactions were allowed to be carried out freely, unless specifically prohibited or restricted. Rules on mutual funds' investment were liberalised (previously they had to operate within the EC and comprise at least 50% Italian securities).
March 1989 **France**	The limits were removed on bank lending in francs abroad.
July 1989 **Germany**	Withholding tax removed on all German instruments.
October 1989 **EC**	Deadline under UCITS Directive (December 1985) for liberalisation of cross-border sales by mutual funds.
January 1990 **France**	All remaining restrictions on the use of foreign currency bank accounts were removed.
May 1990 **Italy**	All remaining Italian exchange controls removed. The major change is that the prohibition on residents holding foreign bank accounts is removed.

Appendix Two

In this appendix the workings for calculating internationally mobile savings in spreadsheet form are set out for each of the G7 countries. The following were the data sources:

Italy—Annual Report Banca D'Italia.

United Kingdom—Central Statistical Office: UK Balance of Payments Statistics.

United States—Survey of Current Business.

Canada—System of National Accounts: Quarterly Estimates of the Canadian Balance of International Payments.

France—Banque de France: Compte Rendu.

Germany—Monthly Report of the Bundesbank.

Japan—Balance of Payments Monthly—Foreign Department Bank of Japan.

GERMANY	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (DM MILLIONS)											
DIRECT INVESTMENT	8115	8075	8776	8017	8101	12526	14173	20874	16364	19620	25294
SECURITIES INVESTMENT	2957	7712	6034	11383	10361	15741	31524	21341	24883	72694	49769
LONG-TERM CREDIT	6465	10005	6086	4800	9003	14260	13092	10259	18588	2623	13870
OTHER CAPITAL MOVEMENTS	874	1407	1747	1473	2133	2563	2961	2953	2741	2772	3260
SHORT TERM BANK FLOWS		8763	10269				27697	59026	6143	20026	5666.
SHORT TERM ENTERPRISES AND INDIVIDUALS	3207				408	5787	5856	48627	12932	13574	37932
TRADE CREDITS	1660	5671	4838	866	6261	9664	3693	5153		8413	6554
OFFICIAL CAPITAL TRANSACTIONS:											
LONG TERM	1509										
SHORT TERM	310	350			3263	1780		914			4328
NEGATIVE CAPITAL INFLOWS											
DIRECT INVESTMENT IN SHARES	387				457					2310	
OTHER DIRECT INVESTMENT			1560			313			380		
SECURITIES INVESTMENT IN SHARES									1794		
SECURITIES INVESTMENT IN BONDS			1453								
LONG TERM CREDIT TRANSACTIONS				178	771		1011	1270	12253	11543	4294
OTHER CAPITAL MOVEMENTS	14	147	27	156	164	21	112	117	58	173	137
CROSS BORDER SAVINGS FLOWS:											
SAVINGS FLOWS (IN DM BILLIONS)	25.50	42.14	40.79	26.87	40.92	62.66	100.92	170.53	96.14	153.95	202.10
SAVINGS FLOWS DEFLATED BY NOMINAL GNP *100	1.83	2.84	2.64	1.68	2.44	3.54	5.47	8.77	4.76	7.26	8.95
SAVINGS FLOWS (IN US $ BILLIONS)	13.91	23.19	18.06	11.07	16.03	22.02	34.28	78.51	53.50	87.67	107.50

CANADA	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (C$ MILLIONS)											
CANADIAN DIRECT INVESTMENT ABROAD	2550	3150	6900	875	3400	2949	4800	4525	6950	7900	6492
PORTFOLIO SECURITIES:											
FOREIGN BONDS		68	31	234	451	1359	750	165	882	99	1568
FOREIGN STOCKS	613	115		309	825	714	587	2011	1073	1004	804
GOVT OF CANADA ASSETS:											
OFFICIAL INTERNATIONAL RESERVES			381		548			662	4461	9451	346
LOANS AND SUBSCRIPTIONS	1396	1668	1434	2686	364	1955	867	24	528	548	982
SHORT TERM CANADIAN BANKS NET FOREIGN CURRENCY TRANSACTIONS WITH NON RESIDENTS				3705				5595			2345
SHORT TERM NON-BANK DEPOSITS ABROAD		489	7562	3240		1927		2301		393	
OTHER CLAIMS	2004	2607	2145		3981	3496	2	1227	1940	2389	2857
NEGATIVE CAPITAL INFLOWS											
FOREIGN DIRECT INVESTMENT			4400	1025			2801				
PORTFOLIO INVESTMENT: STOCKS			629	308						2282	
GOVT OF CANADA ASSETS	178		2				691				
OTHER MONEY MARKET INSTRUMENTS				979							
CROSS BORDER SAVINGS FLOWS:											
SAVINGS FLOWS (IN C $ BILLIONS)	6.74	8.10	23.48	13.36	9.57	12.40	10.50	16.51	15.83	24.17	13.39
SAVINGS FLOWS DEFLATED BY NOMINAL GNP *100	2.51	2.68	6.81	3.69	2.43	2.88	2.26	3.38	2.97	4.14	2.14
SAVINGS FLOWS (IN US $ BILLIONS)	5.76	6.93	19.59	10.84	7.77	9.58	7.69	11.89	11.94	19.63	11.31

