External and foreign currency flows and the money supply

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Summary

The definition of the money supply most widely used in the United Kingdom is sterling M_3. Broadly speaking this consists of notes and coin plus the sterling bank deposits of the private sector. External transactions which affect sterling M_3 are therefore only those which increase or diminish the sterling deposits of the private sector. By no means all balance of payments transactions do this, so that the relationship between external influences on sterling M_3 and the balance of payments is somewhat complex. Moreover, a régime of floating rates, where foreign currency transactions must balance out, does not necessarily guarantee that there will be no external effects on the money supply.

This complexity can give rise to problems of identification and analysis. Some of these were described in an article in the March 1975 *Bulletin*, page 41, but for a number of reasons this is now out of date.[1]

The present article is intended to provide an up-to-date guide. It is, however, a description of the statistical framework only. The article makes no attempt to identify causal relationships.

Introduction

Broadly speaking, Table 11.3 in the statistical annex shows changes in the money supply, sterling M_3, as the sum of domestic and external components. The article in the March 1977 *Bulletin* showed how changes in domestic credit expansion (DCE) and 'external and foreign currency finance' were derived from the balance sheet of the banking system. This article starts from the balance of payments instead. It begins by setting out the basic principles by which external flows affect the money supply. The next section shows how 'external and foreign currency finance' can be arrived at by taking account of those foreign currency transactions with UK banks which are not balance of payments items. Some statistical links between DCE and the external influences on sterling M_3 are then examined, followed by a description of how entries in the balance of payments correspond to those of Table 11.3. Finally, some important limitations of the approach are discussed. The appendix sets out a series of examples of external transactions which illustrate the framework described in the article.

First principles

In this section the basic mechanism by which external flows influence the money supply is described; first under fixed exchange rates and secondly when the exchange rate is allowed to float freely.[2] The discussion is in terms of sterling M_3, the definition of money most widely used in the United Kingdom. Sterling M_3 consists of sight and time sterling deposits of UK residents (both private and public sectors) plus notes and coin held outside the banking system. (It is always useful to remember that external inflows will raise the money supply only to the extent that sterling is placed in the hands of non-bank UK residents.) For convenience the discussion is in terms of inflows; outflows, of course, have the reverse effects. Only 'first round' effects are considered; any subsequent reaction of the public, private or banking sectors to the effects of inflows on liquidity, interest rates, etc. is beyond the scope of the article.[3]

To help with the exposition, some further simplifying assumptions are initially made (all are relaxed in the course of the article). These are, first, that all external payments to residents are made in sterling (alternatively, any foreign currency received by them is promptly sold to a bank); secondly, that the banks' external and foreign currency rôle is, at least initially, very limited [i.e. they act simply as middlemen—any foreign currency they buy is immediately sold to the Exchange Equalisation Account (EEA) or to non-residents; they neither accept foreign currency deposits nor make foreign currency loans; nor do they lend sterling abroad]; the third simplifying assumption is that the public sector's external and foreign currency transactions which contribute to the public sector borrowing requirement (PSBR) are ignored.

Fixed exchange rates

Under fixed exchange rates, the authorities peg the exchange rate by offering to buy or sell sterling in unlimited amounts at a predetermined rate using the official reserves. In these conditions, it can be assumed that for each transaction across the exchanges there will be a corresponding change in the reserves.

Before describing the effect of a number of different types of external transaction on sterling M_3, the mechanism by which foreign exchange is taken into or paid out of the official reserves needs to be described. The reserves are held by the EEA. Among its assets are not only the reserves but also short-term sterling claims on the Government. When the EEA buys foreign currency it provides sterling to the seller by, in effect, cashing in these sterling claims. In order to find the cash, the Government are forced to borrow elsewhere. In effect, government securities are switched from the EEA to other holders.

As a first example of the effect on money of an external transaction, consider the case of a UK exporter receiving immediate payment from an overseas

[1] For example, because of the revised definitions of M_3 and DCE described in the March 1977 *Bulletin*, page 39.

[2] Strictly speaking, it is not whether the exchange rate is fixed or not which is the essential distinction but whether the authorities are intervening or not.

