The external balance sheet of the United Kingdom: implications for financial stability?

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In 2000, UK gross external assets and liabilities grew by more than 20%, boosted particularly by international mergers and acquisitions and international banking activity. In net terms, UK external liabilities fell moderately but remained substantial, at about 13% of annual GDP. This fall was associated with changing nominal values of UK external assets: the currency denomination of UK external assets and liabilities means that, other things being equal, a lower exchange rate reduces UK net external liabilities via revaluation changes. As reported in last year's article in this annual series, the UK net liability position may be misleading: UK net external assets are probably underestimated because of the way foreign direct investment is calculated. Policy-makers in the international community have focused on identifying key tools that could be useful for monitoring and analysing external balance sheet vulnerabilities. The second section of this article looks at the extent to which the United Kingdom can compile and assess the IMF's set of key indicators of external vulnerability.

External balance sheets and monitoring financial stability risks

External balance sheets are an important tool for monitoring financial stability risks in both emerging market and industrial economies.⁽¹⁾⁽²⁾ For some countries, the structure of their external balance sheet may significantly affect their ability to withstand external shocks. For example, an economy with a large foreign currency exposure carries a risk of loss (or profit) from sudden changes in exchange rates. Similarly, a country with large short-term net external liabilities is exposed to refinancing risk, and could, in the extreme, suffer a liquidity crisis.

For the United Kingdom, the risks of a refinancing or liquidity crisis are probably very low. However, sectors and institutions can still suffer significant welfare losses from foreign currency, global interest rate or business cycle shocks. Changes in the external balance sheet might also indicate current account imbalances.

However, aggregate external balance sheets alone are not adequate diagnostic indicators. Recent financial crises have shown that balance sheet pressures do not arise

What is an external balance sheet?

An external balance sheet is a summary of a country's financial relationship with the rest of the world. For the United Kingdom, it combines the stock of UK residents' financial investments in the rest of the world (assets) and the stock of financial investments into the United Kingdom from abroad (liabilities). External assets and liabilities include direct investment, cross-border holdings of equities bonds and money market instruments, and international bank lending. The external balance sheet of the United Kingdom is published annually by the Office for National Statistics (ONS) as part of the United Kingdom Balance of Payments Pink Book—the latest issue of the Pink Book was published on 5 November 2001, showing data up to end-2000.⁽¹⁾

(1) Quarterly estimates of the UK external balance sheet are published in addition to annual data. However, these quarterly data are generally of lower quality because some quarterly levels data are estimated imperfectly using cumulative financial flows and revaluing the result using relevant price indices. The latest quarterly data are for 2001 Q2 and are used in this article where appropriate to give an indication of the most recent trends in the UK external balance sheet.

(1) See 'The external balance sheet of the United Kingdom: implications for financial stability?', Senior, S and Westwood, R, Bank of England Quarterly Bulletin, November 2000, pages 351–64.

⁽²⁾ Problems with the structure of external balance sheets were important in a number of recent financial crises, including Mexico (1994), Korea and Indonesia (1997), Russia (1998), and Brazil (1999). See 'Improving the stability of the international financial system', Drage, J and Mann, F, Bank of England Financial Stability Review, June 1999, pages 40–77.

only from the external sector. The risk of domestic capital flight can be high in times of crisis. And it is important to remember that balance sheets are an aggregation of the positions of many institutions and households. At the micro level there may be currency or liquidity mismatches that are not visible in aggregates. The relationships between economic sectors and with the rest of the world are complex. This article looks at some of the challenges associated with analysis of the external balance sheet, specifically where data changes may occur for accounting reasons, not just economic ones.

Although the UK National Accounts are defined on a residency basis, the activities of institutions located within the United Kingdom do not all pose the same set of risks for the UK economy or stability of the UK financial system. Foreign banks and securities dealers operating in London are one example. Business booked by these institutions in London will affect the UK external balance sheet even if they are intermediate financial transactions between overseas entities. This is not to say that international banking activity is irrelevant for UK financial stability. The Bank of England's financial stability role extends to monitoring international as well as specifically domestically-sourced. However, the analysis of risks to the financial stability of international financial markets needs a set of tools additional to an 'external balance sheet analysis'.

Recent developments in the UK external balance sheet

Gross external assets and liabilities

In 2000, the UK external balance sheet grew at its fastest rate for more than ten years. At the year-end, UK gross external assets were just under £3 trillion, an increase of nearly 25% since end-1999 (see Chart 1).

Over the past decade, UK gross external assets have grown at an average annual rate of more than 12%, easily outstripping the 5.4% average annual growth rate of nominal UK GDP over the same period. Furthermore, the pace of growth has itself been increasing: the average annual rise of external assets during the past three years was over 14%. UK gross external liabilities grew only marginally more slowly than external assets in

Chart 1 UK gross external assets and liabilities



2000, increasing by around 22% to more than £3 trillion. The strong growth in assets and liabilities illustrates how the expansion in capital markets is not constrained by the underlying growth rates of the UK economy or the world economy.⁽¹⁾

Margin for error

The compilation of the UK external balance sheet involves drawing together data from many censuses and sample surveys, covering all aspects of the economy. Inevitably, this can result in a degree of approximation, which may be sizable because UK gross assets and liabilities are so large. For example, with external assets of nearly £3 trillion, a 1% measurement error amounts to a difference of close to £30 billion. So it is important not to place too much emphasis on precise figures or small changes over time.⁽²⁾ Indeed, it is possible that there are systematic measurement problems in the UK external balance sheet that may persist over a long period. The box on page 390 looks at the difficulties associated with assigning a value to direct investment and the possible impact that these could have on the interpretation of the UK external balance sheet.

The estimation problem associated with gross figures is amplified for net numbers. Given the size of gross external assets and liabilities, small errors to both can be sufficient to change the sign on the net external asset position. This is not a theoretical point. Chart 2 shows

(1) According to the IMF, world trade grew at an average rate of 7.1% for the period 1993 to 2002 (data for 2001 and 2002 are projections).

(2) As the data have a survey-based component it is important to allow for the approximations involved in this process. The point estimates produced by sample surveys should be understood as an anchor around which upper and lower bounds can be established. The best that can then be done is to state a probability that the true figure—for the full population from which the sample is drawn—will lie within these bounds.

