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CHAPTER 11  UNITED KINGDOM

1. Policy Instruments

MONETARY POLICY

The present structure of the Bank of England was established by the Bank-of-England Act of 1946, which entitles the Treasury to issue directives to the Bank and to guide its operations.[1] The conduct of monetary policy is not regarded as independent of economic policy as a whole. The Chancellor of the Exchequer is ultimately responsible for monetary policy, and is, in fact, involved in major policy decisions. While theoretically the executive organ for implementing decisions made in the monetary sphere, the Bank is left with considerable leeway in carrying out monetary policy, and its advice is largely heeded in policy decisions. The Chancellor of the Exchequer and the Governor of the Bank thus share in the direction of monetary policy.

The regulation of commercial banking activity by the Bank of England is done mostly by conventions, advice, and "moral suasion," rather than by legal stipulation. Nonetheless, this control is effective and on occasion consists not merely of broad directives but also of rather detailed instructions.

Commercial banks in the United Kingdom are highly varied in structure and function. For purposes of monetary policy, the most important of them are the clearing banks, which are dominated by the "Big Five." The clearing banks fulfill the essential functions of holding the public's deposits and making loans to the public, although a substantial fraction of their assets consists also of claims on the government, in the form of government securities. In the statistical analysis, commer-

[1] This section draws heavily upon the "Radcliffe Report": Committee on the Working of the Monetary System, *Report* (London: Her Majesty's Stationery Office, Cmnd. 827, 1959), *passim*.

cial banks will usually be represented by clearing banks.[2] With one exception, the functions of other banks are, by and large, peripheral to over-all monetary policy. The exception, discount houses, act largely as an intermediary between the clearing banks and the government (although clearing banks also directly maintain substantial investments in government securities). The discount houses are provided with funds mostly by borrowing on call from the clearing banks (and to some extent from other types of banks) and also partly from overseas banks. These funds are invested mainly in Treasury bills, and to a smaller extent in gilt-edged securities. Only discount houses are entitled to borrow from the Bank of England. The largest twelve houses form the London Discount Market Association. Members of the Association share one commitment—to cover the weekly tender of Treasury bills—and enjoy one privilege—the right to unlimited borrowing from the Bank of England (other discount houses can borrow only at the Bank's discretion).

Bank Rate. Among the instruments used by the Bank of England, the bank rate is undoubtedly regarded as the most important. From late 1951, when this instrument was reactivated, to early 1967, the rate was changed twenty-nine times—that is, about twice a year. The range of the rate, which fluctuated between 3 and 7 per cent,[3] was also considerable.

The bank rate is the rate at which the Bank stands ready to make loans to the discount houses, either by rediscounting or by lending against securities. The fact that the Bank stands ready to act, in this way, as lender of last resort, and the rate at which it is willing to do so, are of the utmost importance. But actual borrowing is quite limited both in average level and the extent of fluctuations. Borrowing from the Bank of England by the discount houses is considered a way of temporarily replenishing resources when short-term money is recalled from the houses, rather than a source of long-term, permanent finance. The actual size of Bank-of-England lending to the banking system cannot be considered as one of the variables of monetary policy.

The bank rate is the foundation, by convention, of the whole structure of short-term interest rates. The rate of interest on advances of clearing banks to their customers is almost completely determined by

[2] The Scottish banks have a somewhat different structure from that of the clearing banks, but for the most part they fulfill the same functions. In view of the relatively small total assets of the Scottish banks, however, they are omitted from most of the statistics given here.

[3] In November 1967, the rate was raised to the unprecedented level of 8 per cent.

the bank rate: the former is normally (except for advances to a few choice customers, or to nationalized industries) 1 per cent above the bank rate, provided it is not below 5 per cent. As long as the bank rate is 4 per cent or above, as it has been since early 1955, movements of interest rates on commercial-bank credit are strictly linked with movements of the bank rate. The link to the bank rate is also strong, although somewhat less rigid, for the interest rate on three-month Treasury bills. Since members of the London Discount Market Association are committed to cover the tender of Treasury bills at a rate fixed by the Association, the interest rate thus set is usually determined in accordance with the discount houses' anticipation of the level of the bank rate during the lifetime of the bill—that is, during the thirteen weeks from the day of its issue. The rate is set at this level because the discount houses bear continuously in mind the possibility that they may find themselves forced to apply to the Bank of England as lender of last resort, in which case the bank rate would represent the cost of their borrowed money. The existing bank rate at the time of issue would normally have, it may be assumed, a most prominent role in determining such anticipations.[4]

Changes in the bank rate also signify, probably even more in the United Kingdom than in any other country, the general direction of monetary policy. They not only help determine expectations and general mood, but may also be interpreted as directives for action. Due to the largely informal manner in which commercial-banking activity is regulated, banks have come to consider an increase in the bank rate as a call upon them to be restrictive. This may lead to a restriction of advances to customers even beyond the effect of the increase in the interest cost on demand for such advances.

Open-Market Operations. The Bank of England operates regularly in the markets for both short-term and long-term government debt instruments. The operations are carried out daily, in considerable amount. But their function is primarily to smooth the market for these instruments, to prevent undue fluctuations in the money market, and to ensure the effectiveness of the bank rate as a regulator of the Treasury-bill rate and other interest rates. They are not regarded, by

[4] In early 1963, the Bank of England informed the discount houses that on its lending to them it may charge a rate higher than the bank rate. In this way, the semi-automatic link between the bank rate and the Treasury-bill rate no longer exists. In fact, a difference between the bank rate and the bank's lending rate occurred only once, in March 1963, when the latter exceeded the former by ½ per cent.

and large, as an independent instrument of monetary policy. Available evidence suggests that open-market operations are intended normally to be "neutral"—that is, they are taken in order to smooth the operation of the money market according to an existing interest rate structure, rather than to lead to changes in interest rates. In view of this evidence, and of the lack of data about them,[5] open-market operations will be disregarded in the statistical analysis.

Liquidity Requirements. Until 1960, clearing banks were not bound by law or regulation to hold any specified reserve of liquid assets. Two liquidity ratios have existed by convention, however, one dating from many years back and one from the postwar period. The Bank of England and the commercial banks treat these ratios as binding. First, the banks maintain a minimum ratio of "cash" to total deposits, where "cash" consists of deposits at the Bank of England and of cash in vault. Second, the banks are expected to maintain a minimum ratio of "liquid assets" to deposits. These "liquid assets" include, primarily, "cash" and Treasury bills and loans on call to the discount houses (which, in turn, finance mainly the purchase of Treasury bills). The cash ratio has remained at 8 per cent throughout the period here studied, and the liquid assets ratio has been changed only once during this time, when it was reduced in 1963 from 30 to 28 per cent. These ratios may thus not be regarded as instruments which are used, in fact or potentially, in the conduct of monetary policy, but their existence is still relevant to the reaction of monetary developments to balance-of-payments fluctuations, as will be noted shortly.

Since 1958, the Bank of England has been entitled to impose a requirement upon the clearing banks to maintain "special deposits" at the Bank of England, beyond the already existing liquidity requirements. These deposits are not considered part of the banks' "cash" or "liquid assets." Unlike the two other ratios, the ratio of "special deposits" (to bank deposits) is flexible. The requirement was first imposed in mid-1960, when the ratio was set at 1 per cent; after a few variations of the rate, the requirement was discontinued at the end of 1962. It was reimposed at the beginning of 1965. From its first imposition to the end of 1966, the ratio was changed six times; that is, on the average about once a year.[6]

[5] Although the Bank of England publishes no information on open-market operations, a few partial estimates may be found. For the years 1952–57, an estimate is constructed by Peter B. Kenen, *British Monetary Policy and the Balance of Payments, 1951–57.* Cambridge, Mass., 1960, Appendix C.

[6] In early 1968, a "Cash Deposits Scheme" was introduced to help in the control of credit granted by nonclearing banks.

Direct Control of Credit. The Bank of England, it can be seen, does not, in the main, try to control the credit supply by affecting the lending capacity of banks. Open-market operations are "neutral"; reserve ratios are constant, except for changes in the "special deposits" ratio during the 1960's; and changes in the bank rate, while probably affecting (through changes in other rates) the demand for credit, do not affect bank reserves, since commercial-bank borrowing from the Bank of England is small. Instead of controlling lending capacity by these means, the Bank of England has resorted very often to direct regulation of the size of advances from clearing banks to their customers. Due to the special relationships within the banking community, this regulation has been done by appeals from the Governor of the Bank, rather than by regulation or law; but such appeals were considered by the clearing banks to be binding. This method of control varied from the use of general statements calling for a restrictive policy to the issuance of (in effect) specific instructions as to the size of advances which the Bank regards as adequate. Credit control has apparently been regarded by the Bank of England as the most important instrument of monetary policy after the bank rate.

The guidance provided by the Bank has often been qualitative instead of, or in addition to, quantitative. Credit for specific purposes was often cited as being particularly due for contraction. In a few episodes during the 1950's, credit for hire purchase (i.e., installment credit) was thus singled out, in conjunction with changes made by the Board of Trade in the terms allowed (minimum down payment and maximum duration of payments) in hire-purchase transactions. The quantitative reflection of these hire-purchase regulations in the statistics is, however, quite small: total lending of clearing banks to hire-purchase finance companies is not very significant in comparison with total advances, and this is also true with regard to the extent of fluctuations in the amount of this lending.

BUDGETARY AND DEBT POLICY

The budget is divided into two parts, "above the line" and "below the line." [7] The former is by far the larger, and covers primarily the government's transactions of a current nature (current expenditures and normal revenues). Expenditures "below the line" are mostly of a capital nature, and consist primarily of loans to nationalized indus-

[7] This form of the budgetary presentation was changed toward the end of the period surveyed.

tries, the Public Works Board, and other public corporations. These are financed partly by a customary surplus "above the line," which is transferred "below the line." The difference between expenditures and this surplus is provided for by government borrowing.

In earlier years, a substantial fraction of lending to the government came from the outside world, within the framework of postwar aid programs. During most of the period surveyed, however, government borrowing was done primarily in the domestic market. A few major forms of borrowing may be distinguished. First, a permanent source of lending to the government is the Issue Department of the Bank of England, which increases its stock of government securities to the extent that the fiduciary note issue increases. While the size of the note issue has increased continuously, and may be expected to do so normally, it is not determined by the government; hence, the size of borrowing from this source cannot be affected by the government. Borrowing from the Banking Department of the Bank of England is, on the contrary, quite flexible but not permanent. It comprises current ("ways and means") advances, which are given for a very short time (a day or less) to cover cash gaps, and are on the average very small, and the purchase of Treasury bills. Holdings of the latter by the Banking Department do not increase over the long run, and are thus not considered a permanent source of finance of government expenditures. But the size of these holdings may vary considerably over short periods.

The main source of finance of the over-all budgetary deficit is borrowing from the commercial-banking system and the public. This takes almost entirely the form of sales of long-term government (or government-guaranteed) securities. The amount of Treasury bills (which are held primarily by the London clearing banks, the discount houses, and overseas holders) fluctuates considerably over short periods. But, as in the case of holdings by the Bank of England, this is not considered a permanent form of government borrowing.[8]

An important short-term source of lending (positive or negative) to the government, which appears in the statistics as an "external source," is the Exchange Equalization Account. Due to the importance of this item for the nature of response of financial policies to balance-of-

[8] Over the years, the amount of outstanding market Treasury bills even shows a slight downward trend. This reflects the desire of the government to "fund" the national debt. In absolute magnitudes, most of the funding took place before the start of the period surveyed. In terms of the ratio of short-term debt to total debt, however, this funding was also considerable during the years under review.

payments fluctuations, it deserves a somewhat more detailed discussion.