[3] In particular, it is assumed that inflows received by the private sector are held as bank deposits and are not used, for example, to repay bank borrowing. Inflows received by the public sector are assumed to result in it borrowing less domestically. Public sector sterling bank deposits are assumed to be unchanged.

customer. If the customer does not already hold sterling, he will have to arrange for foreign currency to be sold to a UK bank and for the proceeds to be credited to the sterling account of the exporter. The bank, on receipt of the foreign currency, credits the exporter's sterling account and sells the currency to the EEA. In order to buy the currency from the banks, the EEA runs down its sterling claims on the Government, compelling the latter to borrow elsewhere. In the absence of any other buyer, they borrow from the banks, and, in effect, sterling claims on the Government are switched from the EEA to the banks. As there is a rise in the UK exporter's sterling deposits, the money supply increases. The transactions associated with this change, as they affect the balance sheets of the banks and the EEA, and the balance of payments, are shown below.[1]

	Liabilities	Assets
UK banks:		
Private sector sterling deposits	+100	
Sterling claims on public sector		+100
Exchange Equalisation Account:		
Official reserves		+100
Sterling claims on public sector		−100
Balance of payments:		
Current account, exports	+100	
Capital account	No change	
Change in reserves (increase −)	−100	

In the same way, a capital inflow to the non-bank private sector will raise the money supply. Suppose an overseas resident purchases newly-issued shares of a UK company. The non-resident sells foreign currency to a UK bank. The bank credits the sterling account of the company and sells the foreign currency to the EEA, exchanging it in effect for claims on the Government. This rise in the bank's assets is matched by an increase in its sterling deposit liabilities to the private sector. Sterling M_3 rises.

An inflow may also take the form of a rise in sterling bank deposits of overseas residents (private or official). The banks buy foreign currency from a non-resident, crediting his sterling account. The foreign currency is in turn sold to the EEA in exchange for sterling claims on the Government. However, this time there is no increase in sterling M_3, as non-residents' sterling deposits are not included in the money supply.

	Liabilities	Assets
UK banks:		
Non-residents' sterling deposits	+100	
Sterling claims on public sector		+100
Exchange Equalisation Account:		
Official reserves		+100
Sterling claims on public sector		−100
Balance of payments:		
Current account	No change	
Capital account, other banking and money-market liabilities in sterling (or exchange reserves in sterling)	+100	
Change in reserves (increase −)	−100	

As a last example, the effect of an inflow taking the form of an overseas purchase of newly-issued public sector sterling debt is examined. In order to buy the securities, the non-resident sells foreign currency, ultimately to the EEA, which runs down its own holdings of government debt. The Government must find an alternative source of finance; accordingly they issue new securities, but this time there is already a willing buyer, namely the overseas resident. The banks' balance sheet is not affected, and there is no change in the money supply.

	Liabilities	Assets
Exchange Equalisation Account:		
Official reserves		+100
Sterling claims on public sector		−100
Balance of payments:		
Current account	No change	
Capital account, overseas investment in UK public sector (or exchange reserves in sterling)	+100	
Change in reserves (increase −)	−100	

Floating exchange rates

So far it has been assumed that each foreign currency transaction is matched by a change in the reserves. In practice, inflows and outflows will largely cancel out leaving only the balance to be financed by the authorities. Consider now the case where the authorities allow the exchange rate to find its own level. The assumption that neither UK banks nor the private sector hold foreign currency is retained. Any currency received by them is immediately sold on the market. As, by assumption, the authorities are not using the reserves to support the exchange rate, any foreign currency received initially by the banks or the private sector must ultimately be sold back to non-residents. The exchange rate moves so as to clear the market. In terms of the balance of payments the reserves will be unchanged.[2] One possible outcome might be:

Private sector current balance	+200
Private overseas investment (net)	− 50
Balance on private sector current and capital account	+150
Financed by:	
Fall in non-residents' sterling bank deposits	−100
Fall in non-residents' holdings of public sector debt	− 50
Change in reserves	—

Here, a surplus on private sector current and capital account of 150 is being financed by the net sale by non-residents of 50 of public sector debt, together with a net fall of 100 in their sterling bank deposits. The underlying effect on the money supply can, somewhat artificially, be thought of as occuring in two stages. Assuming the private sector does not take up any of the public sector debt sold by non-residents, the Government will be forced to borrow from the banks, the proceeds being credited to the sterling accounts of the non-resident sellers of the securities. They, in turn, will settle their debts to the UK private sector—represented by the balance of payments surplus on private current and capital account—by a transfer of cash from non-resident to resident sterling accounts with the banks.