Estimating market values for FDI

The November 2000 *Quarterly Bulletin* article on the UK external balance sheet contained estimates of direct investment at market value based on an update of a study by Pratten.⁽¹⁾ In this article, we update last year's approach (Method A) and offer an alternative method for estimating market values for direct investment (Method B).

Chart A





Sources: Bank of England, ONS.

Method A

For Method A, we used Pratten's results for 1991 to generate time series for direct investment at market value through the 1990s.⁽²⁾ The time series were generated by assuming subsequent market values of direct investment had risen each year in line with domestic and international equity markets (plus the impact of exchange rate changes). Updating this approach suggests that UK net direct investment assets on a market value basis might be as high as £900 billion at end-2000, compared with less than £300 billion on a book value basis.

Method B

An alternative approach used economic growth as a proxy for changing values of direct investment. A country typically exports goods and services for which it has a comparative advantage in factors of production, and imports goods and services for which it has a comparative disadvantage. Similarly, direct investment will tend to flow into a country that has a comparative advantage in resources and/or where the local companies are at a comparative disadvantage in terms of market position (eg inferior access to capital markets/technology/ distribution networks etc). For example, a UK oil exploration company might make a direct investment in a country which has plentiful oil reserves but where the local companies are not strong enough financially to have access to the full range of technology necessary to exploit the oil. (In effect direct investment could be seen as substituting for imports/exports and is therefore probably driven by different factors than those behind portfolio investment.)

It may therefore be reasonable to characterise direct investment as part of the economy of the country in which the investment is made. This suggests that the book value of direct investment could be adjusted using growth rates of the sector of the economy receiving the investment. However, as it has not been practical in this study to disaggregate to the level of economic sector, it has been assumed that aggregate direct investment will broadly reflect the make-up of the economies in which it takes place. This allows us to use nominal GDP growth as our factor.

On this second adjusted-market-value basis the United Kingdom had net direct investment assets of more than £400 billion, compared with less than £300 billion on a book value basis. This is much lower than the £900 billion net market value position using the first estimate, but still sufficient to swing the overall UK external position from one of net liabilities to one of net assets.

(1) The valuation of outward and inward direct investment: a report for the CSO, Pratten, C, Department of Applied Economics, University of Cambridge, 1994. The CSO was the predecessor to the ONS.

(2) Pratten found that in 1991 the market value of outward direct investment was 2.05 times book value, and 1.25 times book value for inward direct investment.

that the difference between the first and second estimates of net external assets, published in consecutive *Pink Books*,⁽¹⁾ has ranged from -£50.6 billion to £16.2 billion.

Chart 2

Revisions to net external assets between first and second *Pink Book* estimates



As a share of nominal GDP, UK external assets and liabilities are large by international standards. At end-2000, UK external liabilities were close to 325%, compared with 145% for Germany, 135% for France, 94% for the United States and just 39% for Japan. However, the recent growth rates of the UK external balance sheet have not been exceptional (see Chart 3). The United States has the highest ten-year growth rate for gross external assets, and France has the fastest growth rate over the past three and five years. Only Japan's external assets have grown at a substantially slower pace. (But in the 1980s, Japanese gross external assets grew at an annual average rate of 28%.)

Net balance sheet position

The United Kingdom's net external liability position has stabilised somewhat in the past couple of years, having fallen sharply in the late 1990s. At end-2000, the United Kingdom had net external liabilities of around £120 billion (some 13% of GDP), a decrease from end-1999 (see Chart 4). The net liability position has narrowed modestly over the past two years, having peaked in 1998. The United Kingdom generally had positive net external assets during the first 30 years for which data are available, but between 1996 and 1999

Chart 3 Annual growth rates of gross external assets^(a)







there was a sharp shift in the balance from net external assets to net external liabilities.

Chart 5 shows the ratio of net external assets to nominal GDP for a number of developed economies. Over the past decade, the United Kingdom, the United States and Germany have all experienced declines in net external assets (relative to nominal GDP) of roughly similar magnitude. In contrast, Japan has seen a steady increase in net external assets on account of its persistent, large current account surpluses. (The weakness of nominal Japanese GDP growth during the period also tended to push up the ratio.)

⁽¹⁾ The annual ONS *Pink Book* contains estimates of the balance of payments of the United Kingdom. The figure for 1999 is the estimate in the 2000 *Pink Book* minus the estimate in the 2001 *Pink Book*. (The first *Pink Book* estimate is based on quarterly flows data that are cumulated to give levels. The second comes from directly observed annual levels taken from a survey with a sample size roughly double that used to produce the first. Revisions in subsequent years are generally significantly smaller.)





Balance of payments

Trends in a country's net external position often reflect developments in its current account balance. This is because the financial account (capital flows that increase or decrease a country's external assets and liabilities) plus the much smaller capital account are the counterpart to the current account.⁽¹⁾ In order to finance a current account deficit, domestic residents take in funds from non-residents or run down external assets (or some combination of the two) and in so doing raise their net external liabilities.

The relationship between current account balances and changes in external balance sheets is not, however, straightforward. Over the past decade, the United States

Table B

UK external balance sheet

£ billions

	1970 Assets	Liabilities	1980 Assets	Liabilities	1990 Assets	Liabilities	2000 Assets	Liabilities	2001 H1 Assets	Liabilities
Direct investment Portfolio investment	9	5	33	27	122	121	618	349	646	390
Debt	n.a.	n.a.	6	25	106	130	466	396	494	427
Equity	n.a.	n.a.	13	4	101	59	406	612	417	582
Other investment	n.a.	n.a.	n.a.	n.a.	550	604	1,431	1,711	1,615	1,913
Reserve assets	1		13		22		29		27	
Total	35	32	228	214	902	914	2,951	3,068	3,200	3,311
Memorandum items:								10.1		
Current account		0.8		1.6		-22.2		-18.4		-5.0
Capital account		-0.0		-0.0		0.5		2.0		1.3
Financial account		-0.8		-2.2		15.1		26.4		8.3
Errors and omission	15	0.0		0.5		6.7		-9.9		-4.6

n.a. = not available

Columns may not sum to totals because of rounding

(1) In the UK National Accounts, any difference between the financial, capital and current accounts is attributed to 'errors and omissions'. Errors and omissions can often be large (in absolute terms averaging some £5¹/₂ billion annually over the past ten years), highlighting the caution with which all National Accounts data should be treated. According to the ONS, errors and omissions are most likely to reflect misreporting in the financial account.

has had a cumulative current account deficit of \$1,600 billion, and net external liabilities have increased by a similar \$1,700 billion (see Table A). But for Japan and Germany the relationship is less clear, and for France there seems to be no correlation between its cumulative current account surplus (+\$180 billion) and the changes to its net external position (+\$20 billion).

