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## 1. Policy Instruments

### MONETARY POLICY

Monetary policy in Germany is conducted by the Deutsche Bundesbank, which was established by the Bank Act of July 1957. The Bundesbank is headed by a Central Bank Council, which consists of its president, the vice president, and the presidents of the Central Banks in the states (*Länder*). All of these are appointed by the President of the Federal Republic. The *Länder* Central Banks are, in fact, branches of the Bundesbank. Before 1957, central banking in Germany was conducted by the *Bank Deutscher Länder* (BDL), which was established in November 1948. This bank differed somewhat in concept from its successor by having a more decentralized structure. It was conceived as the coordinating body of the *Länder* Central Banks, and its president was elected by their directors. However, the differences in mode of operation between the Bundesbank and its predecessor, the BDL, were of minor significance.

The Bundesbank is autonomous, and is not subject to any direction by the federal government. The 1957 Bank Act provides for participation of government representatives, without voting rights, in meetings of the Bundesbank Council, and of the Bundesbank president in the government's deliberations on monetary policy. But the Bundesbank is not bound in any way by the government, nor is it committed to fulfill any government request or requirement. The Bundesbank does, of course, act as the government's banking agent. The federal government and the *Länder* are committed to hold their deposits at the Bundesbank, and may hold deposits at other banks only with the Bundesbank's consent. Under this provision the Bundesbank has granted the *Länder* governments rights to hold deposits, within specified quotas, at certain

financial institutions. The Bundesbank is entitled to grant the federal government, the *Länder*, and certain public special funds short-term credits within quotas specified in the Bank Act, but is not committed to extend these credits. Decisions on credits within the quotas are made at the Bundesbank's discretion.

The Bundesbank has at its disposal all of the major conventional tools of monetary policy and has used them extensively. These instruments will be surveyed here briefly.

*Discount Rate.* The bank buys and sells short-term bills (up to three months), which fulfill certain requirements, at the fixed discount rate. These include, among others, Treasury bills and bills issued by the *Länder* or other public authorities. The discount rate has in fact been uniform, at any given point of time, for all the bills; but the Bank, in principle, has the right to discriminate among various categories of bills.

The Bank also makes loans to commercial banks against the collateral of government bills and bonds or other debentures listed by the Bank at an interest rate usually 1 per cent above the discount rate. Lending in this form is not automatic; it is presumably intended to meet short-term liquidity gaps at the commercial banks. The interest rate charged by banks on loans to their customers is tied by law to the discount rate, which it cannot exceed by more than a specified percentage. As long as the difference between the two rates is this maximum, any reduction of the discount rate leads directly to an equivalent reduction in the interest rate charged by banks on their lending (although this would not necessarily hold true for an increase). Often, however, the gap between the two rates is less than the specified maximum, so that the effect of discount rate changes on rates charged by the banks is not automatic and is less direct.

The Bank is entitled, and has consistently used its rights, to specify a maximum rediscount quota for each individual bank. This quota is usually determined on the basis of the bank's capital: it is a certain coefficient of the size of the capital, but the coefficient may vary among classes of banks. The Bank has used changes in this coefficient, and thus in the individual quotas, as an instrument of monetary policy on a number of occasions.

*Open-Market Operations.* The Bundesbank is entitled to buy and sell all the bills eligible for rediscounting at the Bank, as well as other bills or bonds issued by the federal government, the *Länder*, and other public authorities, and also private bonds quoted on the stock exchange.

In fact, open-market operations were of minor significance in the

earlier years, since the central bank (at that time, the BDL) had had almost no portfolio of marketable securities. By mid-1955, however, the central bank reached an agreement with the government, which in 1957 was incorporated in the Bank Act, putting a substantial amount of such securities at the Bank's disposal. This was done by transforming the character of the "equalization claims," i.e., the Bank's claims on the government resulting from the Bank's assumption of the government's obligations toward the commercial banks—obligations which originated in the currency reform of 1948. Originally, these claims carried an interest rate of 3 per cent, and could be sold only at their nominal value; in fact, this provision meant that the claims were not marketable. The agreement under consideration freed the Bank to sell (and buy) these claims at other prices. The claims, which subsequently became known also as the "mobilization paper," originally amounted to some eight billion marks. Open-market operations, which since 1956 have assumed large proportions, have been conducted primarily in this paper.

An agreement between the Bank and the commercial banks leads, in fact, to excluding the nonbank private sector from participation in the market for the paper in which the Bank's open-market transactions are conducted; that is, open-market operations are made only between the Bank and commercial banks, without any immediate effect on the nonbank sector.

An important attribute of open-market operations in Germany is that the Bundesbank directly determines not quantity but *price* in these transactions. The Bank specifies an interest rate—that is, by implication, prices of securities—at which the Bank is willing to buy or sell eligible securities offered to it or demanded from it. The interest rate varies, as a rule, with the length of maturity of the security (mobilization paper has been issued with various maturities). This, of course, is a procedure quite similar to determining the Bank's discount rate. Indeed, the open-market rate has, as a rule, been quite close to the discount rate; but variations in the open-market posted rate have been much more frequent than in the discount rate.