	UK banks	
	Liabilities	Assets
Sale of public sector debt by non-residents:		
Non-residents' sterling deposits	+ 50	
Lending to public sector		+ 50
Settlement of overseas sector's debt to private sector:		
Non-residents' sterling deposits	−150	
Private sector sterling deposits	+150	
Overall:		
Non-residents' sterling deposits	−100	
Private sector sterling deposits	+150	
Lending to public sector		+ 50

[1] The numbers in this and succeeding examples are, unless otherwise stated, hypothetical and used for illustrative purposes only.

[2] More precisely there will be a zero balance for official financing, with any movement in the reserves merely reflecting official borrowing or repayments.

The net effect of the above transactions is to raise sterling M_3 by 150, equal to the surplus on private sector current and capital account. The money supply has risen, despite the overall balance of transactions with non-residents being zero. Thus as a first approximation—the impact of the banks' foreign currency transactions are considered in the following section—the effect of external flows on the money supply is measured by the balance on non-bank private sector current and capital account and not by an overall external surplus or deficit.

Foreign currency transactions

In the last section it was assumeo that all external payments to UK residents were settled in sterling. In practice, many external transactions would be settled in foreign currency. For example, exporters might be paid in dollars and (exchange control permitting) hold the currency on deposit with a UK bank. Foreign currency funds might be switched by a UK oil company from New York to London. The public sector might borrow foreign currency, either directly from abroad, or from a UK bank. This section examines the effect of such transactions on sterling M_3 and develops the framework within which external and foreign currency transactions can be conveniently analysed.

Perhaps the most straightforward example of a foreign currency transaction would be the Government borrowing foreign currency from abroad in order to boost the reserves. The borrowing does not affect the private sector balance of payments on current and capital account. Sterling M_3 is unchanged.

Consider now a UK exporter paid in foreign currency which he holds on deposit with a UK bank. Despite a surplus on private sector current and capital account, private sector sterling deposits, and hence sterling M_3, remain unchanged. Only when the exporter sells the currency for sterling will the money supply increase. Moreover, if the currency is sold to another UK resident (usually a bank) this would not count as an external transaction (no net change in UK claims on non-residents arises) and so would not be recorded in the balance of payments. In order to calculate the effect on the money supply, some measure is required of the extent to which the private sector sells foreign currency for sterling. The balance of payments alone, while recording all transactions in sterling and foreign currency between foreigners and residents, does not provide sufficient information.

One way of getting round the problem would be to subtract from the private sector balance of payments any increase in its foreign currency deposits with UK banks. Assume, for example, a private sector surplus of 150. This might be financed by a rise of 50 in the private sector foreign currency deposits with the banks, a fall of 30 in overseas sterling bank deposits, a fall of 10 in overseas holdings of public sector sterling debt (assumed to be taken up by the banks), and a rise of 60 in the reserves. The banks' balance sheet and the balance of payments would show:

	UK banks	
	Liabilities	Assets
Sterling deposits of private sector	+100	
Sterling claims on public sector		+ 70
Sterling deposits of non-residents	− 30	
Foreign currency deposits of private sector	+ 50	
Foreign currency claims on overseas		+ 50
Balance of payments:		
Private sector current and capital account surplus	+150	
Financed by:		
Overseas currency borrowing (net) by UK banks (increase +)	− 50	
Overseas sterling deposits with UK banks (increase +)	− 30	
Overseas lending in sterling and foreign currency to public sector (increase +)	− 10	
Change in reserves (increase −)	− 60	

Sterling M_3 rises by 100, equal to the private sector surplus less the increase in private sector foreign currency deposits. (*Note:* banks' sterling claims on the public sector have risen by 70 of which 60 reflects the rise in the reserves and 10 the sale of debt by non-residents.)