Table A

Comparison of current accounts and changes in net external assets since 1990

US\$ billions

	Cumulative change in current account balance	Cumulative change in net external assets
United Kingdom	-171	-166
United States	-1.600	-1.700
Japan	1,060	830
Germany	-145	-245
France	180	20
Sources: ONS, IMF.		

For the United Kingdom, the cumulative current account deficit since 1990 is close to the increase in net external liabilities. However, this seems to be partly a matter of chance. Over the past five years (as opposed to the ten years covered by Table A), UK net external liabilities increased by £95 billion, nearly double the cumulative current account deficit during this period. Indeed, on an annual basis, the UK net external position has often moved in the opposite direction to that implied by the current account deficit/surplus. While some of this discrepancy may be attributable to errors and omissions, the majority is due to revaluations of the existing stocks of assets and liabilities.

Source: ONS

Revaluations

Revaluations often have a major impact on changes in UK net external assets, and have been larger than net financial flows in all but of one of the past 20 years.

Chart 6





Cumulating since 1980 highlights how revaluations have had a varying impact on the net external balance sheet over time (see Chart 7).

Chart 7





Revaluations in 1999 and 2000 have had a positive impact on the UK external balance sheet position (total £57 billion). These have helped to 'offset' the financial inflows (total £39 billion) associated with the recent current account deficits. The relationship between estimated financial flows and revaluations shown by the latest Pink Book data differs quite substantially from the picture available before. This reflects a series of revisions incorporated in the 2001 National Accounts (the background to these revisions is discussed in the box on pages 394–95). There were significant changes to some balance of payment components. In the new dataset, the cumulative financial inflows to the United Kingdom from 1980 to 1999 are estimated to have been more than £50 billion higher than previously thought (mirroring revisions to the UK current account balance). In contrast, the revisions to stocks data-and the UK net external balance sheet position-were minimal (see Chart A in the box on pages 394–95). Most of the higher inflows identified by the revised data had already been captured in the old stocks data. Previously, these flows had been unidentified and had therefore been classified as 'revaluations'. Revaluations have been correspondingly revised down to offset the higher financial flows figure.

Decomposing revaluations

Changes in the value of sterling are often the most important cause of revaluations to the UK external balance sheet.



Of the total revaluation in 2000 of £39 billion, decomposition suggests that this is more than accounted for by £53 billion of currency revaluations.⁽¹⁾ These currency revaluations mainly reflected the 8% decline of sterling against the US dollar, and the smaller (2%) depreciation against the euro.

(1) Using various assumptions, revaluations can be decomposed into exchange rate effects, local-currency price effects and other effects (see Chart 8). This process is not exact: the residual 'other' can sometimes be large, but it does give an indication of the relative size and direction of the factors driving revaluations.

Methodological changes in the 2001 Pink Book

The ONS programme to bring UK National Accounts and balance of payments into line with the European System of Accounts 1995 (ESA95) is now broadly complete. (The remaining change in the balance of payments concerns the treatment of gold held as a financial asset by the private sector, for which the United Kingdom has a derogation until 2005.) The required changes have been incorporated in this year's *Blue Book*,⁽¹⁾ along with long-run data revisions. This review of sector and financial accounts was taken as an opportunity to look at sources and methodology for the 2001 *Pink Book*. As a result a number of changes have been made to the latter, as outlined below.

Financial derivatives have been included for the first time. Interest rate swaps (IRSs) and forward-rate agreements (FRAs) have been reclassified from the current to the financial account. This follows an amendment to the IMF Balance of Payments Manual (BPM5)⁽²⁾ and imminently to ESA95.⁽³⁾ During the period in which BPM5 and ESA95 were being written, IRSs and FRAs were largely used to change the effective cash flows faced by borrowers and lenders. Consequently the related settlement flows were classified as interest, a component of the balance of payments current account. (The settlement flows of other derivatives were and continue to be classified as the realisation of a holding gain or loss and are therefore a constituent of the financial account.)

As a result of financial markets development during the second half of the 1990s, the bulk of outstanding positions on IRSs and FRAs are now made up of risk management or trading positions of financial intermediaries.⁽⁴⁾ Only a relatively small proportion of outstanding positions is now established in conjunction with the issuance of debt instruments. The result is that pressure has increased to bring the treatment of IRSs and FRAs into line with that of other financial derivatives.

A further problem with the original treatment is that even in those minority cases where an IRS is directly associated with the issuance of a debt instrument, the counterparty may not be in the same institutional unit as that of the purchaser of the debt. For example, central government may issue foreign currency debt to non-residents and swap its future coupon and redemption liabilities back into sterling through a domestic intermediary. National

- (1) The annual ONS Blue Book contains estimates of the domestic and national product, income and expenditure of the United Kingdom.
- (2) Financial derivatives: a supplement to the balance of payments manual, IMF (2000).
- (3) As ESA95 is a legally binding document, it requires a co-decision of the European Parliament and the European Council to ratify the change. We understand that this will take place shortly.
- (4) In October 2001, the BIS published a study, 'Central bank survey of foreign exchange and derivatives contracts outstanding in April 2001: preliminary global data'. The report shows that approximately 65% of IRS/FRA business is inter-dealer and therefore not linked directly to the raising of capital. For the United Kingdom the proportion is closer to 80%. For a discussion of related topics see 'The foreign exchange and over-the-counter derivatives markets in the United Kingdom', Wharmby, S, pages 417–30 of this report.

Depreciation in the value of sterling led to positive revaluations of UK net external assets, because the majority of UK external liabilities are denominated in sterling and the majority of external assets are denominated in foreign currency.⁽¹⁾ A fall in the external value of sterling (other things being equal) tends to lead to a rise in the sterling value of UK external assets, while the value of UK external liabilities tends to remain largely unchanged. Thus the depreciation of sterling in the early 1990s following the United Kingdom's exit from the exchange rate mechanism (ERM) led to large positive revaluations of net UK external assets. In contrast, the strong appreciation of sterling in the latter part of the 1990s led to sharp negative currency revaluations and can be seen as one of the main reasons for the UK position changing from one of net external assets to one of net external liabilities during this period.