Exchange Equalization Account. The Exchange Equalization Account, which is administered by the Bank of England, holds the official reserves of gold and foreign exchange, as well as domestic assets in the form of "top" Treasury bills.[9] The total size of the Account's assets is constant.[10] Any increase in the holding of reserves is compensated for by an equivalent reduction in the holding of Treasury bills; and any decline of reserves, by an increase of Treasury bills. When, for instance, the Account acquires foreign exchange, it finances this acquisition by reducing its lending to the Exchequer, and, thus, reducing its holdings of Treasury bills. In the Exchequer's accounts, this is recorded as payment to (or negative receipt from) the Exchange Equalization Account. In fact, this does not lead to a decline in the amount of resources available to the government, since the Exchequer's practice is to sell in the market an equivalent amount of Treasury bills (a necessary practice in view of the Exchequer's custom of holding only a very small cash balance). The end result of this process is, therefore, that total borrowing by the Exchequer is unaffected, but the holding of "top" Treasury bills by the Exchange Equalization Account is replaced by the holding of "market" Treasury bills by the commercial banks (the clearing banks and the discount houses). The banks are left, at the end of the process, with the additional asset of Treasury bills against the additional liability of deposits of their customers, which resulted from the original sale of foreign exchange to the banks.

The secondary repercussions of this process are not clear-cut. If the cash ratio limitation is effective—that is, if before the accumulation of foreign-exchange reserves banks did not hold cash in excess of the required 8 per cent—the banking system will now find that its cash reserves are short (since deposits have risen without a change in the amount of cash). Clearing banks will have, therefore, to contract credit. This means that the secondary repercussion will be in a restrictive direc-

[9] During the period surveyed, the Account's assets also included some claims on foreign countries which were not counted as official reserves. These were foreign long-term securities (stocks and bonds), which had been surrendered to the government following the imposition of foreign-exchange control during World War II. In February 1966, assets valued at over 880 million dollars were sold out of this portfolio, thus augmenting the amount defined as official holdings of foreign-exchange reserves.

[10] This does not refer to changes due to fluctuations in the market value of foreign assets which were mentioned in the last footnote; however, these fluctuations do not find expression in the Account's records.

tion, contrary to the direct impact of the accumulation of foreign assets. If, prior to the disturbance, expansion of credit was restricted by the amount of liquid assets held by banks, while banks had excessive cash, then the increase in holdings of Treasury bills would make possible an expansion of credit. But this possibility is probably remote, since there is no reason for banks to prefer the holding of zero-yielding cash—beyond the required 8 per cent—to the holding of other liquid assets with positive yields.

It may, thus, be assumed that, in general, due to the form of operation of the Exchange Equalization Account and the Exchequer, the secondary repercussion of the accumulation of foreign assets is restrictive, contrary to its direct impact; and expansive for a decline of foreign-exchange reserves. The operation of the Exchange Equalization Account seems to imply the existence of an automatic mechanism which leads to at least some neutralization, or "sterilization," of the effect of foreign-exchange fluctuations on the monetary system.[11]

2. The Determination of Imbalances

In one sense, the determination of balance-of-payments turning points is comparatively easy for the United Kingdom. It is evident from the series on gold and foreign-exchange reserves in Chart 11-1 that there is no discernible long-term trend that is significant in relation to the size of periodical fluctuations in the level of these assets.[12] These fluctuations, in turn, are numerous enough that a substantial number of subperiods with clear upward or downward movements may be established.

In another sense, however, the case of the United Kingdom is more complicated than most. This is because it serves as a "reserve country"; that is, one in which the outside world holds substantial sterling claims. A considerable amount of attention is usually paid to these claims, making it evident that this factor will have to be considered in an attempt to determine the country's external position.

There are undoubtedly very many combinations of different assets

[11] For a similar conclusion, see the discussion of the British experience during the 1930's in William Adams Brown's chapter on Exchange Stabilization Funds, *International Currency Experience, op. cit.*, particularly pp. 150–54.

[12] A calculation of the trend factor, made for the purpose of the analysis in the first part of this study, confirms this impression.

and liabilities which may be worth observation. Here, however, the four will be used which, on the basis of the literature and of *a priori* reasoning, seem the most promising.

First, we shall look at the series most often used in this study, the gross external assets (gold and foreign-exchange reserves) held by the government. In official publications, official reserves include only gold and short-term liquid dollar assets held by the Exchange Equalization Account. When, however, the size of reserves is affected by transactions with the IMF, this is usually mentioned at the time the figures are released, with the indication that calculation of the "true" change in reserves would have to take these transactions into account. This series is defined here, therefore, as in the studies of other countries, to include the net IMF position (and, until 1958, the EPU position) among the external assets.

Another possible variable is *net*, rather than gross, external official assets. This net is obtained by deducting sterling short-term liabilities to official monetary institutions abroad from the United Kingdom's official external assets. Observing changes in this magnitude is useful when the government is indeed indifferent between changes in official net assets brought about by changes in gross assets and changes created by movements of liabilities in the opposite direction; that is, for instance, if the government considers an increase of external assets and a reduction of sterling liabilities to be of equal benefit. The observation of changes in this net magnitude as indicative of imbalances amounts, in effect, to defining the balancing item in the balance of payments by the "official settlements" approach.

Still another possibility is to derive net figures in which not only *official* foreign holdings of sterling, but also private short-term sterling claims by foreigners are deducted from the country's official external reserves. (This method would correspond to the "liquidity" approach employed in the United States.) While the arguments advanced in the United States against this approach would apply in the United Kingdom, it seems that at least some attention may have been paid by the British government to the behavior of net assets defined in this way.

Finally, since the United Kingdom is a reserve country, it might be assumed that the government views its external assets the way a commercial bank treats its reserve of liquid means—that is, as being held to assure the conversion of foreign sterling claims into other assets (gold or dollars), to which the holders of the sterling assets have the ultimate claim. If this is so, it would then be useful to observe the ratio

of the United Kingdom's official external assets to its official sterling liabilities: the higher this ratio, the more "sound" is the country's external position, and the more secure are foreign holders of sterling about the possibility of conversion. An increase of this ratio would then be an improvement, and a decline would be a deterioration. Again, there are indications of at least some tendency by the government to pay attention to this ratio.[13]

In Chart 11-1 these series are represented by the top four lines. To facilitate observation of these series, the direction of movement indicated by each is given in Chart 11-2. A black line for a given period indicates a downward movement (a "deterioration," or a "deficit"). The absence of a black line indicates either the opposite or (much less often) a period of relative stability.

It is immediately apparent from Chart 11-2 that all the series yield very similar indications. The only extensive length of time in which considerable divergence among the series is found is between the beginning of 1963 and the middle of 1964, which is explained by a substantial rise, at that time, of sterling liabilities to both foreign monetary authorities and other foreigners. Apart from this episode, there seems to be an almost complete agreement among the four series.

Accordingly, it was decided to determine turning points in balance-of-payments developments by the indications provided by all four series together, the disagreements among the series being too minor to justify experimentation with more than one division into subperiods. This division is shown by the bottom line in Chart 11-2 and appears also in column 1 in Table 11-1.[14] As has been mentioned, periods of stability (only insignificant upward or downward movements) were rare. Thus, only two subperiods of stability are indicated in Table 11-1. One of these—the subperiod from III 1962 to III 1963—is indicated as "stable" not only because the relevant movements were not large but also because of the conflicting evidence of the various series.

[13] ". . . the relationship between reserves and liabilities was clearly far from satisfactory throughout the postwar period and remains so. Treasury witnesses told us that it had been the main aim of policy to improve this relationship by increasing the reserves and reducing the liabilities; they appeared to be comparatively indifferent which form the improvement took." *Radcliffe Report, op. cit.*, p. 231.

[14] In Table 11-1, as very often in the text, a period of deterioration will be designated as one in which "reserves fall," and a period of improvement as one in which "reserves rise." This should be understood simply as a short-cut device; a period of deterioration will indeed be usually one in which official reserves fall, but there are a few minor exceptions; this goes, similarly, for periods of improvement.

CHART 11-1
UNITED KINGDOM: TIME SERIES OF SELECTED VARIABLES

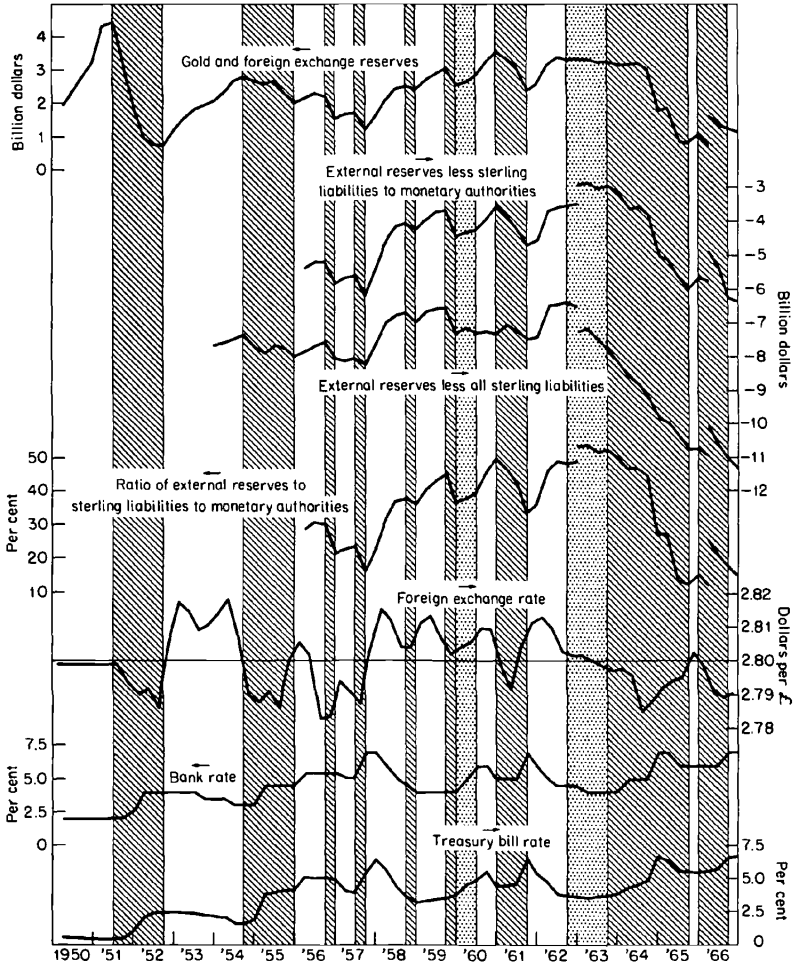
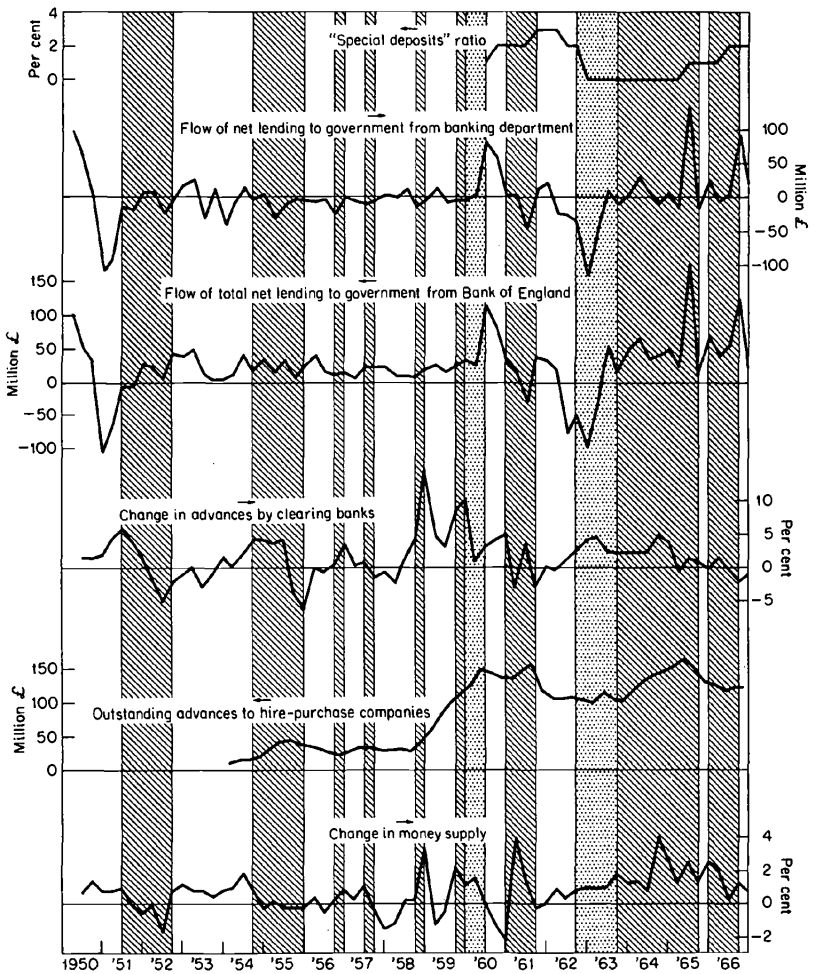
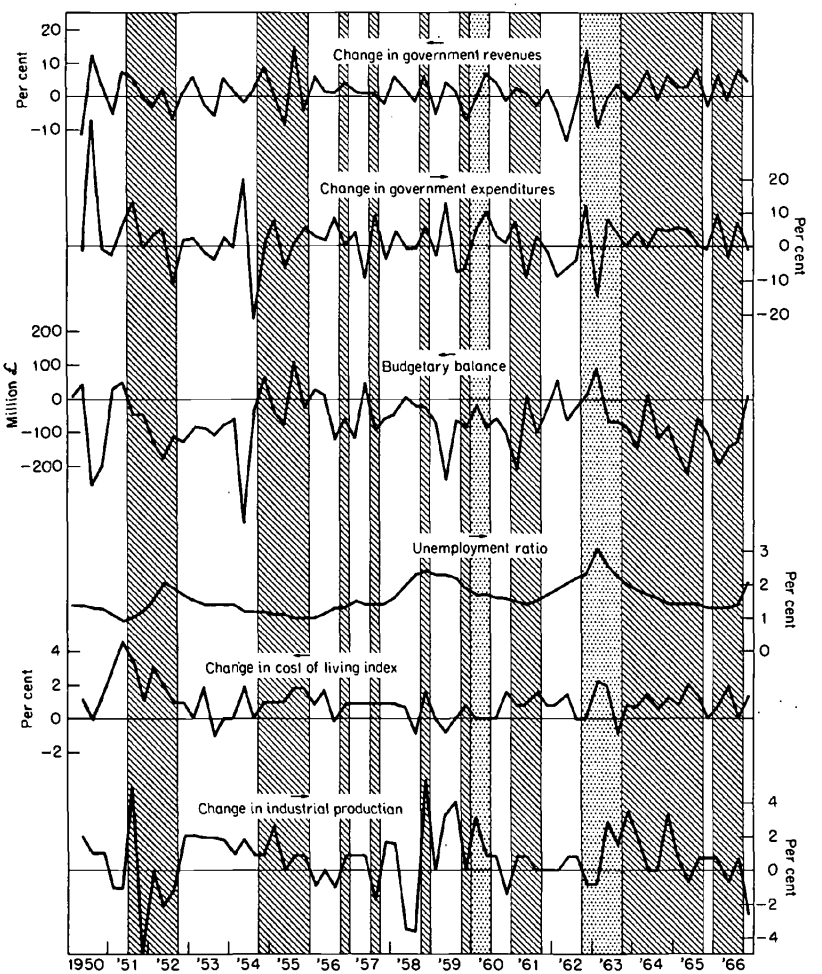


