Extracted from *Economic Trends* No. 187, May 1969

Money supply and domestic credit

Some recent developments in monetary analysis

'During 1968 the money supply rose by £986 million, an increase of 6½% . . . this was a pretty big increase. Moreover it occurred in spite of an adverse balance of payments of nearly £460 million which itself, because a balance of payments deficit is financed either by borrowing from overseas or by drawing down assets, is in this sense an extension of credit to the domestic economy. Such an increase in credit at a time when we are striving to switch real resources into the balance of payments was a great deal more than we could afford. We cannot allow credit to be supplied on anything like this scale in the coming year.'

From the Chancellor of the Exchequer's Budget speech, 15th April, 1969

The purpose of this article is to describe some recent developments in the use and analysis of monetary statistics in the United Kingdom, including monetary forecasting, and in particular the use now made of the concept of credit extended to the domestic economy, or domestic credit.

Informed assessment of economic trends and developments depends on the use of a great variety of indicators, relating to different aspects of economic activity, becoming available at varying intervals after the period to which they relate, each subject to its own problems of interpretation. The wider the range of indicators that is available, the more informed is the assessment based upon them, and so the more reliable for the purposes of policy discussion and formulation.

Hitherto monetary measurements have played a relatively secondary part in the process of economic assessment. The scope for monetary analysis has, however, recently been increasing with the improvement of monetary statistics and growing experience in the use of these statistics in analysing the flows of funds. As the size of the Central Statistical Office's monthly publication *Financial Statistics* indicates, financial statistics have been much expanded and improved since the Radcliffe Committee on the Working of the Monetary System reviewed them ten years ago. Simultaneously with the development of the statistics, forecasting techniques have been developed in the monetary field as a supplement to —indeed in some respects an extension of—the well-established process of national income forecasting. Regular forecasts are made of national income and expenditure flows at current prices, of the prospective financial position of the main sectors of the economy —persons, companies and the public sector—and of the public sector's borrowing requirement.(1) Forecasts are then made of the main financial flows in the monetary system, including estimates of public sector financing, bank credit to the public and private sectors, domestic credit expansion and the money supply. The forecasters use a flow of funds matrix similar to that published in *Financial Statistics* (Table 3 in the April 1969 issue).

Monetary analysis can contribute to understanding of what is going on in the economy in two main ways.

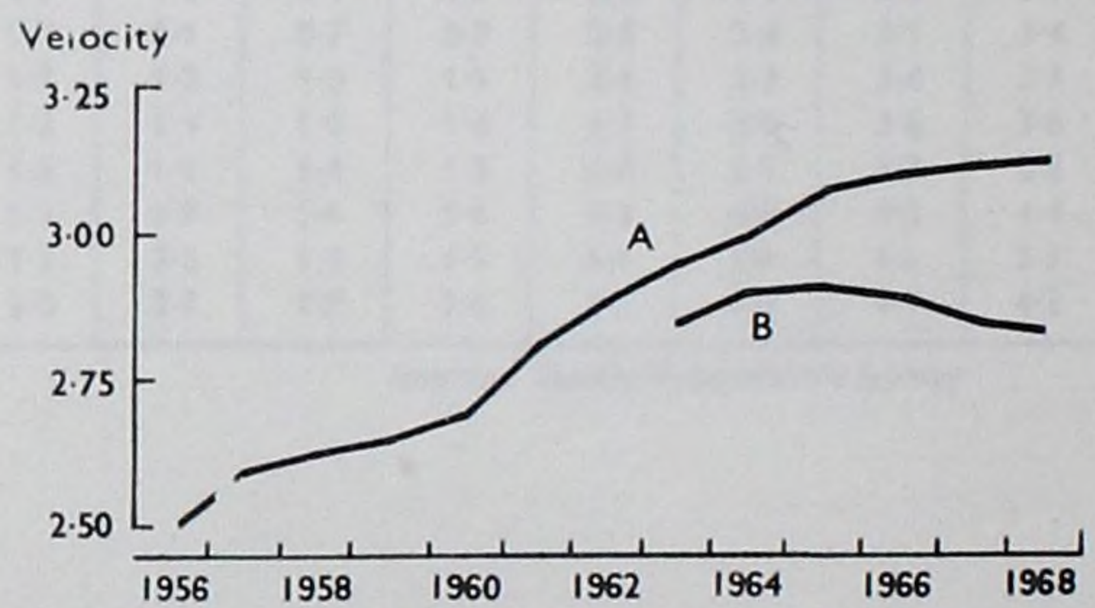
First, there is the contribution which monetary forecasting can make by way of feed-back to the demand and balance of payments forecasts. The monetary forecasts are not independent of the demand forecasts. On the contrary, they are in part derived from them. But by exhibiting the implications for the flows of funds of the demand and balance of payments forecasts, the monetary forecasts can help to identify doubtful areas in the demand and balance of payments forecasts.