JAPAN	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (US$ MILLIONS)											
LONG TERM DIRECT INVESTMENT	2098	2385	4894	4540	3612	5965	6452	14480	19519	34220	44135
LONG TERM TRADE CREDIT EXTENDED		717	2731	3239	2589	4937	2817	1836	535	6939	4002
LONG TERM LOANS	8102	2553	5083	7902	8425	11922	10427	9281	16190	15211	22495
SECURITIES:											
NET AQUISITION OF STOCKS/SHARES	575		240	151	661	51	995	7048	16074	2993	17887
NET AQUISITION OF BONDS	3385	2996	5810	6076	12505	26773	53479	83024	72885	85812	94083
NET ISSUES YEN DENOMINATED BONDS	1905	970	2727	3516	2058	3971	5299	1905			1258
OTHERS	717	1409	1324	1994	1809	3156	2346	4521	8029	6974	8313
SHORT TERM TRADE CREDITS	2494	2067			351						
SHORT TERM LOANS		16	58	162		287		3869	27373	16903	26002
SHORT TERM SECURITIES		283	3402				530			1962	
OFFICIAL FOREIGN RESERVE HOLDINGS:		4905	3171		1234	1817	197	15729	39240	16183	
BALANCE ON MONETARY MOVEMENTS				170	3943						
NEGATIVE CAPITAL INFLOWS											
DIRECT INVESTMENT						10				485	1054
TRADE CREDITS RECEIVED	33	16	15	6				40	1	18	9
LOANS RECEIVED	169	231	186	181	37	77	75	34	119	82	
STOCKS AND SHARES						3610	673	15758	42035		
BONDS								2109		21628	
OTHER	1001	3	71				64	63		760	
CROSS BORDER SAVINGS FLOWS:											
SAVINGS FLOWS (IN US $ BILLIONS)	21.28	18.55	29.71	27.94	38.02	62.58	83.35	169.70	244.40	209.70	219.18
SAVINGS FLOWS IN YEN (BILLIONS)	4664.356	4205.511	6554.467	6959.106	9030.7	14868.05	19888.26	20593.94	35340.24	26883.54	30247.25
SAVINGS FLOWS DEFLATED BY NOMINAL GNP *100	2.10	1.75	2.55	2.58	3.22	4.98	6.27	8.63	10.23	7.32	7.74

ITALY	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (LIRE BILLIONS)											
ITALIAN DIRECT INVESTMENT	452	646	1596	1294	3230	3505	3586	3968	3017	7094	2748
ITALIAN PORTFOLIO INVESTMENT		35.	638			362	1403	3299	4782	7100	12367
ITALIAN LOANS	421	544	659	856	1069	1795	2320	2195	1380	2302	1708
MEDIUM TERM TRADE CREDITS	685	521	899	363	618			1159	478	791	1450
SHORT TERM TRADE CREDITS	3771	1847	2551	1280		2547		189			1061
OTHER CAPITAL SHORT AND MEDIUM TERM		600		93	233		256	152		130	767
BANKING FLOWS			1525	3061			5299				
OFFICAL RESERVE CHANGES	2828	685	12		8787	5195		3489	6775	10906	15386
NEGATIVE CAPITAL INFLOWS											
PORTFOLIO INVESTMENT		442		598					6836		
OTHER INVESTMENT		3		41							
PRIVATE LOANS	309										
TRADE CREDITS	101		213	1720							
OTHER	10	47									
CROSS BORDER SAVINGS FLOWS											
SAVINGS FLOWS (IN MILLIONS OF LIRE)	8576500	5686400	8093000	9306000	13937000	13404000	12864000	14451000	21268000	28323000	35487000
SAVINGS FLOWS DEFLATED BY NOMINAL GDP *100	2.77	1.47	1.73	1.71	2.20	1.84	1.58	1.61	2.17	2.63	2.99
SAVINGS FLOWS (IN US $ BILLIONS)	10.32	6.64	7.12	6.88	9.10	7.63	6.74	9.69	16.40	21.75	25.87