CHART 11-1 (*Continued*)



NOTE: Diagonal-line areas represent period of downward imbalances;

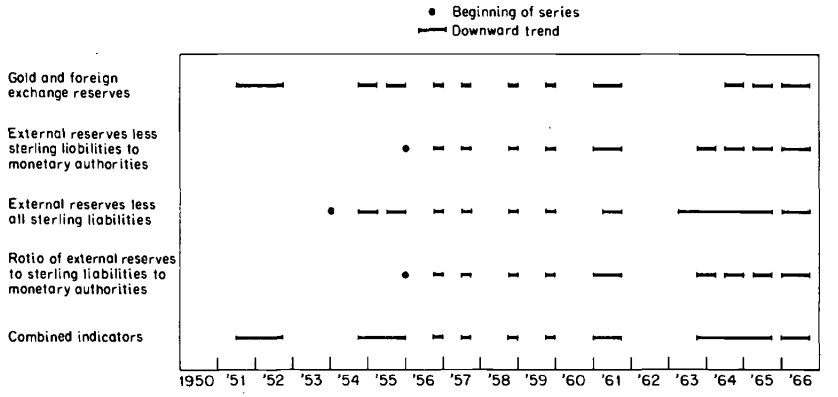
CHART 11-1 (*Concluded*)



gray areas represent stability; white areas represent upward imbalances.

CHART 11-2

UNITED KINGDOM: ALTERNATIVE BALANCE-OF-PAYMENTS INDICATORS AND COMPOSITE INDEX



It may be worthwhile to investigate still another possible indicator of the country's external position: the rate of exchange. Although the rate is basically fixed, a small range of fluctuations, between 2.78 and 2.82 dollars per pound, was allowed.[15] While fluctuations within this range can hardly be expected to correct imbalances of payments—certainly not in the current account—they may have served as indicators of these imbalances: there is no doubt that movements of the rate of exchange in the United Kingdom attract wide attention, and may conceivably have signified to the government a need for policy action.

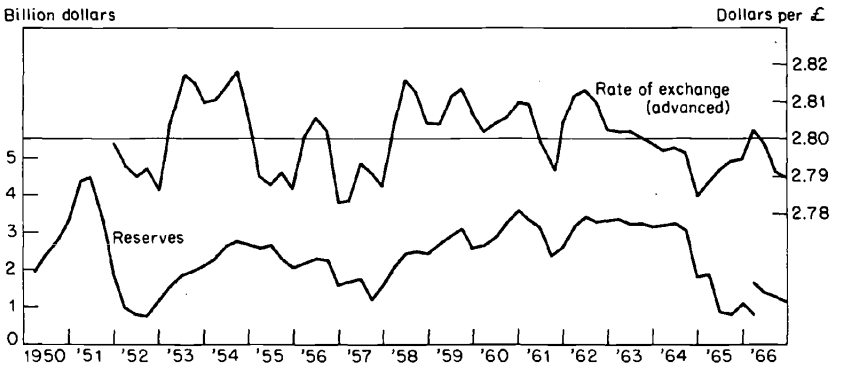
By and large, the level of the rate of exchange appears to be positively correlated with the country's external position.[16] The correlation of the two improves considerably if the series depicting the rate of exchange is shifted to the right one quarter. This is done in Chart 11-3, which compares movements of official gold and foreign-exchange reserves with movements of the rate of exchange, the latter being moved by one quarter. The two series appear in this chart to be moving in close unison, particularly since the beginning of 1954. The correlation

[15] When, in November 1967, the formal rate was changed to $2.40 per pound, a similar range was allowed around the new rate.

[16] In this connection, the term "rate of exchange" is used according to the normal practice in the United Kingdom, rather than as in most of the literature or in the rest of this study; a "low rate," for instance, means here a low price of the home currency (i.e., dollars per pound).

CHART 11-3

UNITED KINGDOM: EXTERNAL RESERVES AND RATE OF EXCHANGE



seems to be weak during the most recent years covered, 1965 and 1966; but if these two years are disregarded, it is strong indeed. From 1952 to 1964, reserves changed in forty-two of the fifty-two quarters (while in the other ten quarters the movement of reserves was slight enough to be disregarded). In thirty-four of these forty-two quarters, changes in the rate of exchange were in the same direction as the changes in reserves. This association between changes in reserves and changes in the rate of exchange may be explained in two ways. First, it is possible that the foreign-exchange market anticipates changes in reserves, expects a response of the rate to these changes, and reacts accordingly. Another, perhaps more plausible, explanation is that both the change in the rate and the following change in reserves are due to the same factor. Take, for instance, a decline of demand for sterling. The rate will tend to move down; but as long as it does not approach the floor of 2.78 dollars per pound, no intervention (or very little intervention) by the Exchange Equalization Account will take place. If the change in demand is persistent, however, the rate will gradually decline toward the floor; intervention by the Account will start, and the Account's external reserves will decline. The fall of reserves will thus follow, with some time lag, the fall of the rate. Similarly, movements in the opposite direction will take place when demand for sterling increases.

Whatever its possible explanation, the association is relevant in the present context. First, because it indicates that, if the government's

TABLE

UNITED KINGDOM: BALANCE-OF-PAYMENTS

Subperiod (end of quarters)	*External Reserves* (1)	*Bank Rate* (2)	*Clearing-Bank Advances (quarterly rate of change, per cent)* (3)
IV 1949 – II 1951	rise	* stable	+3.0
II 1951 – III 1952	fall	+ raised	(+) −.6
III 1952 – III 1954	rise	+ lowered	(+) +.5
III 1954 – IV 1955	fall	+ raised	(*) +.4
IV 1955 – III 1956	rise	− raised	(−) −.1
III 1956 – IV 1956	fall	* stable	(−) +3.7
IV 1956 – II 1957	rise	+ lowered	(−) +.6
II 1957 – III 1957	fall	+ raised	(+) −1.6
III 1957 – III 1958	rise	+ lowered	(−) −.6
III 1958 – IV 1958	fall	− lowered	(−) +1.0
IV 1958 – III 1959	rise	* stable	(+) +5.5
III 1959 – IV 1959	fall	* stable	(−) +10.7
IV 1959 – II 1960	stable	raised	+2.0
II 1960 – IV 1960	rise	+ lowered	(+) +4.8
IV 1960 – III 1961	fall	+ raised	(+) +1.3
III 1961 – III 1962	rise	+ lowered	(−) +.9
III 1962 – III 1963	stable	lowered	+3.4
III 1963 – III 1965	fall	+ raised	(+) +2.1
III 1965 – IV 1965	rise	* stable	(−) 0
IV 1965 – III 1966	fall	+ raised	(+) −.2
III 1966 – I 1967	rise	+ lowered	—

NOTE: For explanation of symbols, see Table 8-3.

target were stability of the exchange rate, the timing of policy reactions would be similar to that called for by stability of the balance-of-payments target, as indicated by the series in Chart 11-2. Second, if the target is the latter, but the association under discussion was recognized by the government, movements of the rate of exchange would be interpreted as giving an advance warning of impeding imbalances of payments, and could thus be expected to shorten the time lag involved in policy reactions to balance-of-payments disturbances.

11-1

POSITION AND MOVEMENTS OF POLICY VARIABLES

Outstanding Advances to Hire-Purchase Companies (4)	*Money Supply (quarterly rate of change, per cent)* (5)	*Government Revenues (quarterly rate of change, per cent)* (6)	*Government Expenditures (quarterly rate of change, per cent)* (7)	*Budgetary Balance (quarterly average, in millions of pounds)* (8)
—	+.9	+2.1	−7.8	−50
—	(+) −.3	(−) −.3	(−) +2.4	(−) −85
—	(+) +.9	(−) +.8	(−) 0	(+) −118
− rise	(+) −.1	(+) +2.4	(−) +2.5	(+) +11
− fall	(*) +.1	(*) +2.2	(+) +4.7	(+) −19
+ fall	(−) +.9	(+) +4.1	(+) +.7	(−) −57
+ rise	(−) +.6	(+) +1.1	(−) −2.4	(−) −30
* stable	(+) −.5	(*) +.7	(−) +9.4	(−) −88
− fall	(−) −.5	(*) +1.3	(−) +.2	(−) −29
− rise	(−) +3.3	(+) +6.3	(−) +6.3	(*) −19
+ rise	(−) +.2	(+) +.3	(−) +1.2	(+) −147
− rise	(−) +1.1	(−) −7.0	(+) −6.2	(+) −78
rise	+.8	+3.1	+7.8	−45
− fall	(−) −1.8	(+) +1.6	(−) +1.9	(+) −75
+ rise	(−) +1.8	(−) +.2	(+) +.3	(−) −94
− fall	(−) +.5	(+) −4.1	(−) −5.0	(−) −13
stable	+1.2	+2.1	+2.6	−7
− rise	(−) +2.0	(+) +3.5	(−) +3.2	(−) −105
− fall	(+) +2.5	(+) −3.0	(−) −.7	(*) −105
* stable	(+) +1.2	—	—	—
—	—	—	—	—

3. Pattern of Policies

The first policy instrument shown in Table 11-1 is the bank rate (column 2). Its indication is quite clear, and is supported by a relatively large number of observations: in the large majority of cases, the bank rate responds in an adjusting direction to balance-of-payments fluctuations. In a small number of instances the bank rate remains unchanged, while reserves move either up or down; only in a single

subperiod does the bank rate move in a direction opposite to that which balance-of-payments adjustment would have required.[17] The response of the bank rate to balance-of-payments fluctuations seems to be about as consistent during periods of upward, as during periods of downward, imbalances.