By definition, all entries in the balance of payments sum to zero. The private sector balance of payments surplus can, therefore, alternatively be written as the sum of all the flows that finance it (with the signs reversed). Rearranging these, and subtracting the increase in the private sector's currency deposits with banks (more generally the banks' net foreign currency liabilities to the private sector), gives the net impact on sterling M_3—i.e. the private sector balance of payments that has been converted into sterling.

Change in reserves (increase +)	+ 60
Overseas lending in sterling and foreign currency to public sector (increase −)	+ 10
Overseas sterling deposits with UK banks (increase −)	+ 30
UK banks' net foreign currency liabilities (increase −) to:	
Overseas	+ 50
Private sector	− 50
Change in sterling M_3	**+100**

Using this framework, the effect of virtually any external or foreign currency transaction on sterling M_3 can be examined. For example, take the case of bank lending in foreign currency to the public sector (the banks in practice borrow foreign currency from abroad and on-lend it to the public sector). This would not be expected to influence sterling M_3. The private sector balance of payments is not affected, and no foreign currency is sold by UK residents for sterling. In terms of the above table, the increase in the reserves would be matched by an offsetting rise in the banks' net foreign currency liabilities to non-residents. For presentational reasons, it is convenient to show bank lending in foreign currency and the banks' overall position in foreign currency explicitly. A revised form of the table, showing the entries associated with a foreign currency borrowing by the public sector from the banks, is set out below. It corresponds to 'external and foreign currency finance' as given in Table 11.3 in the statistical annex.

External and foreign currency finance	
Of public sector:	
Change in reserves (increase +)	+100
Overseas lending in sterling and foreign currency to public sector (increase −)	—
Bank lending in foreign currency to public sector (increase −)	−100
Of UK banks:	
Overseas sterling deposits (increase −)	—
Banks' net foreign currency liabilities (increase −) to:	
Overseas	−100
UK private and public sectors	+100
Change in sterling M_3	**—**

The links between DCE, sterling M_3 and the balance of payments

The analysis of the effect of external and foreign currency flows on sterling M_3 is completed in this section. So far the effect of certain public sector external and foreign currency transactions has been ignored. Moreover, UK banks' external sterling lending has been assumed to be zero. These assumptions are now relaxed.

Table 11.3 in the statistical annex shows changes in sterling M_3 as the sum of DCE, external and foreign currency finance (of the public sector and the banks) and changes in the banks' net non-deposit liabilities.[1] The table, showing figures for 1977/78,[2] is reproduced below, except that the components of 'external and foreign currency finance' are shown in more detail.

£ millions		
Domestic credit expansion		
Public sector borrowing requirement (surplus −)	+5,525	
Purchases (−) of public sector debt by private sector (other than banks)	−6,583	
Sterling lending to the private sector (including Issue Department's holdings of commercial bills)	+3,798	
Bank lending in sterling to overseas	+1,059	+3,799
External and foreign currency finance (increase −)		
Public sector:		
Change in reserves (increase +)	+6,345	
Overseas lending in sterling and foreign currency to public sector (increase −)	−2,071	
Bank lending in foreign currency to public sector (increase −)	+ 50	
Banks:		
Overseas sterling deposits (increase −)	−1,463	
Banks' foreign currency deposits (net) (increase −) to:		
Overseas	− 241	
Private and public sectors	+ 213	+2,833
Non-deposit liabilities (net) (increase −)		**− 468**
Change in sterling M_3		**+6,164**

In general, in a purely statistical sense, DCE is not usually affected by external or foreign currency transactions. However, certain public sector external transactions contribute to the PSBR (included in DCE)[3] as, in principle, does any increase in the public sector's foreign currency deposits with UK banks. (In practice, these deposits tend to remain small and stable.) A rise in bank lending in sterling to overseas also increases DCE. It can be shown that in general these transactions will have no net effect on sterling M_3, as they will usually be accompanied by an offsetting entry in 'external and foreign currency finance'. For example, the repayment of a sterling bank loan by a non-resident might be financed partly by a fall in overseas sterling deposits and partly by an increase in the reserves. In terms of Table 11.3, this would show as:

Domestic credit expansion	
Bank lending in sterling to overseas (increase +)	−100
External and foreign currency finance	
Reserves (increase +)	+ 50
Overseas sterling deposits (increase −)	+ 50
Change in sterling M_3	—

In a similar way, a repayment of a government loan made to an overseas country or organisation would be shown as a fall in the PSBR (in DCE) matched by a rise in the reserves in 'external and foreign currency finance'.