UNITED KINGDOM	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (£ MILLIONS)												
DIRECT INVESTMENT OVERSEAS	3520	5089	4867	6005	4091	5417	6033	8456	11780	19198	20685	19365
PORTFOLIO INVESTMENT OVERSEAS	1073	867	3310	4467	7565	7193	9869	19426	23072		9970	36781
NET LENDING TO OVERSEAS RESIDENTS	1986			659								
TRANSACTIONS WITH RESIDENTS OTHER THAN BANKS AND GENERAL GOVERNMENT:												
TRANSACTIONS WITH BANKS ABROAD	280	1138	2502	1864	598		3213	1240	2724	5177	3644	9375
OTHER ASSETS	459	1184	209	1026		161						
OFFICIAL RESERVE HOLDINGS		1059	291					1758	2891	12012	2761	
OTHER EXTERNAL ASSETS OF CENTRAL GOVERNMENT	181	137			161	478	743	730	509	796	891	942
NEGATIVE CAPITAL INFLOWS												
DIRECT INVESTMENT							181					
PORTFOLIO INVESTMENT	139				11							
TRANSACTIONS WITH RESIDENTS OTHER THAN BANKS AND CENTRAL GOVERNMENT:												
BANKS							2263					
OTHER LIABILITIES						55						
OTHER EXTERNAL LIABILITIES OF CENTRAL GOVERNMENT	705	216	594	206		584	40					
CROSS BORDER SAVINGS FLOWS:												
SAVINGS FLOWS (IN BILLIONS OF £S)	8.343	10.51	11.773	14.227	12.426	13.888	22.342	31.61	40.976	37.103	37.851	66.463
SAVINGS FLOWS DEFLATED BY NOMINAL GNP * 100	5.30	5.30	5.10	5.56	4.45	4.52	6.80	8.83	10.59	8.77	8.05	13.05
SAVINGS FLOWS (IN US $ BILLIONS)	16.01	22.27	27.38	28.57	21.69	21.04	29.71	40.58	60.08	60.76	67.35	108.78

UNITED STATES	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (US$ MILLIONS)											
DIRECT INVESTMENT	25222	19222	9624	967	6695	11587	13162	18679	31045	16218	31722
FOREIGN SECURITIES	4726	3568	5699	7983	6762	4756	7481	4271	8251	7846	21938
US CLAIMS ON UNAFFILIATED NONBANKING CONCERNS	3291	3174	1181		6513			7396		2847	
NET US CLAIMS REPORTED BY US BANKS NOT INCLUDED ELSEWHERE		36095	42047	45437							
US OFFICIAL RESERVE ASSETS	1133	8155	5175	4965	1196	3131	3858			3912	25293
OTHER US GOVERNMENT ASSETS	3746	5162	5097	6131	5006	5489	2021	2022			
NEGATIVE CAPITAL INFLOWS											
FOREIGN OFFICIAL ASSETS IN THE US	13665						1083				
US TREASURY SECURITIES									7643		
US LIABILITIES TO UNAFFILIATED FOREIGNERS REPORTED BY US NONBANKING CONCERNS				2383	118		366	2641			
CROSS BORDER SAVINGS FLOWS:											
SAVINGS FLOWS (BILLIONS OF US $)	51.78	75.38	68.82	67.87	26.29	24.96	28.77	35.01	43.94	30.82	78.95
SAVINGS FLOWS DEFLATED BY NOMINAL GNP *100	2.06	2.76	2.25	2.14	0.77	0.66	0.72	0.83	0.97	0.63	1.51