In having most of its debt contracts denominated in domestic currency, the United Kingdom is typical of many industrial countries. By contrast, many emerging market economies (EMEs) often have debt contracts denominated in foreign currencies. Mishkin (1998) argues that this is one of the major institutional differences in financial markets and that as a result financial instability tends to be propagated differently in industrial countries and EMEs. The second major difference is that debt contracts in industrial countries

(1) Excluding cross-border interbank lending, which, it is argued later, is largely currency matched.

accounting rules would record interest rate flows between the central government and the domestic intermediary despite there being no associated liability to the domestic intermediary. This can affect the coherence and interpretation of the National Accounts. Finally, the inclusion of large and often volatile settlement flows in the current account has tended to mask underlying developments in recent years.

While the reclassification of IRSs and FRAs is the major methodological change to the data included in this year's *Pink Book*, several additional adjustments have been introduced. Of these, a recalculation of adjustments made for the exclusion of the Channel Islands and the Isle of Man from the definition of the United Kingdom has caused the largest revisions.⁽⁵⁾ Although these changes have reduced both investment income credits and debits, the net effect has been to increase the current account deficit.

Also, in accordance with the ESA95, trade in goods has been revised to include estimates of smuggling in alcohol and tobacco, inflating imports. Finally, the ONS has used a new business register for the collection of direct investment data. This has revealed higher levels of both assets and liabilities than the previous register. Consequently both corresponding flows and income streams have been revised upwards. Chart A compares the estimated development of the total net external position under the previous and current datasets. The major difference is that the current data show that the shift from net external assets to net external liabilities starting in 1994 was both slightly smaller in magnitude and more evenly paced than had been previously thought. The smoother incorporation of the 1997 Share Register Survey results—in which previously unrecorded non-resident UK equity holdings were discovered and put in the 1997 liabilities, which have now been distributed over the 1995–97 period—largely explains the steadier decline in the new series.

Chart A





(5) Excluded following the adoption of ESA95 in 1998, which contained the redefinition of UK territorial coverage for statistical purposes.

are typically of longer maturity and duration than debt contracts in EMEs.

Price revaluations (in local currencies) were modest in 2000, at -£3 billion. However, between 1995 and 2000, price revaluations increased UK net external assets by £99 billion. This largely reflected US and continental European equity markets rising more than UK equity markets. The section on portfolio holdings of equities (portfolio-equity) below looks in more detail at some of the effects that equity price changes can have on the UK external balance sheet.

The 'other' revaluation effects component has been negative in each of the past six years. This suggests that it may be picking up a systematic measurement problem in the data, such as the non-resident holdings of UK equity identified in the 1997 ONS triennial Share Register Survey. The persistence of the negative 'other' effects in 1998–2000 suggests that the problem of under-recording inward portfolio-equity flows may still be an issue. The Bank and the ONS are working together on a project to improve the quality of portfolio investment data.

Disaggregating the external balance sheet

Insights into possible stability risks can be gained from disaggregating UK external balance sheet data by financial instrument (see Chart 9).

In net terms, the United Kingdom was 'long' direct investment and portfolio holdings of debt securities

Chart 9 UK gross external assets and liabilities by instrument type (end-2000)



(portfolio-debt), but 'short' portfolio holdings of equities (portfolio-equity) and 'other' investment (basically international banking) at end-2000. The long position in direct investment and the short position in portfolio-equity both increased significantly in the late 1990s and the first part of 2000 (see Chart 10). In contrast, the large short position in 'other' investment has grown steadily since the early 1990s.

Chart 10 UK net external assets by instrument type



Source: ONS.

Direct investment

International mergers and acquisitions (M&A) activity has driven UK direct investment substantially higher in recent years. UK direct investment assets increased by 42% in 2000 to £618 billion. UK direct investment liabilities also rose strongly during 2000, up 35%. The UK net direct investment position stood at £269 billion at end-2000 compared with £176 billion at end-1999.

These developments largely reflected recent international 'mega-mergers' involving UK companies. The largest was the Vodafone-Mannesmann deal in early 2000, valued at more than £100 billion. However, since the middle of 2000, M&A activity has fallen (see Chart 11). The total gross value of international deals involving UK companies was £59 billion in 2001 H1, a third of the total in 2000 H1. This fall-off in activity reflects wider developments in world financial markets. Increased asset volatility has meant that it has been harder to value deals accurately, or for companies to organise the financing necessary to complete deals.

Chart 11

Net international mergers and acquisitions involving UK companies^(a)

Net acquisitions of overseas companies by UK residents



(a) 2001 figure for H1 only.

Valuing direct investment

Although international practice recommends that all external financial assets and liabilities are measured at current market prices, many countries, including the United Kingdom, depart from this when estimating direct investment.⁽¹⁾ Instead, book values from the balance sheets of direct investment enterprises (or the direct investors) are often used to determine the value of the stock of direct investments. With asset prices

 Balance of Payments Manual 1993, 5th edition (BPM5), published by the IMF. The aim of BPM5 is '...developing and promulgating appropriate international guidelines for the compilation of sound and timely balance of payments statistics'. generally rising over time (at least in the medium term), it is almost certain that these book values underestimate the corresponding market values. Where direct investment assets significantly exceed direct investment liabilities, as in the case of the United Kingdom, this could have a significant impact on the overall net external position. The box on page 390 looks at two methods of estimating market values for UK direct investment, which suggest that UK net direct investment assets could be sufficient to reduce significantly or even reverse the apparent overall UK net external liability position.

Physical and portfolio direct investment

Foreign direct investment is often thought of in terms of an overseas company building a factory or establishing an office in the United Kingdom. However, in the National Accounts, direct investment covers any lasting interest of a resident entity in one country in an entity resident in another economy, and ranges from the purchase of a large tranche of share capital (10% and above constituting the threshold at which an investment is considered direct rather than portfolio) to the building of a factory.⁽¹⁾

Inward and outward direct investment flows can be broken down into three components: acquisitions and disposals, changes in inter-company and branch/head office loans, and unremitted profits.⁽²⁾ Chart 12 shows that, in general, the major constituent of UK inward direct investment is the acquisition of the share or loan capital of the direct investment enterprise (a similar pattern is true for UK outward direct investment). This contrasts with the common perception (which was probably true up to the 1990s) that direct investment is, in the main, used to fund the construction/fitting out of factories and offices.