Taking account of external and foreign currency transactions which affect DCE does not in general alter the earlier conclusion that the impact of external flows on the money supply is equal to the private sector current and capital account balance converted into sterling. However, strictly speaking, 'external and foreign currency finance' equals the private sector balance of payments which is converted into sterling, plus public sector external and foreign currency transactions that affect the PSBR, plus bank lending in sterling to overseas.

The statistical links between the balance of payments and the money supply are illustrated below. In practice an exact reconciliation between the two sets of figures as published is not possible, mainly because many of the items in the balance of payments do not differentiate between domestic sectors. For example, some of the public sector's overseas transactions contributing to the PSBR cannot be extracted from the available data, and in the balance of payments accounts the external assets and liabilities of certain non-bank financial institutions (which in Table 11.3 would be classified as part of the non-banking sector) are included with UK banks.

The balance of payments over a given period might be:

Private sector:		
Current account	+400	
Private sector investment abroad (net) [a]	−200	+200
Public sector external transactions (contributing to PSBR):		
Current account	− 20	
Capital account	− 30	− 50
Bank lending in sterling to overseas (increase −)		− 50
Balance of external transactions affecting 'foreign currency finance'		**+100**
Financed by:		
Overseas sterling deposits with UK banks (increase +)		− 40
Overseas currency borrowing (net) by UK banks (increase +):		
To finance UK private investment overseas	+ 80	
To finance foreign currency lending to UK public sector	+150	
Other	+ 70	+300
Overseas lending to UK public sector in sterling and foreign currency (financing PSBR) (increase +)		−250
Change in reserves (increase −)		−110

[a] Including the balancing item.

Before the net impact of the above on sterling M_3 can be derived, further information is required on UK banks' foreign currency transactions with UK residents. For example, the private sector may have borrowed foreign currency from the banks over and above that used to finance overseas investment. Private sector foreign currency deposits may also have risen, reflecting that part of its external surplus which has not been converted into sterling and also part of the proceeds of foreign currency borrowing from the banks which have still to be employed. There may have been a small change in the public sector's foreign currency deposits with UK banks. Combining all foreign currency transactions together, the change in the banks' net foreign currency deposits can be calculated.

[1] These consist mainly of the banks' capital and reserves, less any assets not in the form of loans (e.g. buildings and equipment).

[2] Figures are as at September 1978 and do not take account of subsequent revisions.

[3] Examples of public sector external payments that contribute to the PSBR include:
Current account—purchases of foreign goods by the public sector, military and diplomatic expenditure abroad, interest payments on overseas holdings of public sector debt, official contributions to the EEC.
Capital account—certain official loans to overseas governments, investment abroad by public corporations, central government refinance of UK banks' export credit.

Liabilities		
Net external liabilities	+300	
Private sector deposits	+ 60	
Public sector deposits	− 10	+350
Assets		
Lending to public sector	+150	
Lending to private sector:		
For investment overseas	+ 80	
Other	+ 90	+320
Balance—net foreign currency deposits		**+ 30**

A version of Table 11.3 can now be constructed. As a check it can be seen that the total effect on sterling M_3 plus the increase in the banks' net foreign currency deposits to the private sector is equal to the private sector balance of payments on current and capital account.

Domestic credit expansion		
PSBR:		
Public sector external deficit (increase +)	+ 50	
Foreign currency deposits with UK banks (increase +)	− 10	
Private sector take-up of public sector debt other than notes and coin (increase −)	—	
Bank lending in sterling to private sector (increase +)	—	
Bank lending in sterling to overseas (increase +)	+ 50	+ 90
External and foreign currency finance		
Change in reserves (increase +)	+110	
Overseas lending in sterling and foreign currency to public sector (increase −)	+250	
Bank lending in foreign currency to public sector (increase −)	−150	
Overseas sterling deposits (increase −)	+ 40	
Banks' net foreign currency deposits (increase −)	− 30	+220
Total effect on sterling M_3		+310
Private sector net foreign currency deposits with UK banks		−110
Private sector balance of payments on current and capital account		**+200**

Some limitations

Using the framework described in this article, the effect on sterling M_3 of a number of external transactions is shown in the accompanying appendix. There are, however, some important limitations to this approach which should be stressed.