For example, if the original demand forecasts are shown to imply that companies would substantially increase their liquid assets, this may suggest that the forecasts of companies' fixed investment and expenditure on stocks need to be reviewed, or that pricing decisions may be affected. Again, if the demand forecasts are shown to imply that there will be a sharp change in the ratio between spending and the money supply, this may suggest that either the level of spending assumed in the demand forecasts or the pattern of financial flows evolved in the monetary forecasts needs to be reconsidered.

Second, monetary analysis provides a supplement to other indicators in contributing to the understanding of what is going on in the economy and the balance of payments. Although monetary indicators share many of the difficulties of timing and interpretation associated with other economic indicators, and although more research is still needed on the comparative movements of credit and spending and on the ways in which liquidity can affect spending, the analysis of monetary development in recent years throws light on the relationships between money supply and the gross national product in money terms. As Chart 1 indicates, the ratio between money G.N.P. and the money supply, measured on an annual basis, has moved within the relatively narrow range of 2·8–2·9 since 1963; and the variations as between successive years have been smaller (as is com-

CHART 1

Income-velocity of circulation of money



Line A is the ratio of G.N.P. at current market prices to money defined as the annual average of currency in circulation plus total net deposits with deposit banks (as defined in 'Financial Statistics').
Line B is the ratio of G.N.P. at current market prices to money defined as the annual average of currency in circulation plus net deposits of U.K. residents with the whole banking sector (i.e. money supply as defined in 'Financial Statistics').

(1) See further the article in *Economic Trends* for February 1968.

mon with such series, the quarterly relationship is much less stable)([2]). It follows from the foregoing discussion that, if a reasonably dependable forecast can be made of the money supply and credit implications during the year of a given economic forecast, both of G.N.P. and of the balance of payments, the comparison of the monetary indicators as they come in during the year with the forecast path can help to confirm, and may even anticipate, information from other sources about the course of the economy.

Domestic credit

Monetary analysis is concerned with credit flows, both within the domestic economy and between the domestic economy and the rest of the world. All the main sectors of the economy give and take credit, not only persons, companies, banks and other financial institutions within the private sector, but also the central government and the other bodies which make up the public sector. Monetary analysis studies the amounts of these flows, their sources and recipients, and their costs, as reflected in rates of interest.

In the analysis of the flow of funds special attention is paid to the borrowing needs of the community and the way these needs may be financed by borrowing from the banks or overseas. The private sector taken as a whole—that is companies and persons together—normally have a financial surplus. But it adds to its available funds by borrowing from the banks. In most recent years, on the other hand, the public sector has incurred an overall financial deficit. It may finance the whole or part of this deficit by borrowing from the banks or through credit provided through overseas transactions. Attention is therefore concentrated on bank lending to the private sector, bank lending to the public sector (central government, local authorities and public corporations) and credit provided to the public sector from overseas([3]), and on indicators which measure combinations of these variables. This does not imply that no importance is attached to lending through trade credit and by financial intermediaries outside the banking system; clearly, for example, hire purchase credit extended by finance houses and mortgage lending by building societies are highly significant economic quantities. But in this context we are concerned not with total movements of funds between sectors, but with the relationship of the banking sector and the overseas sector to the rest of the community.