Direct investment may affect aggregate demand and supply in a country's economy, but the implications for financial stability of large net or gross positions in direct investment are less clear. In the unlikely event of there being a sudden loss of confidence in the UK economy, foreign direct investors might attempt to withdraw their investments. However, whereas liabilities such as banking deposits can be quickly withdrawn from a country, capital embodied in equity cannot be transferred unless a buyer is found. Equity prices could be put under pressure, eroding collateral values and

Chart 12 Composition of direct investment flows into the United Kingdom



increasing the costs of capital, but the risks of a major liquidity crisis are lower.

A simple scenario analysis can help to illustrate some of the issues. For example, a French company is building a £100 million factory to export goods solely to the United Kingdom, and it decides to build the factory in Kent rather than Calais. To what extent is the exposure of the United Kingdom higher than if the factory is built in Calais? If it builds in Kent, UK external liabilities will increase by £100 million. If it builds in Calais, UK external liabilities will remain unchanged (though they might be expected to grow over time as the United Kingdom imports the goods from the French factory). But for UK financial stability purposes the two are little different. Financial stability concerns are likely to arise only when the question of finance is raised. For example, if a company borrowed in foreign currency to finance investment that is likely to generate a sterling income stream (or vice versa), and if they did not hedge this risk, then they could be susceptible to large or sudden changes in exchange rates.

Portfolio holdings of equities

The United Kingdom has a large net liability position in portfolio-equity, which has grown rapidly in recent years (see Chart 10).

The increase in net portfolio-equity liabilities can be seen partly as a counterpart to the growth in direct investment abroad discussed above. International M&A

(1) See paragraph 177, BPM5.

(2) See ONS Business Monitor MA4 (overseas direct investment).

activity typically affects external balance sheets in two places. For the United Kingdom, the acquisition of an overseas company will be recorded as direct investment abroad. However, when the purchase is paid wholly or partly with equity (and the equities are held), the acquisition will also increase overseas portfolio holdings of UK equities.

International M&A activity will boost overseas holdings of UK equities only to the extent that overseas investors in aggregate are willing to retain their increased exposure to the UK economy and corporate sector. So far, the evidence suggests they have been willing to do so. Inflows to the UK equity market have continued to be positive, with net purchases totalling £24 billion in the year to 2001 Q2, despite the FTSE All-Share index falling by 10%. As at end-2000, overseas residents held some 33% of the UK market, up from 28% in 1999 and less than 15% in 1990. This overseas participation in the UK equity market is high by international standards—only around 7% of US equities are held by non-US residents.

Portfolio inflows into UK equity markets have been relatively steady over the past 15 years despite periods of equity market weakness and volatility. In only one quarter during the past 15 years (1999 Q3) were overseas residents net sellers of UK equities, and even then, net sales totalled just £0.2 billion. In contrast, UK portfolio purchases of overseas equity markets have been more variable. UK residents have been net sellers of overseas equities in just under a third of all quarters since 1985, and many of these quarters of net sales have coincided with periods of global equity market weakness (see Chart 13).

The correlation between quarterly changes in world equity prices and net purchases of overseas equity by UK residents during the period 1985 Q1 to 1999 Q4 was 0.5, suggesting that the two may be related. This relationship seems most likely to reflect the appetite of UK investors for overseas equities falling during periods of equity market weakness.⁽¹⁾

Equity revaluations

A large net liability position in portfolio holdings of equities can mean that rises in global equity prices increase a country's net external liabilities through revaluation effects.

Chart 13

Net purchases of overseas equities by UK residents compared with changes in world equity prices



Sources: ONS, Thomson Financial Datastream.

For example, Table C shows what might happen to the UK net position in portfolio-equity given a 15% rise in domestic and overseas equity markets. From the UK net position at end-2000 (all else being equal), UK net portfolio-equity assets would fall by some £30 billion. In contrast, worldwide falls in equity prices of 15% would boost the UK net asset position by some £30 billion. Such anomalies highlight the difficulty of interpreting trends in external balance sheets—a net asset position cannot simply be regarded as 'good', and a net liability position as 'bad'.

Table C

UK portfolio holdings of equities

Change in net a	issets	-31	+31
Net assets	-206	-237	-175
Liabilities	612	704	520
Assets	406	467	345
	Level at end-2000	Equity mar +15%	ket change <u>15%</u> -
£ billions			

Portfolio holdings of debt securities

Like other parts of the external balance sheet, UK portfolio-debt assets and liabilities have grown rapidly over the past year (both up more than 20% in 2000). The United Kingdom has had net debt security assets since 1992, which have stayed relatively close to £100 billion over much of this period. However, this hides underlying developments in the composition and type of debt securities held.

⁽¹⁾ When the correlation is extended to up to 2001 Q2 (ie 1985 Q1 to 2001 Q2), the relationship is weaker. However, this may reflect the unprecedented size of a few acquisitions and disposals involving UK companies during this period, rather than a change from the previous trend.

Chart 14 shows that UK residents have consistently been net holders of bonds but net issuers of money market instruments (MMI) during the past ten years. The net MMI liability position had been relatively flat through most of the 1990s (and so declining as a share of nominal GDP) but has increased noticeably in the past 18 months. Breaking down the data shows that this largely reflects increased overseas holdings of certificates of deposit issued by UK banks.⁽¹⁾ In contrast, net holdings of bonds have risen relatively steadily over the past decade.

Chart 14 UK net debt-portfolio assets



Overseas holdings of gilts and non-gilts

Overseas holdings of bonds issued by the non-public financial and corporate sectors have been growing in importance over the past 15 years (see Chart 15).

Until the 1980s, overseas residents held few non-public-sector UK bonds. This largely reflected tax rules, which, prior to 1984, gave UK companies an incentive to access overseas investors via indirect placements in eurobond markets through issues by overseas subsidiaries. From 1985, holdings of bonds issued by both monetary and financial institutions (MFIs) and other sectors (mainly non-bank corporates) began to grow rapidly, together outstripping holdings of gilts by the late 1980s, and by 2000 accounting for more than 70% of total holdings. Overseas holdings of gilts also increased markedly in the late 1980s and early 1990s, both in nominal terms and as a percentage of the total gilt market.⁽²⁾ However, since 1994, nominal

Chart 15 Overseas holdings of UK bonds by sector of issuer



holdings of gilts by overseas residents have been largely flat (at around £65 billion).