FRANCE	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
POSITIVE CAPITAL OUTFLOWS (MILLIONS OF FRANCS)											
LONG TERM TRADE CREDITS	16358	15701	22544	29984	26028	18876	9735				
DIRECT INVESTMENT FRENCH TO FOREIGN			11895	9858	1596		142	36227	52302	75972	107609
PUBLIC SECTOR INVESTMENT	1144	1032	1219	1892	1959	1958	2372	2388	3169	2488	2457
LOANS TO FOREIGNERS				10613	12521	10012	13360	22600		19703	62599
PORTFOLIO INVESTMENT	8061	1138	5474	967	4643			41567	20335	24592	38414
SHORT-TERM CAPITAL TRANSACTIONS OF NON-BANK PRIVATE SECTOR			12372		9383	12592				5906	77629
CHANGE IN EXTERNAL POSITION OF:											
BANKING SECTOR									55873		
PUBLIC SECTOR	7917	20156			44994	26994	20448	11738			
NEGATIVE CAPITAL INFLOWS											
LOANS FROM FOREIGNERS								23753			
CROSS BORDER SAVINGS FLOWS:											
SAVINGS FLOWS (IN BILLIONS OF FRANCS)	33.48	46.03	53.50	53.31	101.12	70.43	46.06	138.27	131.68	128.66	208.71
SAVINGS FLOWS DEFLATED BY NOMINAL GDP *100	1.35	1.64	1.69	1.47	2.52	1.61	0.98	2.74	2.47	2.26	4.73
SAVINGS FLOWS IN US $	7.87	10.89	9.85	8.11	13.27	8.06	5.13	19.96	21.91	21.60	45.25

CROSS BORDER SAVINGS FLOWS	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
IN US DOLLARS (BILLIONS):											
GERMANY	13.91	23.19	18.06	11.07	16.03	22.02	34.20	78.51	53.50	87.67	107.50
CANADA	5.76	6.93	19.59	10.84	7.77	9.58	7.69	11.09	11.94	19.63	11.31
FRANCE	7.87	10.89	9.85	8.11	13.27	8.06	5.13	19.96	21.91	21.60	45.25
UNITED KINGDOM	22.27	27.38	28.57	21.69	21.04	29.71	40.58	60.08	60.76	67.35	108.78
JAPAN	21.28	18.55	29.71	27.94	38.02	62.58	83.35	189.70	244.40	209.70	219.18
ITALY	10.32	6.64	7.12	6.88	9.18	7.63	6.74	9.69	16.40	21.75	25.87
UNITED STATES	51.78	75.38	68.82	67.87	26.29	24.86	28.77	35.01	43.94	30.82	78.95
TOTAL EXCLUDING UNITED STATES	81.40	93.58	112.89	86.52	105.31	139.56	177.76	349.83	408.91	427.71	517.89
TOTAL INCLUDING UNITED STATES	133.19	168.96	181.71	154.39	131.60	164.53	206.53	384.84	452.85	458.53	596.84

CROSS BORDER SAVINGS FLOWS	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
IN SDR TERMS (BILLIONS):											
GERMANY	10.77	17.82	15.31	10.03	14.99	21.48	33.76	66.93	41.37	65.23	79.99
CANADA	4.46	5.32	16.61	9.82	7.27	9.34	7.57	10.13	9.23	14.61	8.42
FRANCE	6.09	8.37	8.35	7.35	12.41	7.86	5.05	17.01	16.95	16.07	33.67
UNITED KINGDOM	17.23	21.04	24.23	19.64	19.68	28.99	39.96	51.21	46.99	50.11	80.94
JAPAN	16.47	14.25	25.20	25.31	35.57	61.05	82.09	144.65	189.01	156.04	163.09
ITALY	7.99	5.10	6.04	6.23	8.58	7.44	6.64	8.26	12.68	16.19	19.25
UNITED STATES	40.08	57.91	58.37	61.47	24.59	24.35	28.34	29.84	33.98	22.94	58.75
TOTAL EXCLUDING UNITED STATES	63.00	71.90	95.74	78.37	98.51	136.16	175.08	298.19	316.23	318.25	385.36
TOTAL INCLUDING UNITED STATES	103.08	129.82	154.10	139.84	123.10	160.51	203.41	328.04	350.21	341.19	444.10