One of the magnitudes used as a key indicator is the central government borrowing requirement (or surplus) which measures in monetary terms the difference between government expenditure and revenue([4]). A government borrowing requirement may be financed by borrowing from the banking system and by the sterling counterpart of external transactions, as well as by borrowing from the domestic private sector, and the net take-up of government debt by the non-banking private sector and by overseas holders have to be deducted from the total borrowing requirement to arrive at borrowing from the banking system. A more comprehensive indicator would be the borrowing requirement of the public sector as a whole. But there is at present a considerable lag before full information is available on borrowing, other than from the central government and the banks, by local authorities and public corporations. For month-to-month purposes, therefore, it is necessary to rely on the central government borrowing requirement as the leading indicator of the monetary effects of the public sector's spending and revenue transactions.

Apart from the borrowing requirements of the central government and the rest of the public sector, there are two broader magnitudes which may be regarded as key indicators.

The first is the money supply, which consists of the community's bank deposits *plus* holdings of notes and coin([5]). But the movement of the money supply does not necessarily tell us much about some of the aspects of the economy in which we are principally interested. The money supply consists largely of the liabilities of the banking system and, since liabilities have to be matched by assets, is broadly a reflection of bank lending, including bank lending to the central government([6]). But a low level of borrowing from the banking system by the central government may be the result of a large amount of sterling accruing to the government in consequence of an outflow of foreign exchange.

It therefore seems desirable to supplement the money supply indicator by an indicator which measures not simply total bank credit, as reflected in the money supply, but total credit extended to the domestic economy by the banks and overseas together. This is the measurement which may be described as 'domestic credit expansion'.

As with the money supply, there are several possible definitions of domestic credit. The choice is influenced by operational considerations including the availability of data, as well as theoretical considerations. The definition used in official analysis and forecasting comprises the components set out in the annex to this article, which also gives figures for the last four financial years.

Domestic credit expansion (D.C.E.) can be presented in two main ways. First, it can be seen as bank lending to the public and private sectors *plus* changes in public holdings of notes and coin *plus* overseas lending to the public sector (including any reduction in the gold and foreign exchange reserves as well as credit extended from overseas)([7]). This presentation is set out in summary

([2]) It should be noted, however, that given the size of money G.N.P. a change of 0·1 in the G.N.P./Money Supply multiple is at present arithmetically equivalent to a change of some £500 million in the money supply. No statistics are available of the money supply on the present official definition before 1963; but it is clear (see Chart 1) that the ratio of money G.N.P. to the money supply was increasing steadily during the 1950's.

([3]) See further note (7) below.

([4]) The central government borrowing requirement is more precisely defined in *Financial Statistics, Notes and Definitions*, page 6.

([5]) The official definition of United Kingdom money supply covers (a) notes and coin held by UK residents other than banks and (b) net deposits by UK residents other than banks with the institutions classified to the banking sector. The figures for deposits relate to both sterling and non-sterling deposits on deposit and current accounts, after allowing for items in transit, etc., and inter-bank deposits.

([6]) Bank lending to the central government takes the form of holdings of gilt-edged securities, Treasury Bills, special deposits, cash and tax reserve certificates.

([7]) Credit from overseas to the public sector consists largely of the sterling counterpart of net financial transactions with overseas; it can be regarded as reflecting broadly changes in the underlying reserves position of the economy as a whole, or as borrowing to accommodate an external deficit.

form in Table 1 below. It is in this form that quarterly statistics become available fairly quickly after the end of the quarter.

Table 1 — £ million

	1965–66	1966–67	1967–68	1968–69
Bank lending (+) to:				
Public sector	578	411	—26	88
Private sector, etc.* ..	377	—62	741	669
Plus increase (+) in domestic non-bank holdings of notes and coin	241	125	106	59
Plus Overseas credit (+) to:				
Central government ..	—50	48	1,462	454
Local authorities	—27	—19	—21	—46
Public corporations ..	—	—	—	—
Equals **Domestic credit expansion**	1,119	503	2,262	1,224

*See further the notes in the Annex.