These trends reflect wider patterns of bond issuance in UK debt markets. The amount of UK government stock in issuance levelled off in the mid-1990s and has been falling gently in recent years. In contrast, the outstanding stock of non-government bonds has consistently risen.

'Other' investment

'Other' investment is the largest component of the UK external balance sheet. UK 'other' investment assets and liabilities were £1.4 trillion and £1.7 billion respectively at end-2000, around double nominal UK GDP.

'Other' investment includes bank lending and deposits between UK residents and non-resident banks, and between banks in the United Kingdom and non-residents.⁽³⁾ By far the largest component is the external business of UK banks, which accounted for

Table D

UK 'other' investment by sector (end-2000)^(a) £ billions

	Assets	Liabilities	Net
Banks (b) Public sector Securities dealers Other sectors	1,055 11 206 159	$1,266 \\ 4 \\ 296 \\ 145$	-210 7 -90 14
Total	1,431	1,711	-280
Source: ONS.			

Split between securities dealers and 'other sectors' is estimated.

(b) Includes building societies and other monetary and financial institutions.

(1) Overseas residents held more than 40% of the total stock of UK banks' CDs at end-June 2001, up from 28% at end-1999.

(2) Overseas residents' holdings of gilts as a share of total gilt issuance increased from less than 10% in 1986 to more than

20% in 1992. At end-2000 the share stood at around 17%.

(3) Plus corporate-to-corporate trade credit.

around three-quarters of UK 'other' investment liabilities.

UK 'other' investment assets and liabilities have grown strongly over the past decade, and particularly during the past 18 months. The recent rise partly reflects a rebound following the period up to end-2000, when interbank positions were wound down.

The United Kingdom has large net 'other' investment liabilities—some £280 billion at end-2000. This deficit was more than accounted for by the banking sector and securities dealers (£300 billion). 'Other sectors' (which includes households, private non-financial corporations and other financial institutions) had net 'other' investment assets; £14 billion at end-2000.

International banking business dominates both gross and net 'other' investment. It is important for financial stability purposes because it includes the most liquid forms of investment. Furthermore, financial institutions are usually highly geared and are often exposed to maturity and other mismatches. However, for the United Kingdom, the financial stability risks associated with international banking assets and liabilities are difficult to assess because of London's role as a major international financial centre. The following section looks in more detail at UK international banking drawing on additional data published in *Bank of England Monetary and Financial Statistics.*⁽¹⁾

UK international banking and financial stability

For a country with a large international financial centre such as the United Kingdom, it can be misleading to interpret the majority of movements across the external balance sheet as directly relating to the UK economy. The United Kingdom is host to hundreds of international banks, many of which conduct large amounts of wholesale banking and financial operations through their London offices. Funds that originate perhaps in an international bank's home country may flow via the United Kingdom to a third country. The assets and liabilities will show on the UK external balance sheet.

A simple scenario helps to illustrate the issue. A German bank receives €200 million (£125 million sterling equivalent) in deposits in Germany and decides to invest it in US Treasury bonds. If it carried

(1) These data are broadly consistent with data published in the Pink Book.

out this transaction directly from the German head office it would have no impact at all on the UK external balance sheet (Scenario A). However, if it decided to carry out the transaction via its wholesale banking office in London (Scenario B), the UK external balance sheet would show net 'other' investment foreign currency liabilities of £125 million, and net portfolio-debt foreign currency assets of £125 million (see Table E).

Table E UK external balance sheet scenarios

Scenario A: Frankfurt

£ millions Direct investment Portfolio investment equity Portfolio investment debt Other investment	Assets £	FC	<u>Liabilities</u> £	FC
Scenario B: London				
£ millions	Assets	FC	Liabilities	FC
Direct investment Portfolio investment equity Portfolio investment debt Other investment		125		125

The dominance of foreign-owned banks in the external business of the UK banking sector is illustrated by Chart 16. Only some £260 billion of overseas deposits placed with banks in the United Kingdom were placed with UK-owned banks. This compares with nearly £1.1 trillion placed with foreign-owned institutions. UK-owned banks account for only 15% of foreign currency borrowing from overseas, and even in sterling borrowing account for less than half of the total (42%).

Chart 16

Gross external borrowing by the UK banking sector (by nationality of bank; end-2000)



This certainly does not mean that activity in international banking markets is irrelevant for UK financial stability: attention needs to be paid to international as well as specifically domestic risks. And interlinkages between UK-owned and foreign-owned banks are many. Foreign-owned, particularly other European-owned banks, are major counterparties (including exposures from loans and advances, leases, discounted bills, paper and margins held, the mark-to-market value of over-the-counter derivatives, settlement and transaction claims, and so on) for both large and small UK banks.

Net borrowing

Looking at net borrowing by UK banks from overseas highlights the extent to which banks in the United Kingdom use non-resident institutions for funds. Net UK bank borrowing from abroad was £210 billion at end-2000; of this, some £80 billion was denominated in sterling and £130 billion denominated in foreign currencies.

The £80 billion sterling net borrowing by the UK banking sector can be partly linked to the UK current account deficit. This is because domestic residents often, in effect, finance current account deficits either through direct borrowing from overseas or indirectly through the domestic banking system. As many smaller firms and households are likely to have limited access to overseas financial markets, they will tend to rely more on the banking sector. Hence net borrowing from non-residents by the UK banking sector will tend to increase with the current account deficit.

In contrast to sterling, foreign currency borrowing appears to be less directly related to the UK economy. The data suggest that it is largely redirected abroad. UK-resident banks are substantial net borrowers from abroad in foreign currency but also net investors in overseas debt securities. Including holdings of debt securities (both non-resident holdings of UK bank debt securities and UK banks' holdings of debt securities issued by non-residents), UK banks had in effect a flat position in foreign currency denominated instruments.