CROSS BORDER SAVINGS FLOWS	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
DEFLATED BY NOMINAL GDP:											
GERMANY	1.83	2.84	2.64	1.68	2.44	3.54	5.47	8.77	4.76	7.26	8.95
CANADA	2.51	2.68	6.81	3.69	2.43	2.88	2.26	3.38	2.97	4.14	2.14
FRANCE	1.35	1.64	1.69	1.47	2.52	1.61	0.98	2.74	2.47	2.26	4.73
UNITED KINGDOM	5.30	5.10	5.56	4.45	4.52	6.80	8.83	10.59	8.77	8.05	13.05
JAPAN	2.10	1.75	2.55	2.58	3.22	4.98	6.27	8.63	10.23	7.32	7.74
ITALY	2.77	1.47	1.73	1.71	2.20	1.84	1.58	1.61	2.17	2.63	2.99
UNITED STATES	2.06	2.76	2.25	2.14	0.77	0.66	0.72	0.83	0.97	0.63	1.51
G7 SAVINGS AS A PROPORTION OF G7 GDP	2.26	2.59	2.71	2.32	1.89	2.24	2.68	4.12	4.20	3.81	4.79

CURRENT ACCOUNT BALANCES (US$ BILLION)	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GERMANY	-5.41	-13.82	-3.55	5.11	5.30	9.81	16.42	39.20	45.17	48.54	52.700
CANADA	-4.15	-0.96	-5.12	2.28	2.49	2.08	-1.46	-7.61	-7.05	-8.37	-16.6
FRANCE	5.19	-4.17	-4.74	-12.06	-4.69	-0.83	-0.35	2.34	-4.44	-3.40	-3.66
UNITED KINGDOM	-1.16	6.50	13.34	8.04	5.75	2.60	4.06	-0.06	-6.25	-26.62	-34
JAPAN	-8.75	-10.75	4.77	6.85	20.80	35.00	49.17	85.85	87.02	79.63	57.2
ITALY	5.90	-9.97	-9.06	-6.23	1.53	-2.46	-3.72	2.55	-1.49	-5.96	-11.6
UNITED STATES	-1.00	1.37	8.95	-7.08	-39.58	-98.36	-122.30	-152.99	-159.55	-125.55	-103.7

EACH COUNTRY'S CURRENT ACCOUNT AS A PROPORTION OF

CROSS BORDER SAVINGS FLOWS	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GERMANY	-4.06	-0.10	-1.95	3.31	4.03	5.96	7.95	10.19	9.97	10.59	8.83
CANADA	-3.12	-0.57	-2.02	1.48	1.09	1.26	-0.71	-1.98	-1.56	-1.83	-2.78
FRANCE	3.90	-2.47	-2.61	-7.81	-3.56	-0.50	-0.17	0.61	-0.98	-0.74	-0.61
UNITED KINGDOM	-0.87	3.85	7.34	5.21	4.37	1.58	1.97	-0.02	-1.38	-5.81	-5.70
JAPAN	-6.57	-6.36	2.63	4.44	15.81	21.27	23.81	22.31	19.22	17.37	9.58
ITALY	4.43	-5.90	-4.99	-4.04	1.16	-1.50	-1.80	0.66	-0.33	-1.30	-1.94
UNITED STATES	-0.75	0.81	4.93	-4.59	-30.08	-59.78	-59.25	-39.75	-35.23	-27.38	-17.37

CURRENT ACCOUNT AS A % OF GDP	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GERMANY	-0.71	-1.69	-0.52	0.78	0.81	1.58	2.62	4.38	4.02	4.02	4.39
CANADA	-1.81	-0.37	-1.78	0.78	0.78	0.62	-0.43	-2.17	-1.75	-1.77	-3.14
FRANCE	0.89	-0.63	-0.81	-2.19	-0.89	-0.17	-0.07	0.32	-0.50	-0.36	-0.38
UNITED KINGDOM	-0.28	1.21	2.59	1.65	1.24	0.59	0.88	-0.01	-0.90	-3.18	-4.08
JAPAN	-0.86	-1.02	0.41	0.63	1.76	2.79	3.70	4.37	3.64	2.78	2.02
ITALY	1.58	-2.20	-2.20	-1.55	0.37	-0.59	-0.87	0.42	-0.20	-0.72	-1.34
UNITED STATES	-0.04	0.05	0.29	-0.22	-1.16	-2.61	-3.05	-3.61	-3.52	-2.57	-1.98

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