DCE and the money supply – a statistical note

This note explains some changes that have been made in this issue in the statistical presentation of 'Domestic credit expansion' (DCE) and the broader version of the money supply (M_3). DCE has been redefined, and the sterling component of M_3 (sterling M_3) is now presented as an alternative definition of the money stock. The note also describes the statistical relationship between these two aggregates.

Sterling M_3

The standard series for M_3 has included all deposits held by UK residents with banks in the United Kingdom, whether denominated in sterling or foreign currencies. There are arguments for and against the inclusion of foreign currency deposits in statistics of the domestic money stock. When the existing definitions of the money stock were agreed in 1970, UK residents' foreign currency deposits were retained in M_3 – but not in M_1 – partly for continuity with earlier statistics. But the composition of M_3 has been presented in such a way that the foreign currency component is readily identifiable, so that a narrower definition (confined to sterling deposits) can be used if preferred.

In sterling terms, UK residents' foreign currency deposits now account for over 8% of M_3, compared with about 3% six years ago. Part of this increase is a direct result of the rise in the sterling value of foreign currency deposits stemming from the pound's depreciation, but the decline in the use of sterling in world trade (particularly in oil) has also contributed. A UK resident may retain a foreign currency deposit only for purposes approved by the exchange control authorities; and a recent inquiry showed that some 75% of foreign currency deposits within M_3 represented either balances of oil companies and other firms (e.g. insurance companies) needed to support their international operations, or capital funds (such as the proceeds of approved foreign currency borrowing) awaiting investment abroad. Changes in such deposits between different reporting dates are thus more likely to reflect conditions in markets overseas than in the United Kingdom. Also, while M_3 includes foreign currency deposits with banks in the United Kingdom, it necessarily excludes (for lack of information) foreign currency deposits held by UK residents with banks overseas – though from the point of view of domestic liquidity, there is little difference between the two. For these reasons, more emphasis is to be given to the sterling component of M_3 when changes in the money supply are used as an indicator of domestic monetary conditions; and separate sub-totals are now included in Tables 11 / 1 and 11 / 2 in the statistical annex. The concentration on sterling M_3 is effectively an acknowledgment that the euro-dollar market is international and that, in the context of UK monetary policy, foreign currency deposits held by UK residents with UK banks are a substitute more for foreign currency deposits held with banks overseas than for sterling deposits with banks in the United Kingdom.

Domestic credit expansion

The definition of DCE has been modified in a way that is consistent with the change of emphasis from total M_3 to sterling M_3.

In broad terms, the amount of 'domestic credit expansion' in a given period is equivalent to the increase in the domestic money stock after adjustment for any change in money balances caused directly by an external surplus or deficit (a fuller description is given in the September 1969 issue of the *Bulletin*). But whereas the money stock is calculated basically from the liabilities side of the banks' balance sheet, DCE is calculated (directly or indirectly) from the assets side. It is a measure of domestically generated credit in a form which leads directly to monetary expansion and has two main elements – that part of the public sector borrowing requirement which is not offset by purchases of public sector debt by the UK private sector other than banks, and the increase in bank lending to the UK private sector. Hitherto, the latter included lending in both sterling and foreign currencies, but an adjustment was made to exclude foreign currency lending specifically authorised for direct or portfolio investment abroad. Under the new definition, bank lending to the UK private sector is confined entirely to sterling. Thus, no distinction is now made between foreign currency lending to the UK private sector by a bank in the United Kingdom and similar lending by a bank overseas: both are excluded from DCE. As when holding foreign currency deposits, UK residents may borrow foreign currency only for purposes approved under exchange control regulations.

Under the present (and former) definition, two further items are included in DCE. The first is the net increase in the banks' sterling lending to overseas residents: such lending is largely connected with the finance of UK exports and has, therefore, much the same effect on domestic liquidity as direct bank lending to a UK exporter. The second is the net increase in official holdings of commercial bills acquired (by the Issue Department of the Bank of England) through market operations: such bills, which are normally purchased from banks or discount houses, represent a form of credit to the UK private sector temporarily provided by the authorities instead of by the banking sector.[1]

DCE and the money stock

The relationship between DCE and the money stock is best seen in Table 11 / 3 in the statistical annex, which has been modified to incorporate the new definition of DCE and sterling M_3. The new format is summarised below, using figures for the first half of the financial year 1976/77:

£ millions

		Unadjusted	Seasonally adjusted
Public sector borrowing requirement		+5,321	+5,253
Purchases (–) of public sector debt by the UK private sector (other than banks)		–2,122	–2,099
Bank lending in sterling (increase +) to:			
UK private sector (including official holdings of commercial bills)		+1,765	+1,892
Overseas		+ 467	+ 467
DCE		+5,431	+5,513
External and foreign currency finance of the public sector (increase –)	–2,131		
Overseas sterling deposits (increase –)	+ 48		
Banks' foreign currency deposits, net of foreign currency assets (increase –)	+ 32	–2,051	–2,153
Banks' non-deposit liabilities (increase –)		– 477	– 539
Sterling M_3		+2,903	+2,821

This table is no more than a statistical identity, developed from a consolidated balance sheet of the banking sector (see below). In particular, it says nothing at all about cause and effect. It does, however, enable changes in sterling M_3 to be analysed in terms of the elements of domestic credit expansion and certain external flows. It also provides a framework in which the inter-relationship of fiscal and monetary developments and the balance of payments can be considered. Figures are now given back to 1971/72, both for calendar quarters and for 'banking quarters' (i.e. the three months ending on the third Wednesday – the banks' reporting date – in January, April, July and October).