The evidence thus suggests strongly that the bank rate was used in the service of balance-of-payments adjustment. To check further the validity of this conclusion, a few other methods of observation will be attempted.

Chart 11-4 presents a reference-cycle analysis in which reference dates are determined by balance-of-payments developments: a trough-to-peak phase is a period of increasing reserves; and a peak-to-trough phase, a period of declining reserves. The reference dates are as follows:

Cycle	*Trough*	*Peak*	*Trough*
1950–52	I 1950	II 1951	III 1952
1952–57	III 1952	III 1954	III 1957
1957–61	III 1957	IV 1960	III 1961
1961–66	III 1961	IV 1962	III 1966

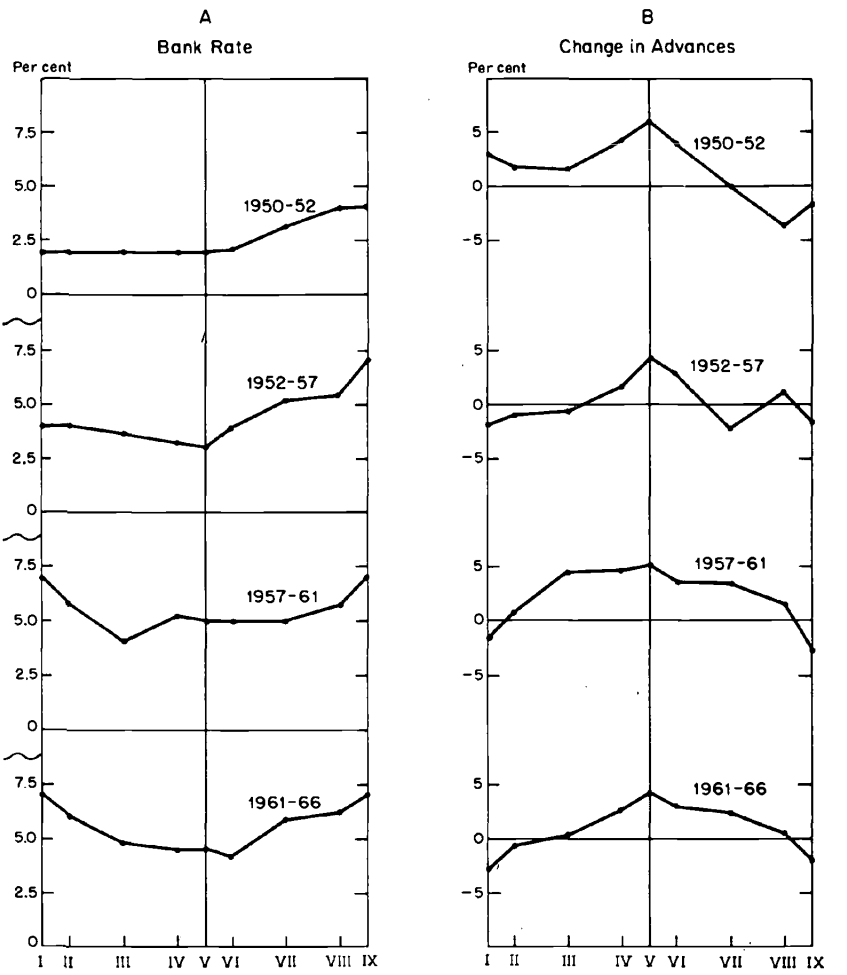
Essentially, these phases are similar to the subperiods of imbalances distinguished in Table 11-1, but they disregard minor changes of brief duration, admitting only phases of at least a few quarters. Part A of Chart 11-4 depicts the position of the bank rate during the phases of balance-of-payments developments. It appears clear that movements in the rate approach the V-shape which balance-of-payments adjustment would require—the rate falls during upward movements of reserves, and rises during downward movements. This method of observation gives, therefore, the same results as that provided by Table 11-1.

Table 11-2 is designed to test whether the apparent association between the balance-of-payments and movements of the bank rate can be explained by responses of the rate to other targets. Column 1 lists the increases and all the reductions in the bank rate. The remaining columns record the movements of each of the major target variables—

[17] This is the subperiod from IV 1955 to III 1956, in which the bank rate was raised although reserves were rising. In Table 11-1 another such period is indicated—the fourth quarter of 1958—in which the bank rate was lowered despite a balance-of-payment deterioration. But this seeming contradiction is due to the use of quarterly data, which in this case (a very brief movement) yield misleading results: when the rate was lowered in November 1958, reserves were still rising.

CHART 11-4

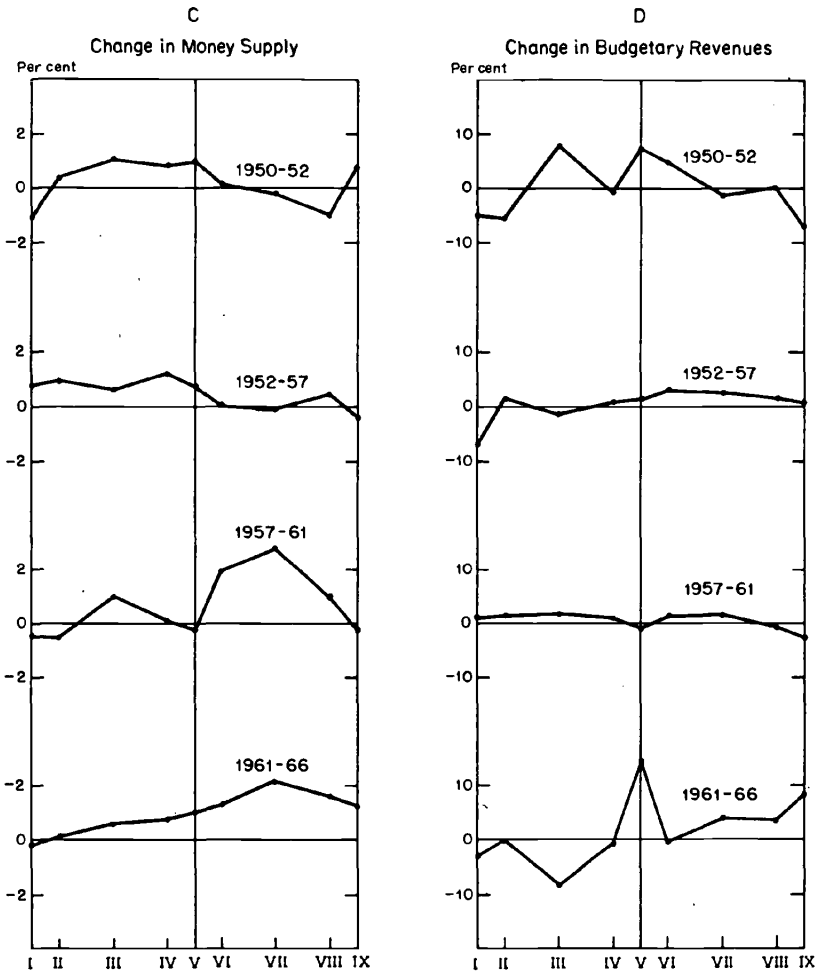
UNITED KINGDOM: PATTERNS OF POLICY VARIABLES DURING BALANCE-OF-PAYMENTS CYCLES



reserves, employment, industrial production, and the price level—during the last quarter before each respective change in the rate.[18] It appears, again—from column 2—that almost all changes in the bank

[18] A similar analysis has also been made taking the record of each target variable during the last *two* quarters, rather than the last quarter alone. But the results were generally very close to those obtained by the use of a single quarter.

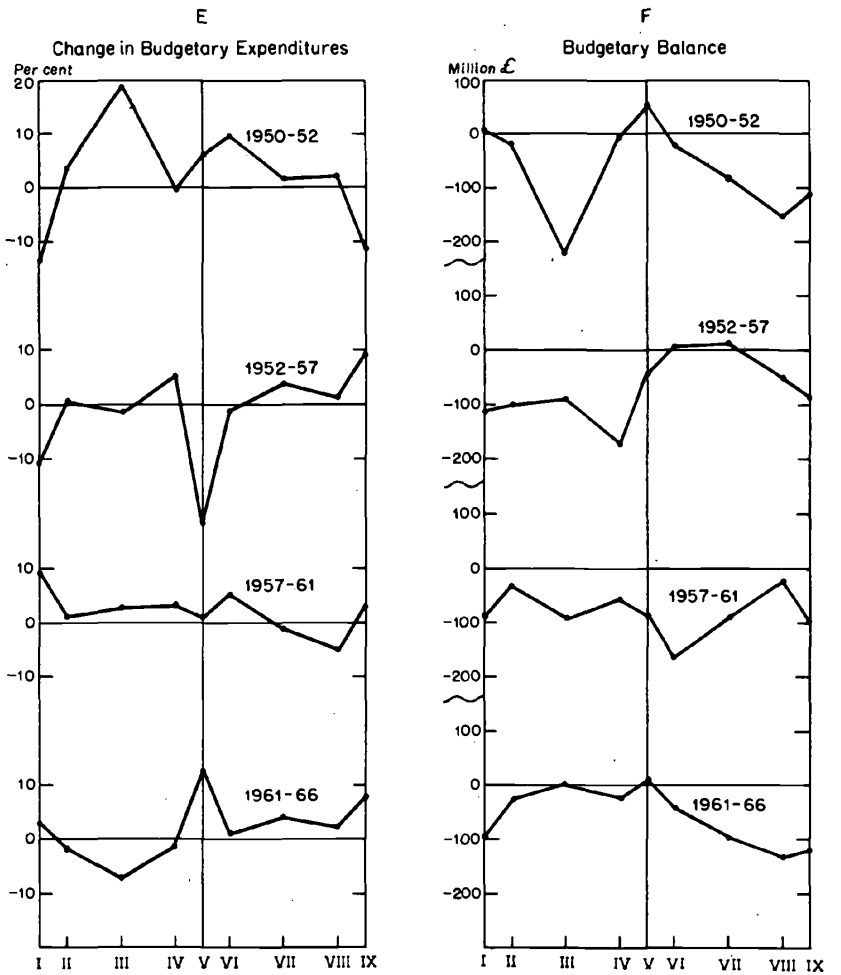
CHART 11-4 (*Continued*)



rate could be explained by the requirement for balance-of-payments adjustment. The single exception was a reduction of the rate in June 1965, during a period of substantial loss of reserves.

From column 3 it appears that an assumption that changes in the bank rate were intended to counteract fluctuations in unemployment cannot be dismissed altogether. But the association of the bank rate with the target of high employment seems to be much weaker than its association with the target of balance-of-payments stability. Moreover,

CHART 11-4 (*Concluded*)



for all the episodes in which the targets of balance-of-payments stability and high employment require opposite policy responses, priority appears to be assigned to the balance of payments: in two instances (November 1951 and March 1952) a fall of reserves was accompanied by an increase in the bank rate despite a rise in unemployment; while in two other episodes (February 1957; November and December 1960) the rate was lowered when reserves were rising and the unemployment ratio was low and falling.