This approach distinguishes domestic from external influences on sterling M_3. The external contribution to an increase in money is broadly measured by the surplus on private sector current and capital account. In a purely statistical sense, DCE is usually unaffected by external inflows. However, economic factors affecting 'external and foreign currency finance' will frequently also influence entries in DCE. For example, a shift in external confidence giving rise to inflows may lead markets to expect interest rates to fall, thereby boosting sales of gilt-edged stocks to the non-bank private sector. The inflow may provide the banks with higher reserve assets to expand their lending, but companies that have received funds from overseas parents or affiliates may tend to borrow less from the banks or repay loans earlier than otherwise. Overseas borrowers of sterling may react in a similar fashion. Any rise in sales of gilt-edged stocks or fall in bank lending will tend to depress DCE, offsetting the initial stimulus to sterling M_3 from the inflows. Once lower interest rates become established, the demand for sterling loans may be stimulated, although the lower cost of servicing the public sector debt will tend to reduce the PSBR. So there may be further offsetting movements, this time within DCE. The process will probably not end there.

Such links between and within external and domestic influences on money are clearly highly complex and cannot be captured in the statistical framework described here. The approach, like the balance of payments accounts, merely provides an ex-post picture of the outcome of numerous inter-related transactions from which it may be difficult to discern cause and effect.

Appendix

Some examples

Using the framework described in the article, the effect on domestic credit expansion (DCE) and sterling M_3 of a selection of external and foreign currency transactions is now examined. The analysis is again confined to the direct impact on DCE and sterling M_3—no allowance is made for second round effects either through changes in the banks' reserve assets and lending or from the subsequent response of the rest of the private sector.

Examples 1 to 5 show the effect of a typical current account transaction and its financing. In examples 1 to 3, the change in the money supply is equal to the balance on non-bank private sector current and capital account converted into sterling. DCE is not affected. In example 4, the increase in money is again equal to the surplus on the private sector balance of payments but the stimulus to sterling M_3 comes not from 'external and foreign currency finance' but from DCE. In example 5, the private sector balance with the overseas sector is in equilibrium. However, there is an increase in sterling M_3, again due to an expansion of domestic credit.

Transaction	Direct effect on DCE, and sterling M_3			Treatment in balance of payments accounts	
1 Export of goods or services for immediate payment	DCE		No change	Exports	+100
	External and foreign currency finance	Reserves (increase +)	+100	Reserves (increase −)	−100
		Sterling M_3	**+100**		
2 Export of goods or services financed by a rundown of overseas residents' bank deposits	DCE		No change	Exports	+100
	External and foreign currency finance	Change in sterling deposits of overseas sector	+100	Exchange reserves in sterling (or other banking and money-market liabilities in sterling)	−100
		Sterling M_3	**+100**		
3 Export of goods or services: exporter paid in foreign currency which is held on deposit with a UK bank	DCE		No change	Exports	+100
	External and foreign currency finance		No change	Overseas currency borrowing (net) by UK banks	−100
		Sterling M_3	**No change**		
4 Export of goods or services financed by a buyer credit provided by a UK bank	DCE	Bank lending in sterling to overseas	+100	Exports	+100
	External and foreign currency finance		No change	Export credit provided by UK banks	−100
		Sterling M_3	**+100**		
5 Export of goods or services sold on deferred payment terms by supplier who borrows from a UK bank to finance the period until payment is received	DCE	Bank lending to private sector (or in sterling to overseas)	+100	Exports	+100
	External and foreign currency finance		No change	Suppliers' export credit	−100
		Sterling M_3	**+100**		

Examples 6 and 7 provide instances of a switch in the currency composition of the portfolios of residents and non-residents respectively. The first is not a balance of payments transaction but clearly increases the private sector's bank deposits. The second leaves the balance on private sector current and capital account unchanged and there is no increase in the money supply.