Table 1 simply lists flows of certain types of credit during a given period, without giving any indication as to what has given rise to them. There is another way of arriving at the same total, on the basis of three familiar quantities: the public sector's borrowing requirement *less* sales of public sector debt to the non-bank private sector *plus* bank lending to the private sector. This can be presented in tabular form as follows.

Table 2 — £ million

	1965–66	1966–67	1967–68	1968–69
Public sector borrowing requirement (borrowing +)	892	1,276	1,900	555
Less: sales (—) of public sector debt to non-bank private sector	—150	—711	—379	
Plus bank lending (+) to private sector, etc.* ..	377	—62	741	669
Equals **Domestic credit expansion**	1,119	503	2,262	1,224

*See further the notes in the Annex.

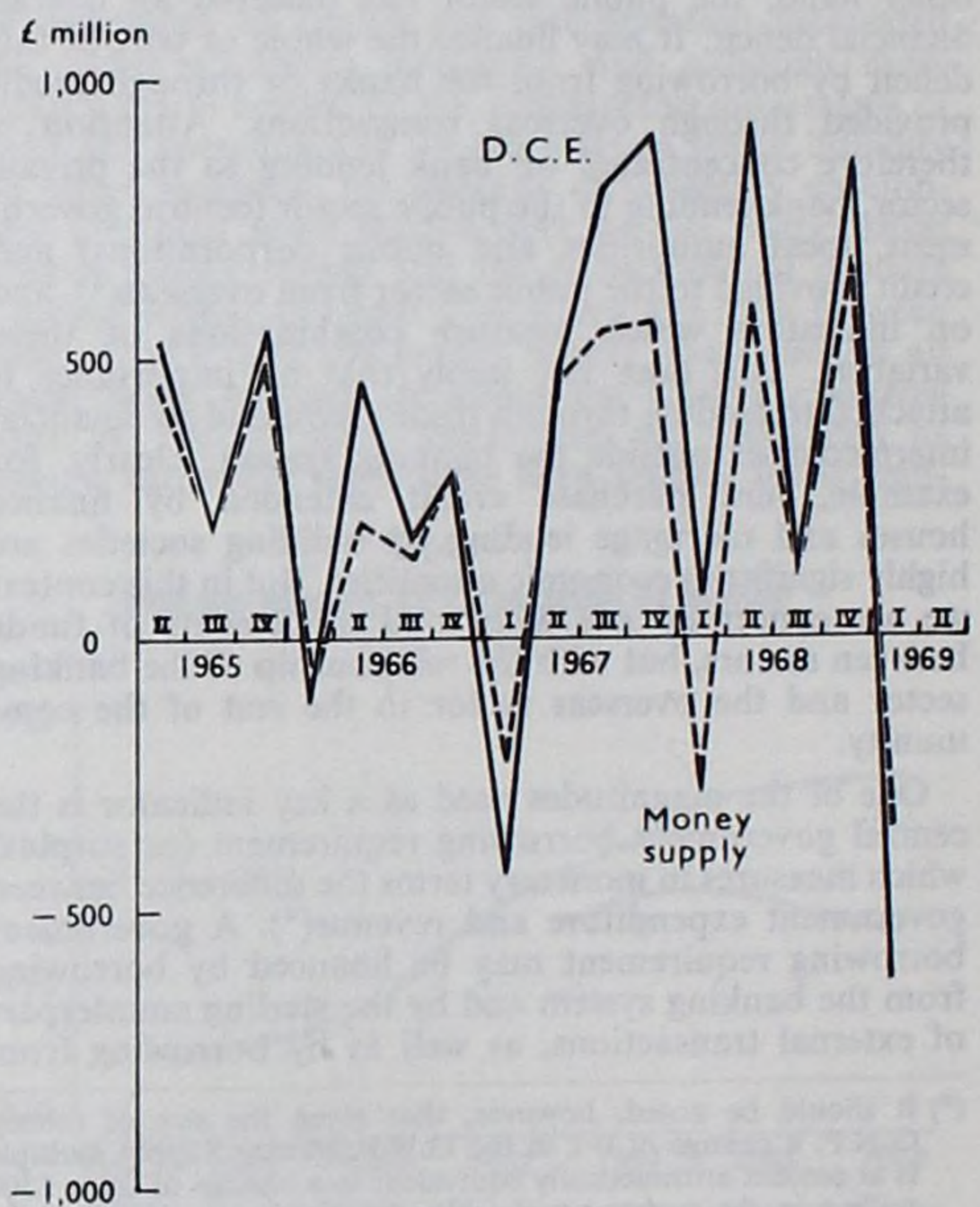
The only element common to the two tables is bank lending to the private sector. The public sector's contribution to D.C.E. is expressed differently, as the public sector borrowing requirement, reflecting the net monetary impact of the government's public expenditure and fiscal policies, *less* sales of public sector debt to the non-bank private sector. To the extent that the public sector does not cover its borrowing requirement from the non-bank private sector, the borrowing requirement can only be financed by the banks or overseas. Hence the public sector borrowing requirement *less* sales of public sector debt to the non-banks (Table 2) must necessarily be equal to lending by the banks (including for this purpose notes and coin) and overseas to the public sector (Table 1). See further the table in the Annex, lines 1-6.