TABLE 11-2

UNITED KINGDOM: CHANGES IN BANK RATE AND POSITION OF TARGET VARIABLES

Change in Bank Rate (1)	*External Reserves* (2)	*Ratio of Unemployment* (3)	*Industrial Production (rate of increase)* (4)	*Cost-of-Living Index (rate of increase)* (5)
Raised:				
November 1951	+ fall	− rises	− low	+ high
March 1952	+ fall	− rises	− low	+ high
January 1955	+ fall	− falls	* normal	* normal
February 1956	+ fall	+ low	− low	+ high
September 1957	+ fall	* stable	− low	* normal
January 1960	+ fall	− high	− low	* normal
June 1960	* stable	* stable	* normal	− low
July 1961	+ fall	+ falls	* normal	* normal
February 1964	+ fall	− high	+ high	* normal
November 1964	+ fall	+ falls	+ high	+ high
July 1966	+ fall	+ low	− low	+ high
Lowered:				
September 1953	+ rise	* stable	− high	+ low
May 1954	+ rise	− falls	* normal	+ low
February 1957	* fluctuate	+ rises	* normal	* normal
March 1958	+ rise	+ rises	− high	* normal
May 1958	+ rise	+ rises	+ low	* normal
August 1958	+ rise	+ rises	+ low	+ low
November 1958	+ rise	+ rises	− high	− high
November 1960	+ rise	− falls	+ low	− high
December 1960	+ rise	− falls	+ low	− high
October 1961	* stable	+ rises	+ low	* normal
November 1961	* stable	+ rises	+ low	* normal
April 1962	+ rise	+ rises	* normal	* normal
June 1962	+ rise	+ rises	* normal	− high
January 1963	* stable	+ rises	+ low	+ low
June 1965	− fall	− low	+ low	* normal
January 1967	+ rise	+ rises	+ low	* normal
April 1967	+ rise	+ rises	—	—
May 1967	+ rise	+ rises	—	—

+ indicates a position of the target variable which would justify the change in the bank rate.

− indicates the opposite position.

* indicates a position which requires no change in the bank rate.

The target of industrial production fares even less well than that of employment. There is but little association between increases of the bank rate and fluctuations in the rate of expansion of production. Most bank rate reductions could be explained by slack developments of industrial production; but there are a few exceptions. Again, in almost all cases of conflict between the requirements of high industrial production and stability of the balance-of-payments—and these include a large number of instances of slack production accompanied by a loss of reserves—the movement of the rate must be interpreted as resulting from assigning priority to the balance of payments. The single exception to this interpretation is the instance of June 1965, mentioned earlier, in which a reduction of the rate while reserves were falling could be explained by a low rate of expansion of industrial production.

The target of price stability, measured by the cost-of-living index, does not perform very well either. Fluctuations of the rate of increase of prices usually could not explain the movements of the bank rate. Once again, in time of conflict (November and December 1960; June 1962), the target of balance-of-payments adjustment seems to win; the rate is lowered when reserves rise, despite a high rate of increase of the price level.

Chart 11-5 performs, by reference-cycle analysis, an examination similar to that based on Table 11-2. Tbe reference dates are determined this time by the cycle of the bank rate and the Treasury-bill rate.[19] At the trough of this cycle, the rate is low; it increases toward the peak, where it is highest; and falls during the peak-to-trough phase. The dates of the reference cycles of bank rate are as follows:

Cycle	*Trough*	*Peak*	*Trough*
1950–54	III 1950	III 1952	II 1954
1954–57	II 1954	III 1956	II 1957
1957–58	II 1957	IV 1957	IV 1958
1958–61	IV 1958	III 1960	I 1961
1961–63	I 1961	III 1961	I 1963
1963–65	I 1963	I 1965	IV 1965
1965–66	IV 1965	IV 1966	

Parts A, B, C, and D of Chart 11-5 show, respectively, the positions of the variables of external reserves, the unemployment ratio, the rate of change of industrial production, and the rate of change of the cost-

[19] Whenever the time series of the bank rate is flat, the turning point was selected by the movement of the Treasury-bill rate.

CHART 11-5

UNITED KINGDOM: PATTERNS OF TARGET VARIABLES DURING BANK-RATE CYCLES

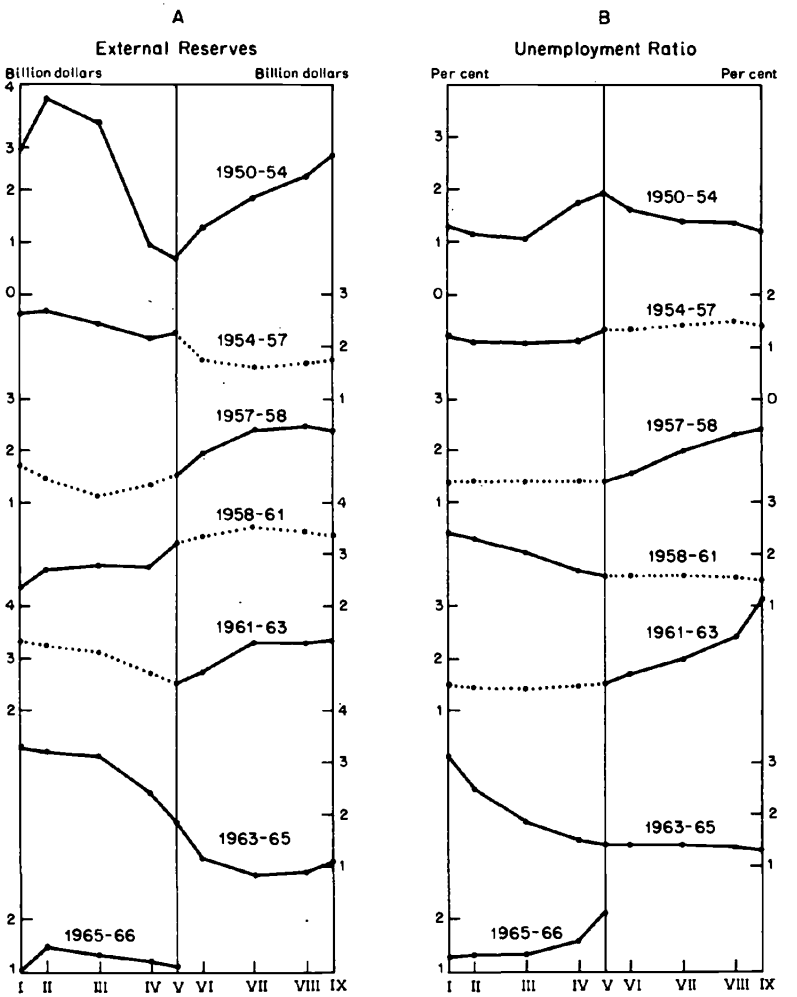
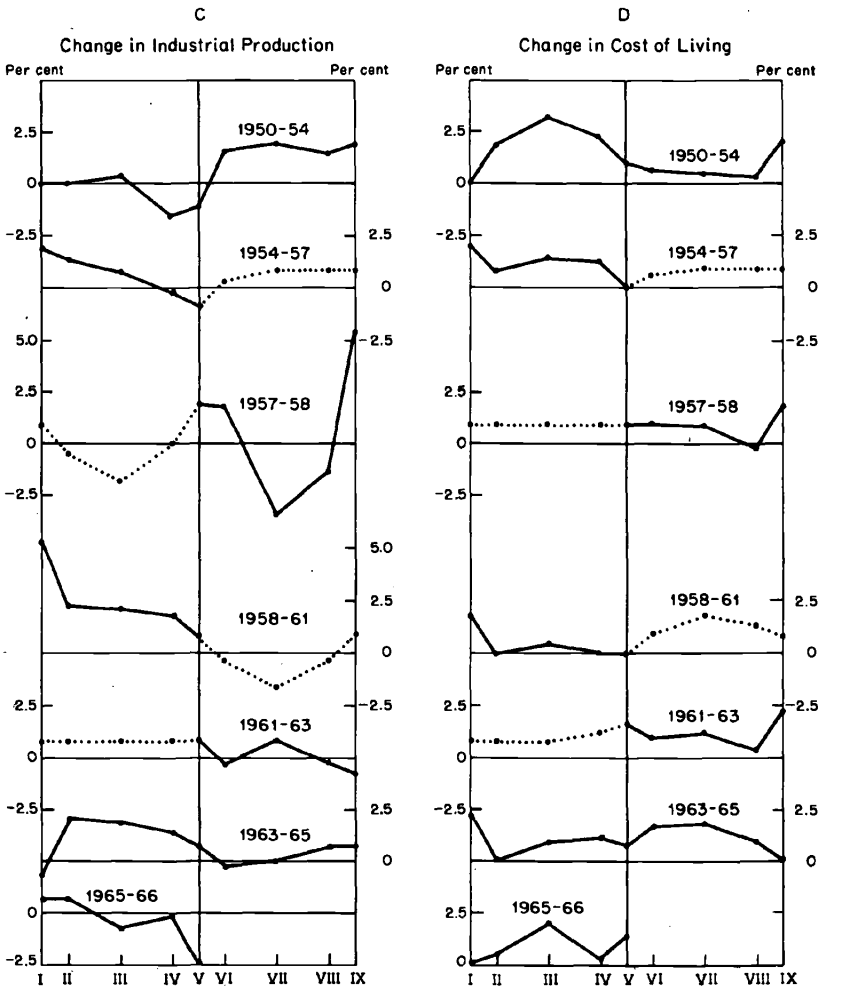


CHART 11-5 (*Concluded*)



of-living index during the bank rate's reference cycles.[20] To be consistent with the assumption that the rate was manipulated in response to the need of the target in question, Parts A and B would have to be V-shaped; that is, the rate would have to go up when foreign reserves go down, or when the unemployment rises. The other two variables (the rates of change of industrial production and of the price level) would, on the contrary, have the shape of an inverted V if the bank rate were employed to serve these targets.

Observation of Part A of the chart shows that, by and large, the expected V-shape is found for the variable of external reserves. It is clearest in the 1950–54 rate cycle, but is found also on most other occasions. The important exception to it is the first half of the contraction phase of the 1963–65 cycle—that is, about the first half of 1965. From Part B it appears that the V-shape occurs less often for the variable of unemployment: it is found regularly from the peak of the 1957–58 cycle to the peak of the 1963–65 cycle—that is, from about the end of 1957 to the beginning of 1965—but not in other periods. Parts C and D, on the other hand, do not approach at all the expected inverted V-shape; nor, in fact, do they exhibit any other consistent shape. By this evidence, it must be concluded that the bank rate was not tied in any regular way to the needs of the targets of high industrial production or stable prices, and that the rate seems most likely to have been used for balance-of-payments adjustment, although the possibility that during part of the time it was used to secure high employment cannot be entirely dismissed. These conclusions conform, by and large, to those derived by earlier methods.