Foreign currency risk

Although the concept of external lending is useful for analysing the banking sector, it is also interesting to look at the foreign currency position of the UK banking sector irrespective of whether the foreign currency liabilities are to UK residents or overseas residents. As shown in Chart 17, in aggregate the UK banking sector typically has modest net foreign currency assets (£15 billion at end-2000, compared with £1.7 trillion gross foreign currency liabilities). Splitting these data into UK-owned and non-UK-owned banks shows that UK-owned banks typically have net foreign currency liabilities. However, at just £10 billion, these are small compared with total and/or foreign currency assets. These data do not, however, give a complete indication of the open foreign currency position of the banking sector, since they take no account of financial derivative positions. And they relate only to banks' business carried out in the United Kingdom, whereas most banks will be transacting in foreign currency via international offices.





Reserves and the public sector

The final element of the external balance sheet is the public sector. The public sector's main external assets are the foreign currency reserves. By international standards, the United Kingdom has relatively low foreign currency reserves, £29 billion as at end-2000, just over 3% of annual GDP. However, overall, the financial stability position of the UK public sector is very strong. The UK public sector has little external debt, foreign currency debt or short-term debt. This means that the structure of UK public sector debt is unlikely to be a source of vulnerability.

A more detailed assessment of financial stability risks associated with the public sector balance sheet is featured in the article 'Public sector debt: end-March 2001', see pages 406–16.

Tools for UK external balance sheet analysis

The analysis set out above (and in last year's Quarterly Bulletin article) represents part of the Bank of England's efforts to take on board the lessons about national balance sheet monitoring drawn following the 1997-98 financial crises. In the same spirit, the Bank has assessed the extent to which it can compile and assess key indicators of financial fragility identified by the IMF.⁽¹⁾ The IMF measures are based around two main themes-reserves-based indicators and debt-based indicators—and cover both aggregate balance sheet positions and those of major sectors (public sector, banking sector and corporate sector).

For an industrial country such as the United Kingdom, analysing each of the indicators can help to highlight potential risks in aggregate or sectoral balance sheets, or at least help to identify areas of the balance sheet that require further investigation and understanding. Furthermore, carrying out the exercise may highlight weaknesses in national data collection systems.

Table F details each of the IMF-recommended indicators. identifying which indicators can be calculated for the United Kingdom using official data sources.

The United Kingdom is able to produce all the reserve-related indicators but only some of the debt-related and sectoral indicators. This reflects a number of gaps in UK data coverage. A full sterling/foreign currency split of UK external debt is available for only the banking and public sectors. There are limited data on the maturity structure of UK external debt, except for the public sector. And no breakdowns are currently published with which to make robust estimates of the average maturity of private sector UK external debt. Off-balance-sheet data are also an area of difficulty. Although mark-to-market values of derivatives positions are included in the National Accounts,⁽²⁾ these data do not indicate the size and direction of open positions in foreign currency (which are important factors in assessing foreign currency risk).

At a sectoral level, the range of data collected on the UK public sector is wide and of a high quality. The

Table F Debt and reserve-related indicators of financial stability

Indicator	Underlying data published for the United Kingdom?
Net external assets over GDP	Yes
Reserve-related indicators Reserves over short-term external debt Reserves over imports Reserves over broad money	Yes Yes Yes
Debt-related indicators External debt over exports External debt over GDP Average interest rate on external debt Average maturity of external debt Share of foreign currency external debt total external debt	Yes Yes Yes No in No
Public sector indicators External public sector debt service over Public sector debt over GDP or tax reve Average maturity of non-concessional d Foreign currency debt over total debt	r exports Yes nues Yes lebt Yes Yes
Financial sector indicators Open foreign exchange position Foreign currency maturity mismatch Foreign currency quality mismatch Gross foreign currency liabilities	No [on-balance sheet only] No No Yes
Corporate sector indicators Net foreign currency cash flow over tot. Interest over cash flow Leverage Short-term debt over total debt Net foreign currency debt over equity Return on assets (before tax and interest	al cash flow No Yes Yes Yes No st) Yes

availability and quality of information on the banking sector is also generally good, though only estimates are available of the maturity structure of UK banks' balance sheets.

As in many countries, the availability and quality of data for the UK corporate sector are generally thinner than for the banking and public sectors. Aggregate data are published on some standard measures of corporate sector health—such as leverage and return on assets. Similarly, data on short-term debt in relation to total debt are available. However, splits separately identifying foreign currency debt are not collected.

UK indicators

As part of the exercise, the Bank has also looked at what the IMF-recommended indicators show for the United Kingdom. The first IMF indicator-the ratio of net external assets of GDP-has already been discussed in Section 1 (see Chart 4). Charts 18 to 21 give further examples of UK time series for the IMF aggregate balance sheet and sectoral indicators.

(2) Table FD on page 113 of the 2001 Pink Book gives a partial sectoral breakdown of derivatives assets/liabilities for end-1998 to end-2000 inclusive. The ONS states that '[they] are not included in the main aggregates of the UK's international investment position as the data are developmental.

⁽¹⁾ See 'Debt and reserve-related indicators of external vulnerability', IMF, 23 March 2000. Available at v.imf.org/external/np/pdr/debtres/index.htm

Chart 18 UK reserves as a percentage of short-term external debt



Chart 18 shows that UK foreign currency reserves are a relatively small share of total short-term external debtless than 2% in 2000, compared with more than 8% in 1980. In some circumstances, such a low ratio might be cause for concern. However, there are good reasons why this is not the case for the United Kingdom. First, the UK Government and many UK companies are likely to have reliable access to international financial markets in most circumstances, whereas this is not the case for many countries. Second, reserves are much more important for countries that have a fixed exchange rate, which is not the case in the United Kingdom. Third, a relatively high proportion of UK external debt is denominated in sterling.⁽¹⁾ Finally, UK short-term external debt is dominated by interbank business carried out by foreign-owned banks.

Chart 19 Average interest rate on external debt



Source: ONS.

(1) That is UK debt once the foreign currency business of foreign-owned banks has been excluded. (2) See Financial Stability Review June 2001 and the forthcoming December 2001 issue

As Chart 19 shows, the average interest rate on UK external debt has fallen relatively steadily since 1980 to around 5%, as nominal interest rates have fallen in the United Kingdom and elsewhere.