Table 2 brings out clearly the point that as a matter of statistical presentation the total of D.C.E., unlike the money supply, is not directly affected by receipts from external transactions, whether as a result of short-term capital flows or the balance of payments. If the central government receives more sterling as a result of external transactions, it needs to borrow less from the banks, who are the residual source of government finance. Thus a change in receipts from external transactions can alter the distribution of the financing of the central government borrowing requirement as between sources of borrowing, and can thus affect the composition of D.C.E., as between lending by the banks and by overseas, but does not directly affect its total if other things remain equal. That is indeed an important advantage of D.C.E. over money supply as a key monetary indicator. The differences between D.C.E. and the money supply are statistically set out in lines 8 to 11 of the table annexed to this article. As the table shows, there has to be an additional adjustment for the change in the banks' net non-deposit liabilities, such as capital issues. Subject to this, D.C.E. will be larger than the increase in the money supply when financial transactions with overseas are in deficit, and smaller when financial transactions with overseas are in surplus([8]). Chart 2 shows the comparative movements of D.C.E. and the money supply over the last four years.

CHART 2

Comparison of domestic credit expansion (D.C.E.) and changes in the money supply

Quarterly, unadjusted



([8]) See line 9 of the table in the Annex, and note.

Other things may not of course remain equal if there is a change in receipts from external transactions, and these other consequences may themselves modify not merely the composition but also the total of D.C.E. Taking the lines in Table 2 in turn, the public sector borrowing requirement is the difference between the total spending and revenue of the public sector, and is not affected by the source of borrowing. Again, there is no direct connection between sales of public sector debt to the non-banks and external transactions. If, however, the balance of payments is unsatisfactory, confidence factors and the contractionary effect on domestic liquidity may lead to reduced sales of public sector debt, particularly in the gilt-edged market. This will necessitate greater borrowing from the banking system by the public sector than would have otherwise been required, and will thus tend to increase D.C.E. Finally, there is no direct connection between bank lending to the private sector and external transactions, though here again there may be indirect effects in that the increase (or decrease) in domestic liquidity resulting from a balance of payments surplus (or deficit) may ease (or intensify) pressures on the banks.

Another important point brought out by the presentation in Table 2 is that the amount of D.C.E. reflects not only the net monetary impact of the public sector's spending and revenue transactions, as shown by the borrowing requirement, but also the extent to which persons and companies are raising money by disinvesting in public sector debt or by borrowing from banks. D.C.E. is thus a useful, if incomplete, reflection of both fiscal and monetary developments in the economy. At the same time, the composition of D.C.E. is no less important than the total.

D.C.E. in recent years

The Annex gives figures for D.C.E. and the money supply in recent years (see also Chart 2 above). The annual expansion in domestic credit during the last four years has averaged about £1,300 million, though the average figure masks a low figure of £500 million in 1966-67 and a high figure of £2,300 million in 1967-68. Last year, domestic credit rose by about £1,225 million.