The main change in the table, brought about by the revised definitions, is in the external and foreign currency items shown in the reconciliation of DCE with the increase in the money stock. These are

[1] This second adjustment was not mentioned in the article in the September 1969 issue of the *Bulletin*, because changes in official holdings of commercial bills had up to then been very small. But the adjustment has, in fact, always been made in this presentation of DCE – either as a deduction from purchases of public sector debt by the UK private sector (other than banks) or, as described here, as an addition to bank lending to the private sector.

now presented under three headings: the net external and foreign currency financing of the public sector, the change in overseas sterling deposits, and the change in banks' foreign currency deposits less foreign currency claims (i.e. the amount of foreign currency deposits 'switched' into or out of sterling). The first is wider in concept than 'official financing' in the balance of payments statistics (Table 25 in the statistical annex): it includes overseas purchases of marketable debt (government stocks, Treasury bills, local authority debt, etc.) as well as all direct overseas and foreign currency borrowing by the public sector – whether included in 'official financing' or not – less the net increase in official reserves held by the Exchange Equalisation Account. When analysing changes in the money stock in terms of external capital flows, it should be remembered that there are often offsetting entries within the external and foreign currency group of items shown in Table 11 / 3, which have no net effect on the total. (For this reason, the three categories are not seasonally adjusted separately.) Thus, overseas borrowing by the public sector (whether, for example, a drawing on facilities with the International Monetary Fund or foreign currency borrowing by a nationalised industry), which is used to increase the official reserves, does not affect the total – though any subsequent (or earlier) use of the reserves may do so. Similarly, a rise (or fall) in the official reserves, accompanied by a rise (or fall) in overseas sterling balances held in some form of public sector debt or in bank deposits, also has no net effect on the total.

These external and foreign currency items are not immediately identifiable in the balance of payments accounts as summarised in Table 25. As already stated, some of the transactions included under 'external and foreign currency financing of the public sector' in Table 11 / 3 are shown under 'official financing', but the remainder appear within 'investment and other capital flows'. For example, changes in overseas holdings of Treasury bills appear within 'banking and money-market liabilities in sterling', changes in overseas holdings of British government stocks are shown partly within 'overseas investment in the UK public sector' and partly under 'exchange reserves in sterling'; and other debt transactions (such as the North American loans agreed in 1946) are recorded within 'official long-term capital'. Changes in overseas sterling deposits also appear within 'banking and money-market liabilities in sterling'. Furthermore, the balance of payments accounts do not specifically identify the amount of foreign currency deposits switched into or out of sterling, because they are less concerned with the distinction between currencies than with the distinction between overseas and UK residents. Nevertheless, the total of the three categories of external items in Table 11 / 3 is very broadly the counterpart, in the balance of payments accounts, of the current account surplus or deficit plus any capital flows to or from the UK private sector (including the balancing item). It is the external surplus or deficit in this sense (rather than simply the current account by itself, or the change in the official reserves) which constitutes the main difference between DCE and the increase in the money stock.

The general format of Table 11 / 3 was discussed in the December 1972 issue of the *Bulletin*. However, it may be useful to explain how the new-style table is derived from a consolidated balance sheet of the banking sector. The starting point is a balance sheet summarised thus:

Banking sector

Liabilities	*Assets*
Sterling deposits:	Sterling lending to:
UK residents	UK public sector
Overseas residents	UK private sector
	Overseas residents
Foreign currency deposits	Foreign currency assets
Non-deposit liabilities (i.e. capital and internal funds *less* non-financial assets)	

Because assets equal liabilities, the net increase in UK residents' sterling deposits (i.e. those deposits included within sterling M_3) must equal the sum of the net changes in the other items within the balance sheet. After including the other component of M_3 (notes and coin held by the general public), this relationship can be expressed as follows:

Increase in sterling M_3 = increase in:
- Notes and coin held by the general public
- Sterling lending to:
  - UK public sector
  - UK private sector
  - Overseas residents

less increase in:
- Overseas sterling deposits
- Foreign currency deposits, net of foreign currency assets
- Non-deposit liabilities

The change in sterling bank lending to the UK public sector can also be considered in relation to the public sector borrowing requirement. This requirement is financed in four ways – (i) by borrowing in sterling from the banking system; (ii) by an increase in notes and coin held by the general public; (iii) by borrowing from the private sector other than banks (e.g. by way of gilt-edged stocks, Treasury bills or local authority debt) less any official purchases of commercial bills (which, for statistical purposes, are included among items financing the borrowing requirement rather than among public sector lending); and (iv) by finance accruing to the public sector from abroad (including a fall in official reserves). The size of the public sector borrowing requirement is not affected by purchases or sales of foreign currency by the Exchange Equalisation Account: although expenditure of sterling by the EEA increases the Government's borrowing in domestic markets, the corresponding increase in foreign exchange is recorded as a fall in its net external borrowing.

Reverting to the above accounting relationship, it is possible to replace the item 'increase in sterling lending to the UK public sector' with entries for the public sector borrowing requirement and – as negative items – the non-bank sources of finance described above (the two entries for notes and coin held by the general public cancel out). In this case the relationship becomes:

Increase in sterling M_3 = Public sector borrowing requirement
- *less* Purchases of public sector debt by the UK private sector other than banks
- *plus* Increase in official holdings of commercial bills
- *less* External and foreign currency finance of the public sector

plus increase in sterling lending to:
- UK private sector
- Overseas residents

less increase in:
- Overseas sterling deposits
- Foreign currency deposits net of foreign currency assets
- Non-deposit liabilities

Table 11 / 3 merely rearranges the above items in a way that brings together both the components of DCE and the various external and foreign currency items.