Chart 11-6 presents the movements of policy variables during cycles of unemployment—the reference dates are selected by observation of the ratio of unemployment, the trough determined at a point of low unemployment and the peak at a point of high unemployment. Three such cycles may be clearly distinguished, with the following dates:

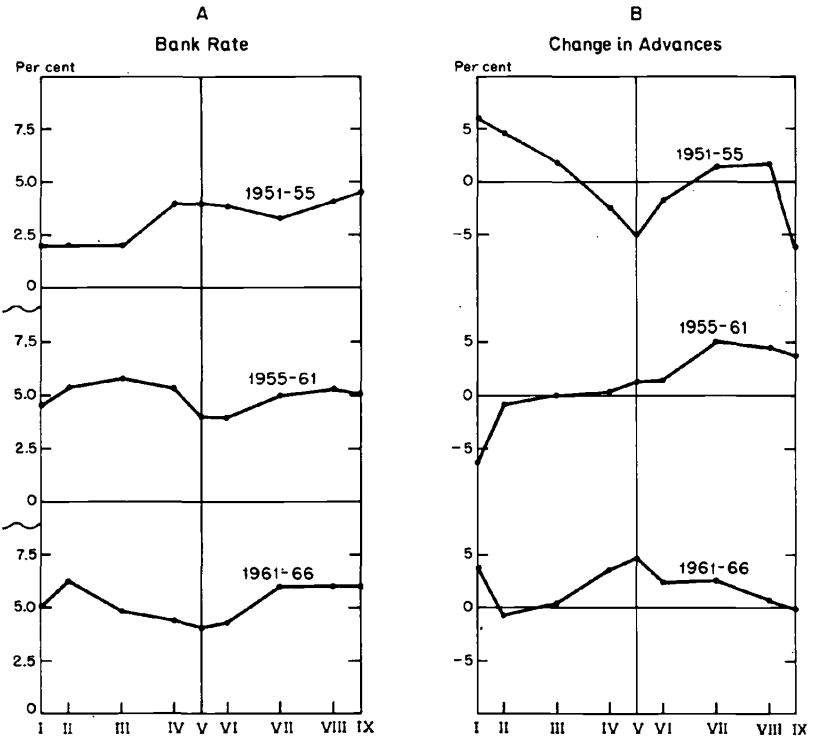
Cycle	*Trough*	*Peak*	*Trough*
1951–55	II 1951	II 1952	IV 1955
1955–61	IV 1955	IV 1958	II 1961
1961–66	II 1961	I 1963	II 1966

In Part A of Chart 11-6 movements of the bank rate are represented. If these movements respond to the need to maintain high employ-

[20] The phases of III 1956 to II 1957, II 1957 to IV 1957, and I 1961 to III 1961, are probably too short to display any reliable pattern of behavior of variables. This is indicated in Chart 11-5 by dotted lines for these periods.

CHART 11-6

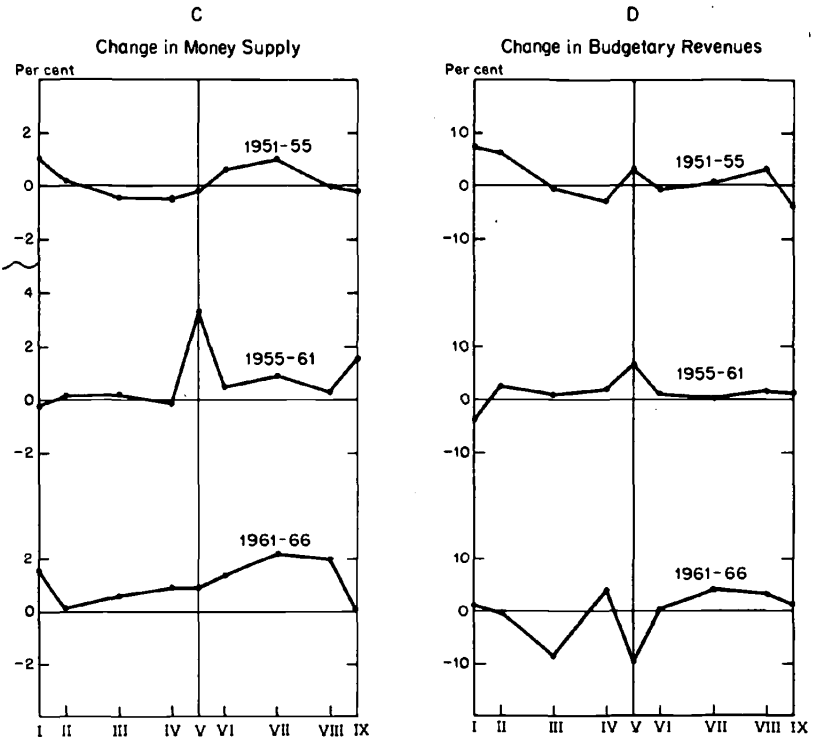
UNITED KINGDOM: PATTERNS OF POLICY VARIABLES DURING UNEMPLOYMENT CYCLES



ment, they should have a V-shape, a high bank rate when unemployment is low, and vice versa. Some resemblance to this shape may be detected during part of the time; but it is considerably less consistent than the pattern indicated in Part A of Chart 11-4, where the movements of the bank rate were examined during cycles of external reserves.

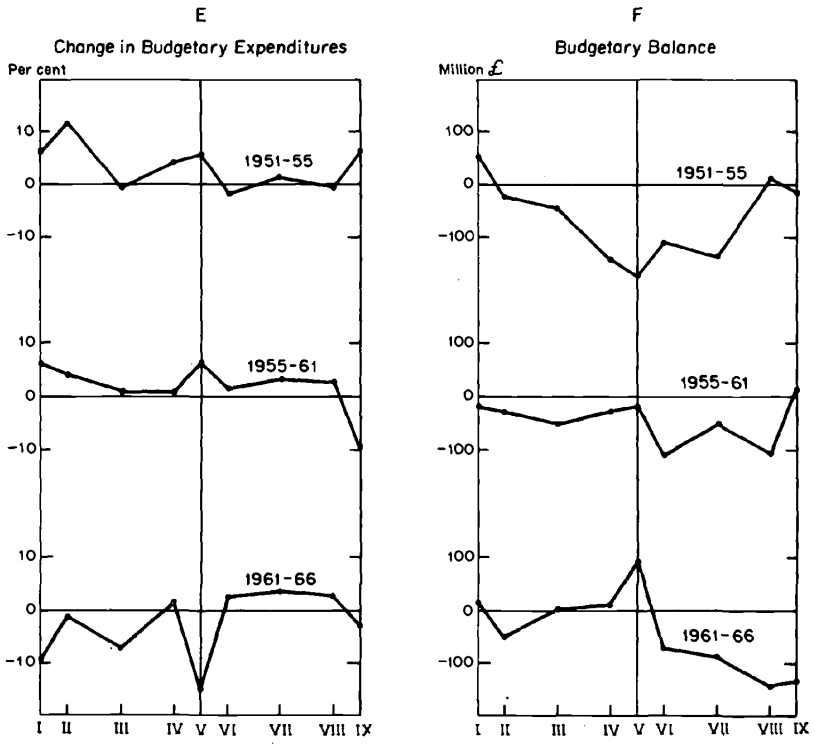
The results from all these methods of observation agree roughly with one another and support the same conclusion—movements of the bank rate were closely associated with the position of the balance of payments, and could be interpreted as intended to adjust imbalances of payments; and it is unlikely that these movements were in fact intended, by and large, to achieve one of the other major alternative targets.

CHART 11-6 (*Continued*)



The only other direct and comprehensive instrument used by the Bank of England is the "special deposits" ratio. Since it was introduced only in 1960, the period of its operation has been too short to permit reliable generalizations. But the experience thus far does not, as may be seen from Chart 11-1, indicate a close relationship between the use of this instrument and the position of the balance of payments. The ratio appears to have been raised from the time of its introduction, in mid-1960, to the end of 1961—a period in which the balance-of-payments position fluctuated. It was reduced between the second quarter of 1962 and the end of that year, when reserves were almost stable; from then to early 1965, it was inoperative while reserves were mostly declining; and it was reestablished during 1965 and 1966, again during a period of mostly downward imbalances. This inconclusive evidence suggests no firm relationship between this variable and the balance of payments.

CHART 11-6 (*Concluded*)



A similar conclusion appears to hold for the variable of the Bank-of-England lending to the government. In Chart 11-1 two alternative series represent this variable—both recording the net flow rather than outstanding amounts. One shows the data of the government's net borrowing as the Bank's publications usually define it, covering only the government's transactions with the Banking Department. The other adds to this the change in government securities held by the Issue Department, which is the more substantial magnitude. The two series give very similar indications. They suggest that this variable cannot be associated in any consistent way with balance-of-payments fluctuations. The flow of lending was roughly constant most of the time. It was particularly high from about the end of 1959 to the end of 1960, when external reserves were mostly rising, and again from mid-1963 to the end of the period, when reserves were mostly falling. The lending was particularly low—in fact, mostly negative—from early 1962 to early

1963, when reserves were mostly rising. Major upward or downward movements of reserves do not seem to lead to any noticeable change in the level of this variable. It may thus be safely concluded that lending by the Bank of England to the Treasury did not respond consistently to balance-of-payments fluctuations. As will be seen later, a similar conclusion will be drawn for the government's budgetary deficit; and these two variables—the budgetary deficit and the Treasury's borrowing from the Bank—do appear to follow similar time patterns.

Commercial-bank credit is subject, it will be recalled, to a large amount of intervention by the Bank of England. The performance of this variable is described in column 3 of Table 11-1. The evidence does not suggest a regular association of this variable with the balance-of-payments position. The only period of any length in which the rate of expansion of bank advances varied in accordance with balance-of-payments requirements is that of the early 1950's, from 1951 to 1954. From then on, exceptions to this pattern of behavior were about as numerous as adherence to it.

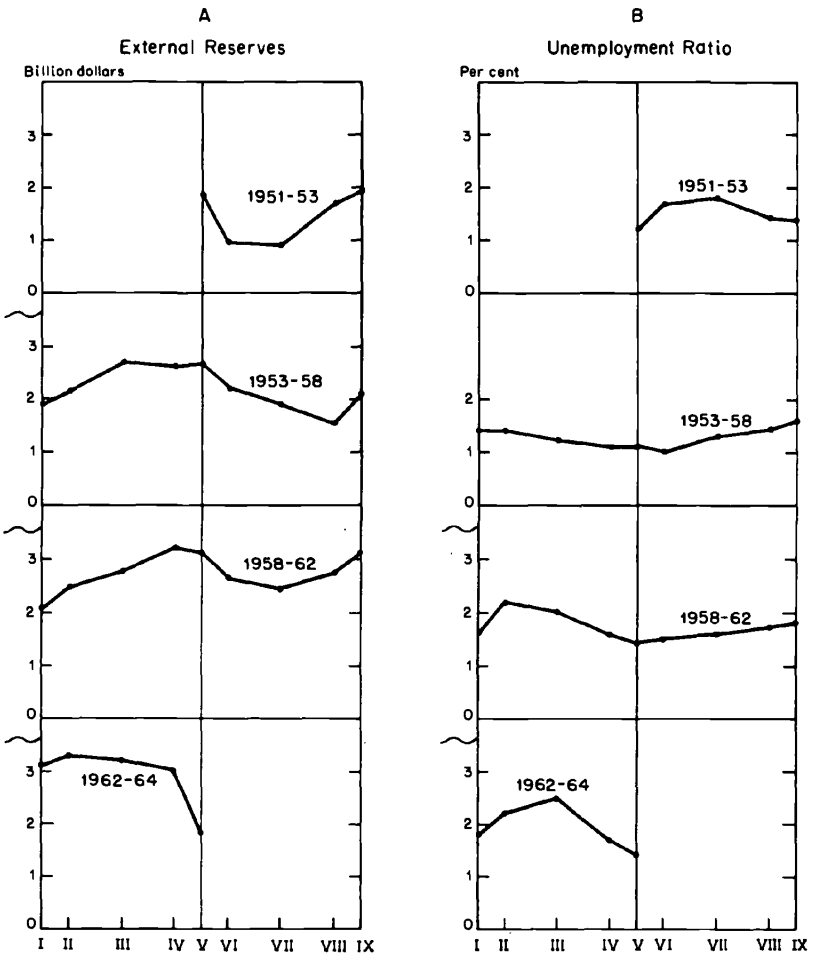
Quite another conclusion is suggested, however, by other methods of observation. Chart 11-4 offers a reference-cycle analysis in which reference dates are determined by balance-of-payments developments. In Part B of this chart, the behavior of the rate of change of bank advances is described. If the rate of expansion of credit is governed by the need for balance-of-payments adjustment, the lines of this chart should have the inverted V-shape: the rate should be low at the trough, when reserves are low; rise towards the peak, when reserves rise; and fall back toward the trough. Indeed, the chart shows this shape almost consistently. It thus appears that if briefer fluctuations of the balance of payments are overlooked and longer-term movements analyzed, the rate of expansion of credit does behave in a manner consistent with the hypothesis that this rate is governed by the requirements of balance-of-payments adjustment.