As regards the path of D.C.E. during the year, it should be noted that there is a strong seasonal pattern, with considerable expansion of credit in the first three-quarters of the financial year, offset by a contraction in the final quarter. To a large extent, the pattern is a reflection of the pattern of the central government's borrowing requirement, which in turn is a reflection of the seasonal revenue pattern, with the heavy concentration of tax receipts in the March quarter (notably surtax and corporation tax). Chart 3 shows comparative movements of D.C.E. and the central government borrowing requirement, both unadjusted, by quarters in 1967-68 and 1968-69.

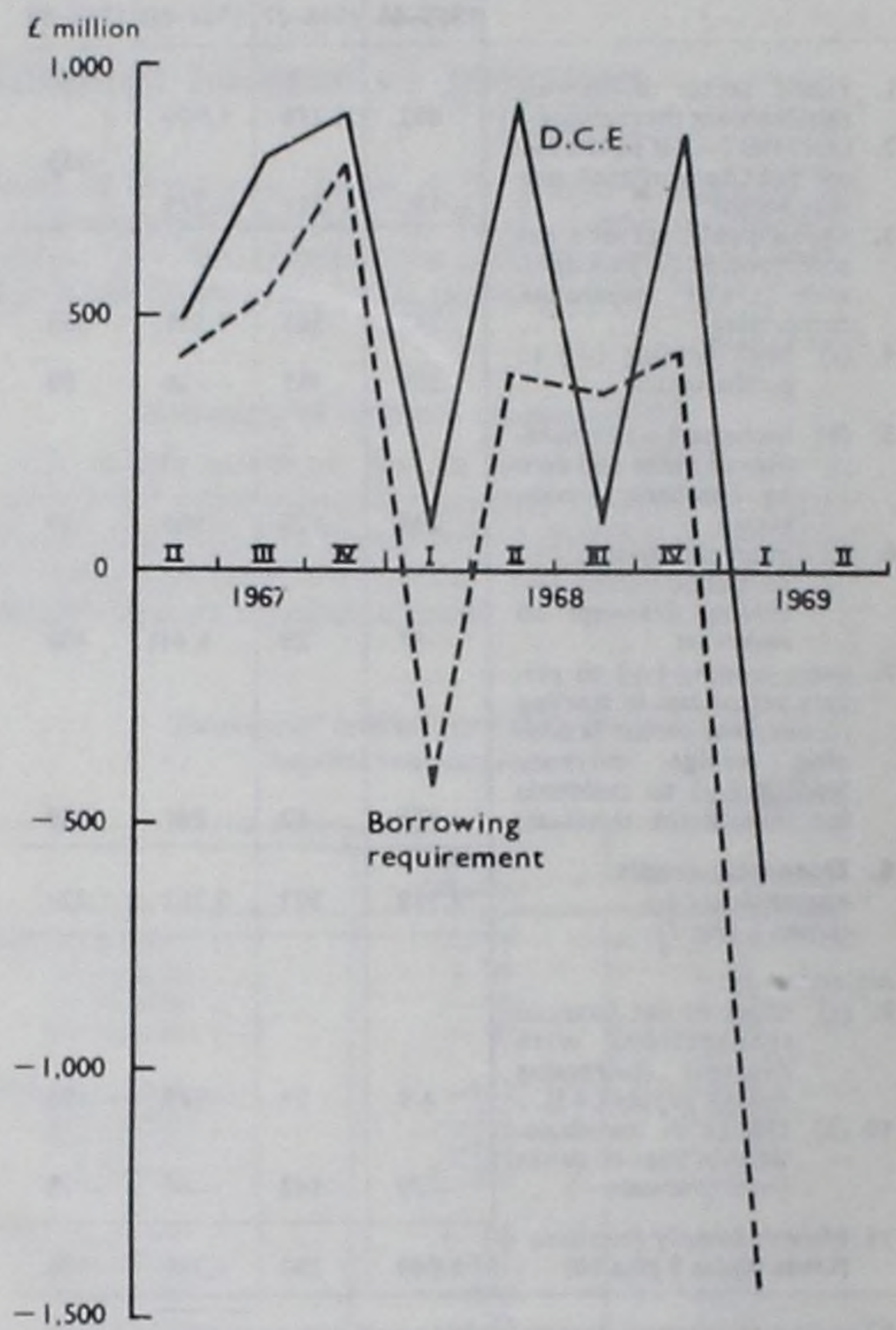
H.M. Treasury.