Transaction	Direct effect on DCE, and sterling M_3			Treatment in balance of payments accounts	
6 UK company transfers funds from a foreign currency account to a sterling account	DCE		No change	Not a balance of payments transaction	
	External and foreign currency finance	Banks' net foreign currency deposits (increase −)	+100		
		Sterling M_3	**+100**		
7 Overseas resident buys foreign currency from a UK bank by running down his sterling deposits	DCE		No change	Exchange reserves in sterling (or other banking and money-market liabilities)	−100
	External and foreign currency finance	Non-residents' sterling deposits (increase −)	+100	Overseas currency borrowing (net) by UK banks	+100
		Banks' net foreign currency deposits (increase −)	−100		
		Sterling M_3	**No change**		

Examples 8 and 9 show the effects of the sale to overseas of public sector debt held by residents. In example 8, the inflow itself has no effect on money, but the sale of public sector debt by the private sector clearly tends to increase the latter's sterling bank deposits. The increase in sterling M_3 arises from the growth in domestic credit. In example 9, the banks sell public sector debt to non-residents, but the increase in the reserves forces the Government to sell debt formerly held by the Exchange Equalisation Account back to the banks. There is no change in the private sector's holdings of public sector debt, so DCE is not affected. Private sector cash balances are unchanged so there is no increase in the money supply.

Transaction	Direct effect on DCE, and sterling M_3			Treatment in balance of payments accounts	
8 Overseas purchase of gilt-edged securities formerly held by UK private sector	DCE	Sales of debt to UK private sector	+100	Overseas investment in UK public sector (or exchange reserves in sterling)	+100
	External and foreign currency finance	Reserves (increase +)	+100	Reserves (increase −)	−100
		Overseas lending to UK public sector	−100		
		Sterling M_3	**+100**		
9 Overseas purchase of gilt-edged securities formerly held by UK banks	DCE		No change	Overseas investment in UK public sector (or exchange reserves in sterling)	+100
	External and foreign currency finance	Reserves (increase +)	+100	Reserves (increase −)	−100
		Overseas lending to UK public sector	−100		
		Sterling M_3	**No change**		

Example 10 shows that borrowing from the International Monetary Fund has no effect on the money supply. The private sector's sterling bank deposits are unchanged. Although the increase in the reserves withdraws finance from the Government, the withdrawal is replaced by new borrowing. In example 11, the inflow itself again has no effect on money, but clearly the redemption of debt held by the private sector tends to increase private holdings of cash. Examples 12 and 13 provide instances where the stimulus to money from a rise in domestic credit is offset by a fall in external and foreign currency finance. The private sector's balance of payments is unaffected and there is no change in the money supply.

Transaction	Direct effect on DCE, and sterling M_3			Treatment in balance of payments accounts	
10 The Government borrows from the IMF	DCE		No change	Official financing:	
	External and foreign currency finance	Reserves (increase +)	+100	Transactions with overseas monetary authorities	+100
		Overseas lending to UK public sector	−100	Reserves (increase −)	−100
		Sterling M_3	**No change**		
11 Local authority borrows foreign currency from a UK bank under the exchange cover scheme, sells foreign currency to the reserves and uses proceeds to redeem debt held by UK private sector	DCE	Private sector holdings of public sector debt	+100	Public sector borrowing under the exchange cover scheme	+100
	External and foreign currency finance	Reserves (increase +)	+100	Reserves (increase −)	−100
		Bank lending in foreign currency to UK public sector	−100		
		Sterling M_3	**+100**		
12 Public corporation borrows foreign currency from a UK bank to finance investment overseas	DCE	Public sector borrowing requirement	+100	Overseas currency borrowing (net) by UK banks	+100
	External and foreign currency finance	Bank lending in foreign currency to UK public sector	−100	UK private investment overseas	−100
		Sterling M_3	**No change**		
Note: Public corporations' investment abroad is treated as private sector investment in the balance of payments accounts.					
13 Government payment to EEC	DCE	Public sector borrowing requirement	+100	Current transfers	−100
				Reserves (increase −)	+100
	External and foreign currency finance	Reserves (increase +)	−100		
		Sterling M_3	**No change**		