The public sector indicators look at the internal and external solvency of the public sector and potential liquidity and foreign currency risks. Chart 20 shows the ratio of external public sector debt service to exports, which gives an indication of the capacity of a country to earn external revenue in order to finance its external public sector debt. This ratio is very low in the United Kingdom, reflecting the relatively low holdings of UK public sector debt by overseas residents, in turn reflecting the low total UK public sector debt.





Source: ONS.

The indicators for the banking sector focus on currency and liquidity risks and have already been discussed in detail in the previous section. For example, Chart 17 shows the net foreign currency position of the UK banking sector. The corporate sector indicators focus on the currency risks of the corporate sector and more general measures of corporate sector health and robustness, such as leverage and interest rate cover. Chart 21 shows that the leverage of the UK corporate sector has been rising since 1998, but is below its peak in the early 1990s. Risks associated with the UK corporate and banking sectors are discussed in more detail in the Bank's Financial Stability Review.(2)

Chart 21 Private non-financial corporate debt over equity^(a)



(a) Calculated as net debt divided by total equity at market value.

Implications for financial stability?

Although UK net external liabilities have fallen back slightly over the past few years, they remain sizable relative to GDP. The large net liability figure mostly reflects cumulative current account deficits over the past 20 years. Indeed, UK net external liabilities would have increased further in 2000 but for the positive impact of revaluations.

One important feature of the UK balance sheet is that the United Kingdom is 'long' foreign currency and 'short' sterling assets. So a fall in the exchange rate would (other things being equal) tend to boost the net external position. In consequence, if the exchange rate were to fall because of a portfolio shift away from UK assets, the process should not be exacerbated by fears of increasing net UK external liabilities. (Any positive impact on the UK current account of a sharp depreciation might result in a second boost to the value of UK external assets.)

This article has highlighted some of the difficulties in interpreting external balance sheets. First, the margin of error on the data on the net external balance sheet position is significant. For example, the box on pages 394–95 discusses revisions to UK National Accounts introduced this year, some of which have been backdated 50 years. And the box on page 390 highlights how UK net external assets may have been significantly underestimated because of difficulties calculating the market value of direct investment. Second, increases in net liabilities should not automatically be regarded as 'bad for financial stability'. For instance, given the pattern of UK portfolio-equity

Estimating a national balance sheet

Reliance on the net external balance sheet position to give an indication of the overall UK financial standing relative to the rest of the world has potential shortcomings. A different perspective may be provided by looking at the external balance sheet as a component of the national balance sheet.⁽¹⁾ The asset side of the latter would include (along with external assets) the likes of: human capital, land/water bodies, dwellings/other structures, financial assets, equipment, inventories, consumer durables, subsoil assets, intangibles (patents, copyrights, etc), biodiversity (clean air/water, stable climate), forests, livestock, fish stocks, accrued income, national monuments/scenery, precious metals/stones and collectibles.

It is obvious from this list that the valuation of a number of these components is difficult. In order to avoid the problems associated with any bottom-up national balance sheet valuation, an alternative is to employ a top-down approach. This involves characterising the United Kingdom as a conglomerate and regarding nominal GDP as the dividend paid. The dividend yield on the FTSE All-Share can then be used to calculate an approximate value for the asset side of the UK national balance sheet.⁽²⁾

Over the past ten years, UK net external liabilities have increased by £105 billion, to £118 billion. Over the same period, nominal GDP rose from £587 billion to £943 billion. Using the average dividend yield over the period (3.5%), national balance sheet asset values rose from £16.8 trillion in 1990 to £26.9 trillion in $2000.^{(3)(4)}$ The improvement in the asset side of the UK national balance sheet over the past ten years was therefore close to one hundred times the size of the increase in UK net external liabilities.

⁽¹⁾ See 'Comparative national balance sheets: a study of 20 countries', Goldsmith, R W (1985), University of Chicago Press.

⁽²⁾ There are a number of caveats to this method. The dividend yield depends to some extent on the incentives to retain or distribute earnings. Also, the yield on the companies in the FTSE All-Share reflects the activities of these companies both inside and outside the United Kingdom.

⁽³⁾ National balance sheet asset value = money GDP/dividend yield.

⁽⁴⁾ Using the dividend yields at the start and end of the period (rather than the average) gives an even larger increase in balance sheet asset values.

holdings, rising UK equity prices could lead to an increase in net UK external liabilities. Trends in direct investment should also be interpreted carefully. Financial stability risks are more likely to occur in the financing of direct investment, than in direct investment itself.

It is, perhaps, most useful to focus on risks associated with specific aspects of the balance sheet—such as foreign currency risks. However, assessing these risks is made more difficult by gaps in the UK data collection system. Important risks that should be assessed include the gross and net foreign currency exposure of UK residents. A full foreign currency breakdown of the UK external balance sheet is not currently available. Nor is there full information on off-balance-sheet positions, which would significantly affect any interpretations of foreign currency exposures. Another key area of interest is liquidity risk. However, again, little information is available on the maturity structure of most of the UK external balance sheet other than, at best, a simple short-term/long-term split.

The key to any financial stability risks inherent in the UK external balance sheet lies in the banking sector. UK external debt is large but this reflects the specialisation of the UK economy in international banking activities. Ultimately the financial stability risks posed by the banking sector depend on the health of the institutions themselves, on their risk management policies and practices, on market discipline, and on effective prudential regulation.

Glossary

Balance of payments: A record of the transactions between the residents of a country and the rest of the world over a specified period of time.

Capital account: The account of capital transfers and acquisition/disposal of non-produced, non-financial assets (ie copyrights).

Current account: The record of transactions in respect of trade in goods and services, income and current transfers. *Direct investment*: When residents of one country gain a lasting interest in the activities of a subsidiary or associated company in another country. (Defined in the 1993 IMF Balance of Payments Manual, 5th edition, as a stake of 10% or more of the equity capital.)

Financial account: The account of transactions in external assets and liabilities, including direct investment, portfolio investment, other investment and reserve assets.

International investment position: The record of end-period balance sheet levels of a country's external assets and liabilities.

Other' investment: All investment other than that defined as portfolio or direct. The major components are deposits and loans.

Portfolio investment: Investment in equity and debt securities issued by overseas companies, other than that classed as direct investment, plus equity and debt issued by overseas governments. Debt securities includes bonds and notes, certificates of deposit, commercial paper and Treasury bills.

Sources:

IMF Balance of Payments Manual (5th edition); Office for National Statistics, the Pink Book 2001.