CHART 3

Quarterly variations of domestic credit expansion (D.C.E.) and central government borrowing requirement

1967/68 and 1968/69

Unadjusted



Central government borrowing (+)
Expansion of domestic credit (+)

Conclusion

Given the developments that have taken place in recent years, it is now becoming practicable to make more use of money supply and particularly domestic credit expansion statistics during the year, in conjunction with the monetary forecasts, as indicators of economic developments and guides to policy. These monetary indicators are intended to complement, not replace, other economic indicators. The fact that more use is being made of monetary indicators does not affect the choice of instruments of economic management in a particular situation. The task of economic management continues to be to influence levels and patterns of demand and activity. Monetary instruments will continue as in the past to take their place with other instruments of economic management as means of pursuing this objective.

ANNEX

Domestic credit expansion and money supply

£ million unadjusted*

	1965–66	1966–67	1967–68	1968–69
1. Public sector borrowing requirement (borrowing+)	892	1,276	1,900	555
2. *Less* sales (—) of public sector debt to non-bank private sector	—150	—711	—379	
3. *Equals* public sector's net contribution (+) to domestic credit expansion, comprising	742	565	1,521	555
4. (a) bank lending (+) to public sector ..	578	411	—26	88
5. (b) increase (+) in holdings of notes and coin by non-bank private sector	241	125	106	59
6. (c) overseas lending (+) to public sector (including drawings on reserves)	—77	29	1,441	408
7. Bank lending (+) to private sector and in sterling to overseas sector (excluding foreign currency lending (—) to residents for investment overseas)	377	—62	741	669
8. **Domestic credit expansion** (+) .. .. (Lines 3 *plus* 7)	1,119	503	2,262	1,224
Adjustments:				
9. (a) effect of net financial transactions with overseas (increasing money supply (+))..	+9	29	—979	—190
10. (b) change in non-deposit liabilities of banks (net) (increase—) ..	—79	—142	—44	—98
11. **Money supply** (increase +) (Lines 8 *plus* 9 *plus* 10) ..	1,049	390	1,239	936

*Tending to increase domestic credit and money supply (+).

Notes on Sources and Definitions
(*FS = Financial Statistics*)

To show the derivation of D.C.E. more clearly, some recasting of the tables in *Financial Statistics* will be carried out.

Because of revisions to earlier estimates which have been incorporated in this note some of the figures differ from those published in the May issue of *Financial Statistics*. Notes follow on individual lines in the table.

Line

1. Public sector borrowing requirement: central government borrowing requirement FS Table 16, *plus* local authorities' and public corporations' borrowing other than from the central government; FS Table 24, Table 28 respectively with minor adjustments for internal holdings of debt.
2. Sales of public sector debt to non-bank private sector: FS Tables 6, 7, 8 and *passim*.
4. Bank lending to public sector: FS Tables 5 and 48.
5. Notes and coin: FS Table 48.
6. Overseas lending to public sector (including change in reserves): FS Tables 9, 16, 27 and 48.
7. Bank lending to private sector, etc.: FS Table 48, with adjustments. Bank lending to residents in foreign currencies for investment overseas is excluded from D.C.E. on the grounds that its impact on the domestic monetary system and domestic demand is negligible. Bank lending in sterling to the overseas sector (*Bank of England Bulletin*, Table W in June issue) is included on the grounds that it represents mainly buyer credit and there is no difference of principle between buyer credit extended to overseas importers acquiring British exports and supplier credit extended by British exporters out of funds included within bank lending to the private sector.
9. Net transactions with overseas: equals line 6, with sign reversed, *minus* increase in deposits by (*plus* foreign currency lending to) non-residents.
10. Net non-deposit liabilities of banks: equals the banking sector's identified net acquisition of financial assets *plus* capital issues *less* bank securities acquired for cash.