In Chart 11-7 this hypothesis is examined by determining the cycles and their reference dates according to the rate of expansion of credit. In the trough-to-peak phase this rate is high; during the peak-to-trough phase it is low. The cycles are as follows:

Cycle	*Trough*	*Peak*	*Trough*
1951–53		IV 1951	III 1953
1953–58	III 1953	II 1955	I 1958
1958–62	I 1958	II 1961	I 1962
1962–64	I 1962	IV 1964	

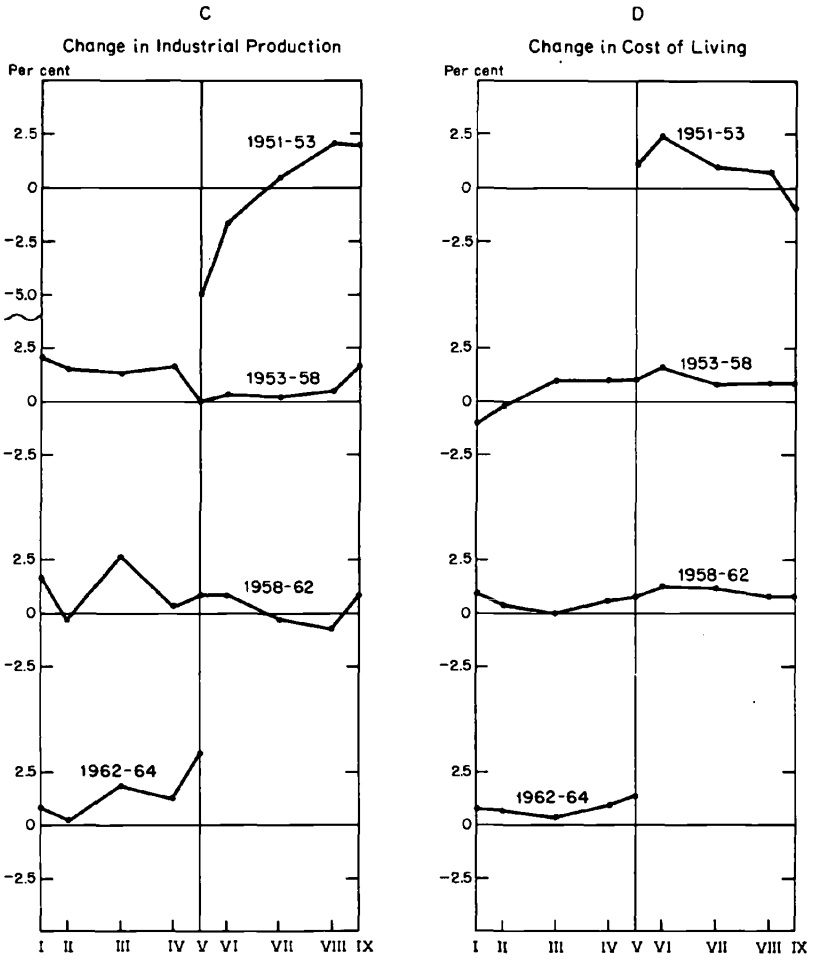
CHART 11-7

UNITED KINGDOM: PATTERNS OF TARGET VARIABLES DURING CREDIT CYCLES



In Part A of this chart, the external reserve position is plotted along these cycles. Again, the hypothesis under consideration would require inverted V-shaped lines. In fact, a pattern close to it may be discerned, but it is far from being consistent. On the other hand, Parts B, C, and D of this chart do not reveal any other rule by which the rate of expansion of credit is governed. The variables of industrial production and of the

CHART 11-7 (*Concluded*)



price level, represented in Parts C and D respectively, do not show any regularity of movement or position along the reference cycle under consideration. Movements of unemployment ratio, presented in Part B, would support an assumption that the policy variable in question was regulated by the need to maintain high employment if they had the inverted V-shape; in fact, the pattern revealed is partly the opposite. Likewise, in Part B of Chart 11-6, movements of the credit variable are presented along the unemployment reference cycle, and do not

reveal any coherent pattern. This evidence does not support the assumption that movements of credit were determined by any of the possible targets of high employment, high rate of expansion of production, or price stability. This lends more support to the hypothesis that it was, in fact, the balance-of-payments position which directed the policy variable under consideration.

The combined outcome of these different analyses thus suggests that credit policy was intended to serve the needs of balance-of-payments adjustment. But this conclusion is not entirely firm, and applies to major, longer-term imbalances of payments rather than to shorter-term fluctuations.

A form of credit which may merit particular observation is that of advances by the clearing banks to hire-purchase finance companies. It is often asserted that hire-purchase restrictions have fulfilled an important role in balance-of-payments adjustment. These restrictions took the direct form of variations of the minimum amount of down-payments and the maximum duration of payments; but these variations must find some expression in the volume of hire-purchase credit. No direct measurement of the amount of this credit to consumers is readily available; but variations in it should presumably be reflected in the size of bank advances to hire-purchase companies. The latter (for which data are available since 1954) are given in Chart 11-1, and movements in the amount outstanding are analyzed in column 4 of Table 11-1. It appears, from this evidence, that no consistent association of this variable with the position of the balance of payments may be established; this would be true also if longer-term movements are analyzed. Roughly speaking, the volume of hire-purchase advances rises from early 1954 to the latter part of 1955, declines from then to the latter part of 1958, rises again until mid-1960, remains on a high level until late 1961, declines from then to the end of 1963, rises once more towards mid-1965, and falls back since then. By and large, these movements do not correspond to any uniform trends in the country's external position. It may be, of course, that the observed magnitude does not reflect accurately the variable of hire-purchase regulations. But as far as this evidence goes, it indicates that this variable was not in fact governed by the need for balance-of-payments adjustment.

The variable of money supply is represented in Chart 11-1 and is analyzed first by means of column 5 in Table 11-1. The analysis establishes no general association between this variable and movements of

the balance of payments, with the possible exception of the first half of the 1950's—until about the end of 1955, changes in the rate of change of money supply do support the assumption that they were intended to serve the needs of balance-of-payments adjustment; from then on, however, movements of the variable were much more often in a disadjusting than in an adjusting direction. In particular, money supply seems to expand at a relatively high rate during recent years, from 1963 onward—a period distinguished by persistent balance-of-payments deficits.

The variable is further analyzed by means of Part C of Chart 11-4, where its movements along the balance-of-payments cycles are presented. The use of the variable for balance-of-payments adjustment would require the money supply curves to have an inverted V-shape—a pattern which is not found as a rule.

Still another form of analysis is the observation of the balance of payments along the money supply cycles—that is, cycles in which turning points are determined by the rate of change of money supply. This is done in Chart 11-8, in which the trough-to-peak phases represent periods of high level of the policy variable, while peak-to-trough phases represent a low level. The turning points of the cycles are as follows:[21]

Cycle	*Trough*	*Peak*	*Trough*
1950–52		III 1950	II 1952
1952–56	II 1952	II 1954	III 1956
1956–58	III 1956	II 1957	I 1958
1958–60	I 1958	I 1960	IV 1960

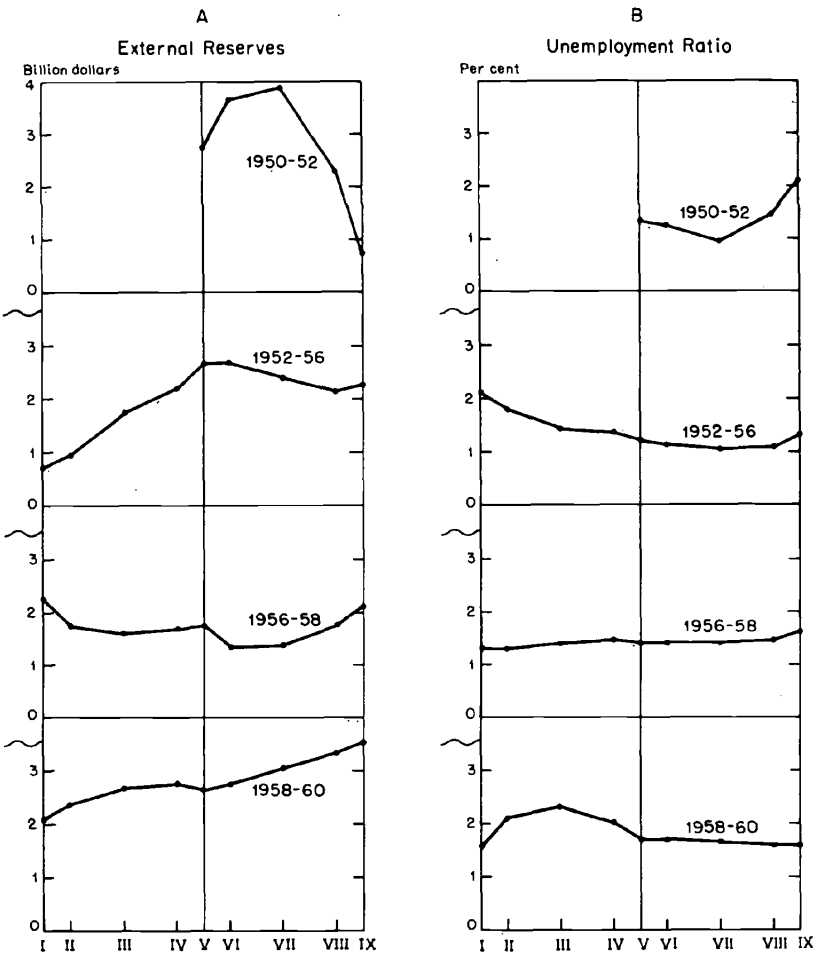
Part A presents movements of external reserves. If these movements were the reason for change in money supply, the curves would have to possess the inverted V-shape. In fact, something quite similar to this is found in the first 1½ cycles (until 1956), but no intelligible pattern appears later.

The results of all these methods of analysis suggest that money supply may have been controlled in a way which responds to the requirements for balance-of-payments adjustment until about the middle of the 1950's, although not after that. From Parts B, C, and D of Chart 11-7 it appears that the lack of such responsiveness was not due to the assignment of the instrument of money supply to the service of some other policy target, since no meaningful patterns are revealed in the level of employment, the level of industrial production, or the price

[21] No meaningful cycles can be distinguished after 1960.

CHART 11-8

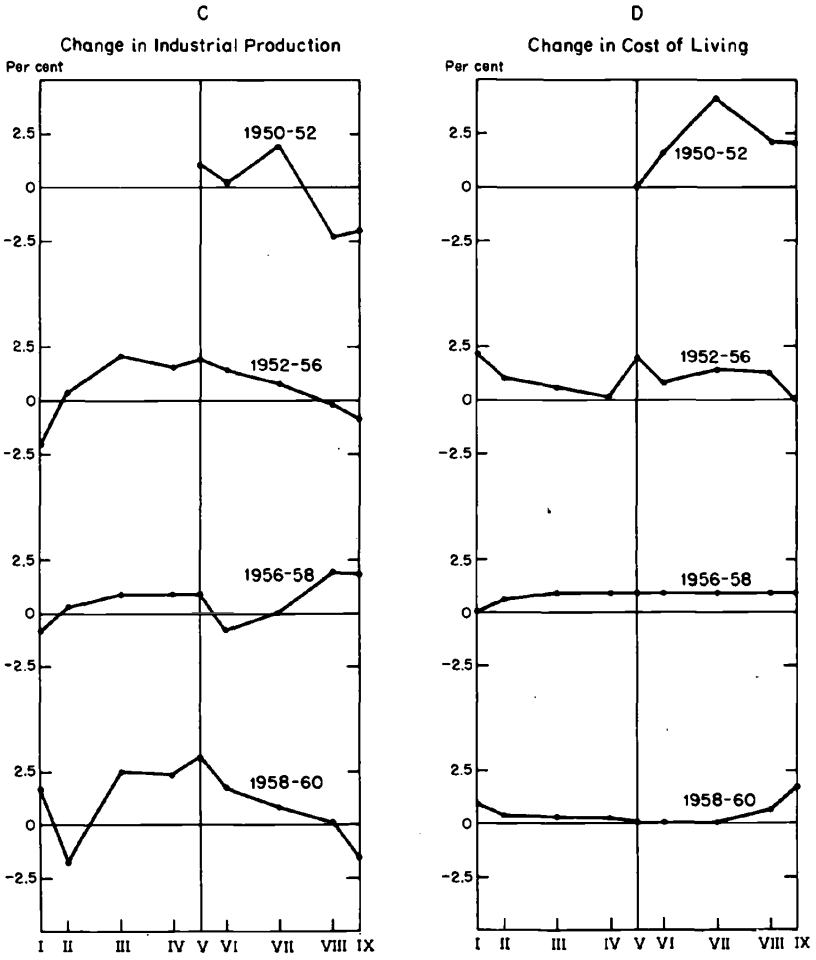
UNITED KINGDOM: PATTERNS OF TARGET VARIABLES DURING MONEY-SUPPLY CYCLES



level. For the target of high employment, this impression is confirmed also by Part C of Chart 11-6, where movements of the money-supply variable along the unemployment cycles do not indicate any regular pattern of behavior.

The analysis may turn now to the budgetary variables. Column 6 of Table 11-1 observes the rate of change of budgetary revenues. It

CHART 11-8 (*Concluded*)



appears that this variable moved in the majority of subperiods as the needs of balance-of-payments adjustment would require; but the number of opposite movements is probably too large to warrant an assertion that this was a rule of behavior. In Part D of Chart 11-4, movements of the variable are represented along the cycle of the balance of payments. A movement in the adjusting direction would require the lines of this variable to have a V-shape; in fact, such a pattern cannot be found. When the rate of change of government expenditures is examined, the

result is even clearer. From column 7 of Table 11-1, it may be seen that in the large majority of subperiods of imbalances, this variable moved in a disadjusting direction; whereas in Part E of Chart 11-4, no regular pattern of movements of the variable is apparent. It thus seems that government expenditures were not normally among the instruments used for balance-of-payments adjustment. This seems to be true also for the net result of the two magnitudes—the budgetary balance. From column 8 of Table 11-1 it appears that movements of this variable were about as often in an adjusting direction as in a disadjusting one. The impression of a lack of any consistent pattern of response of the budgetary balance to imbalances of payments is supported by observation of Part F of Chart 11-4. An adjusting response would require a V-shaped pattern, or at least a higher budgetary surplus (or, most often, a lower budgetary deficit) during the peak-to-trough phase (downward imbalances) than during the opposite phase; in fact, nothing similar to such a pattern can be distinguished.

In Parts D, E, and F of Chart 11-6 these three budgetary variables are examined along the unemployment cycle to see whether the lack of response to balance-of-payments requirements might be explained by responsiveness to the need to maintain high employment. In general, no consistent patterns of response are revealed. Only during the unemployment cycle of 1951–55 does the budgetary balance line have a clear V-shape, as the goal of high employment would require. Apart from this instance, it cannot be assumed that the lack of use of the major budgetary variables for balance-of-payments adjustment was due to their assignment to the task of maintaining full employment.

4. Summary and Interpretation

The clearest and most important conclusion which emerges from the preceding analysis is that the bank rate, the major instrument used by the Bank of England, was employed consistently in the service of balance-of-payments adjustment. The rate was almost always raised when the balance of payments deteriorated and lowered when the balance of payments improved.

Open-market operations, for which no data are readily available, were supposedly intended to reinforce movements of the bank rate. As such, they were thus also used for balance-of-payments adjustment.

But this cannot be asserted about other direct policy instruments at the disposal of the Bank of England. Minimum reserve ratios ("cash" and "liquidity") were, in the main, constant throughout. Even the measure of flexibility introduced into the system of minimum-reserve ratios by the method of "special deposits" at the Bank of England was not used, in any consistent way, to support balance-of-payments adjustment. Nor does Bank-of-England lending to the Treasury seem to be regulated by the needs for balance-of-payments adjustments.

Credit supply does seem to respond, by and large, to the needs of the balance of payments. This response appears to be much less consistent than that of the discount rate, but is nevertheless apparent, especially if shorter-term fluctuations are disregarded and major movements are concentrated upon. On the other hand, money supply, except perhaps for the few years before the mid-1950's, does not seem to respond in any consistent way to the fluctuations of the balance of payments.

British monetary policy certainly did not conform to the "rules of the game," as set by the Nurkse definition, according to which parallel movements of domestic and foreign assets of the central bank are required for the exercise of monetary policy. The greatest part of the Bank of England's domestic assets consists of loans to the Treasury, the movement of which was not in unison with movements of external reserves. Moreover, as has been discussed in the first section of this chapter, the rules of operation of the Exchange Equalization Account specify, in effect, a mechanism by which opposite movements of the Bank's foreign and domestic assets are automatically indicated.

Neither do the data indicate adherence to the alternative definition of the "rules of the game," which focus on money supply and interest rates, and which seem to have indeed served as rules of behavior for other countries which have been found in the present study to conduct monetary policy in a manner which responds to the external position. In this case, though, the disobedience is only partial, since the discount rate does respond to balance-of-payments requirements while money supply does not.

The pattern of behavior of British monetary instruments could conceivably be explained by more than one model. One probable explanation, which conforms with much of the reasoning found in the literature, runs along the following lines.

First, the role of the United Kingdom as a reserve country must be emphasized. The existence of very large sterling liabilities to the outside world, much of it of a short-term nature, makes it likely that fluc-

tuations in the size of the country's external reserves, and, in particular, violent, short-term fluctuations, would be due to movements on capital account rather than on current account. This may make it easier to adjust imbalances by attempting to affect the capital account, avoiding measures which are intended to offset the current account and which must, by their nature, be more pervasive. Under such circumstances, movements of the bank rate may often be sufficient. By changing almost automatically the whole structure of short-term rates, they affect the relative cost of borrowing and holding funds in the United Kingdom and abroad. Also, when short-term capital moves out of the United Kingdom due to speculation against the pound, drastic increases of the bank rate are taken as a sign that devaluation is not imminent. In these ways, changes in the bank rate may be expected to have an immediate impact on the capital account of the United Kingdom's balance of payments.

Money supply is apparently not considered by policy makers in the United Kingdom to be a variable capable of exercising a major impact on aggregate demand. The availability of credit, on the other hand, is probably regarded as a more effective instrument. Aggregate demand is affected, of course, by changes in the cost of borrowing funds which are induced by changes in the bank rate. If additional changes are sought, however, the Bank of England tends to create them by influencing the amount of advances made by clearing banks. Such changes may be expected not only to affect the current account, through their impact on aggregate demand, but also to reinforce the effect of changes in the bank rate on short-term capital movements. The Bank of England seems to prefer, at least when substantial changes are called for, to effect the changes in the amount of advances by controlling this amount directly, rather than by changing the lending capacity of banks. Thus changes in advances have not necessarily been accompanied by operations which are intended to change bank reserves, such as Bank-of-England lending to the Treasury or (presumably) open-market operations.

The preceding analysis does not support the assumption that failure to use money supply as an instrument for balance-of-payments adjustment is due to the assignment of this instrument to other global economic targets. A more likely explanation is that money supply was thought to be of only secondary importance. The crucial variables in the monetary system were apparently considered to be the bank rate and, to a lesser extent, clearing bank advances. These—the latter

less consistently than the former—were used for balance-of-payments adjustment, rather than for other economic targets. It may thus be concluded that the over-all pattern of use of monetary instruments in the United Kingdom was indeed geared to the requirements of balance-of-payments adjustment.[22]

This is not true, on the other hand, for the aggregate fiscal variables of the government's revenues, expenditures, and the budgetary balance. None of these appears to be related with any consistency to the requirements of balance-of-payments adjustment. Changes in various tax rates have often been submitted as part of "packages" of policies intended to adjust balance-of-payments deficits; but these changes could not have been of major significance so far as their quantitative effect on total government revenues is concerned.[23] As in the case of the monetary instruments, the failure to use these budgetary variables in the service of the balance of payments was not due to their assignment to other targets. Only during the earlier years of the 1950's can it be assumed that changes in the budgetary balances were intended to serve another major target—that of high employment. Just during this short period could it be assumed, therefore, that economic policy in the United Kingdom was pursued in a manner which allocated the use of fiscal policy to the domestic target of high employment, while monetary policy was assigned to the pursuit of balance-of-payments adjustment.

[22] It should be mentioned again that the present study seeks to find the mode of behavior, but not to appraise it. Whether the disregard of the variable of money supply is justified is a matter which could be debated, particularly in view of the persistence of deficits in the U.K. despite the response by means of the variables of bank rate and of credit supply. It may also be mentioned that in very recent years—1968 and 1969—some shift appears to have taken place among policy makers in the U.K. toward the use of money supply.

[23] It is conceivable, though, that such tax rate (and other) changes interfered with a movement in a disadjusting direction in which the relevant budgetary magnitudes would have been headed without these changes, so that the *ex post* aggregate results do not show adequately the net impact of the changes. This may explain the difference between the present findings and statements of policy makers and other analysts of the United Kingdom experience, which tend to attribute considerable importance to budgetary policy as an instrument used for balance-of-payments adjustment.

References

Bank of England, *Report*, annual, London, 1946/47–66.

Brandon, Henry, *In the Red, the Struggle for Sterling 1964–1966*, London, 1966.

Committee on the Working of the Monetary System, *Report, Principal Memoranda of Evidence*, and *Minutes of Evidence*, London, 1959, 1960.

Conan, Arthur Robert; *The Problem of Sterling*, London, 1966.

Dow, J. C. R., *The Management of the British Economy, 1945–60*, Cambridge, 1964.

Grant, A. T. K., *The Machinery of Finance and the Management of Sterling*, London, 1967.

Great Britain, Central Statistical Office, *Annual Abstract of Statistics*, London, 1875–1966.

Great Britain, Central Statistical Office, *Monthly Digest of Statistics*, London, January, 1946–66.

Great Britain, Central Statistical Office, *Financial Statistics*, monthly, London, 1962–66.

Great Britain, Treasury, *United Kingdom Balance of Payments*, semi-annual, London, 1945–66.

Hanson, John Lloyd, *Monetary Theory and Practice*, 2nd ed., London, 1962.

Harrod, Roy F., *The Pound Sterling 1951–1958*, Princeton, 1958.

Hawtrey, Sir Ralph, *Incomes and Money*, London, 1967.

Kirsch, Fred, *The Pound Sterling: A Polemic*, London, 1965.

Institute of Bankers, *The Bank of England Today*, London, 1964.

Johnson, H. G., "Recent Developments in British Monetary Policy," *American Economic Review*, Vol. 43 (May, 1953), pp. 19–26.

———, "The Revival of Monetary Policy in Britain," *Three Banks Review*, Vol. 30 (June, 1956), pp. 3–20.

Kenen, Peter B., *British Monetary Policy and the Balance of Payments 1951–1957*, Cambridge, Mass., 1960.

McMahon, Christopher, *Sterling in the Sixties*, London, 1964.

Organization for Economic Cooperation and Development, *Economic Surveys: United Kingdom*, annual, Paris. Reports for 1953–61 issued by the Organization for European Economic Cooperation.

Prest, A. R., *Public Finance in Theory and Practice*, Chicago, 1960.

Robertson, D. J., and Hunter, L. C. (eds.), *The British Balance of Payments*, Edinburgh, 1966.

Sayers, R. S., "English Policy on Interest Rates, 1958–62," *Banca Nazionale del Lavoro Quarterly Review*, Vol. 15 (June, 1962), pp. 111–26.

———, "The Development of British Monetary Policy, 1951," *Banca Nazionale del Lavoro Quarterly Review*, Vol. 5 (January–March, 1952), pp. 3–9.

Williams, D., "Some Aspects of Monetary Policy in England, 1952–8," *Yorkshire Bulletin of Economic and Social Research*, Vol. 12 (November, 1960), pp. 96–110.