*Reserve Requirements.* Minimum reserve requirements have been in effect since 1948, and are incorporated in the Bank Act of 1957. The Bundesbank is entitled to require that the commercial banks hold reserves in the form of current balances at the Bundesbank. The requirements may vary among classes of banks and according to the type of liability against which reserves are held. The maximum ratios provided for in the act were 30 per cent for sight deposits, 20 per cent

for time deposits, and 10 per cent for savings deposits. In addition to the distinction as to the type of liabilities, the Bundesbank requirements distinguish between banks in "bank places"—that is, places in which branches of the Bundesbank are located—and other banks; the former are subject to higher reserve requirements. Likewise, banks are divided into six categories according to the size of their liabilities; the larger the bank, the higher the reserve requirements. The number of different reserve-ratio requirements existing at any moment of time is, thus, quite substantial (approximately fifteen to twenty). As a rule, this structure moves in a coordinated way, and the proportional differences among the various ratios remain about constant.

Most of the time, reserve requirements were put on an average (or total) basis for each class of bank and liability. During a short period, however, marginal reserve ratios were added. In July 1960, all increases in liabilities above their average level of March–May 1960 were subject to the maximum-reserve requirements, while liabilities of the average size of March–May 1960 were subject to lower requirements. This situation lasted until December 1960, when the marginal reserve requirements were withdrawn.

Shortages of reserves are subject to penalty rates of 3 per cent above the rate in force for the Bank's advances against collateral. This means, as a rule, an interest rate 4 per cent over the discount rate.

Changes in reserve requirements were made about as often as they were in the discount rate; they were, thus, much less frequent than variations in the Bank's open-market rates. It seems that the Bundesbank regarded open-market operations as the main instrument for effecting gradual changes in bank liquidity and in interest rates; while changes in the discount rate and in reserve-ratio requirements were made at longer intervals as a means of consolidating and reinforcing the effect of open-market operations.

Reserve requirements were used by the Bundesbank on a few occasions to influence directly commercial banks' policy toward holding assets or borrowing abroad. This was done by subjecting foreign deposits in German banks, and the latter's borrowings from abroad, to special reserve requirements and by varying these requirements. Likewise, German banks' holdings abroad were regarded as a reserve asset held against liabilities to foreigners on a number of occasions when the Bundesbank considered short-term investments of German banks abroad to be desirable.

## FISCAL POLICY

For most purposes of analyzing fiscal policy in Germany, the category "government" should include the *Länder* as well as the federal government. The reason is that the budgets of these two bodies are quite closely integrated, particularly on the revenue side. The German constitution specifies the allocation of the various tax revenues. In some cases (such as the business tax), all tax proceeds belong to the *Länder*. In others, they belong to the federal government. The proceeds of the income tax are divided between the two—about two-thirds to the *Länder* and one-third to the federal government. In addition, revenues are reallocated among the *Länder*—those with higher tax proceeds transfer part of their revenues to the others. Likewise, most of the tax laws of each *Land* have to be approved by the appropriate federal bodies. All of this would indicate the need to add the *Länder* to the federal government in discussions of budgets and budgetary policy.

In the federal government, budgetary policy is left in the hands of the executive branch to a probably greater extent than in most other Western countries. The Cabinet (and within it the Chancellor and the Minister of Finance) has a veto power over budgetary decisions. The executive branch's leeway is particularly large in "negative" acts; that is, the Cabinet is quite free not to make certain expenditures, or not to raise revenue from certain taxes, even though it is entitled to do so by the budgetary law of that year.

The federal budget is divided into "ordinary" (above the line) and "extraordinary" (below the line) components. In principle, "ordinary" budget expenditures should be covered by tax revenues, while expenditures of the "extraordinary" budget could be covered by loans as long as they result in the acquisition of "self-liquidating" assets. In fact, this requirement is interpreted in a way which puts very few restrictions on the type of expenditures in the latter budget. Yet, the declared policy of the German government has been to maintain a (cash) balance of the overall budget; and this indeed has been the policy over long stretches of time.

## 2. Statistical Analysis

Table 6-1 divides the period into subperiods according to the balance-of-payments fluctuations. The subperiods are determined by both the

TABLE  
GERMANY: MOVEMENTS OF POLICY VARIABLES

<i>Subperiod</i>	<i>External Reserves</i>	<i>Discount Rate</i>	<i>Open-Market Rate</i>	<i>Reserve Ratio Requirements</i>
(1)	(2)	(3)	(4)	(4)
III 1950 - I 1951	fall	+ raised	a	+ raised
I 1951 - III 1951	rise	* stable	a	* stable
III 1951 - I 1952	fall	* stable	a	* stable
I 1952 - IV 1958	rise	* fluctuates	* fluctuates	* fluctuates
IV 1958 - III 1959	fall	* fluctuates	* fluctuates	* stable
III 1959 - II 1961	rise	* fluctuates	* fluctuates	- raised
II 1961 - I 1962	fall	* stable	- lowered	- lowered
I 1962 - I 1963	stable	stable	raised	stable
I 1963 - II 1964	rise	* stable	* stable	* stable
II 1964 - I 1966	fall	+ raised	+ raised	* fluctuates
I 1966 - IV 1966	rise	- raised	- raised	+ lowered

NOTE: For explanation of symbols, see Chapter 3, explanatory note.

series of foreign exchange reserves and, since 1958, by balance-of-payments surpluses or deficits. By and large, the two series give the same indications for the years covered by both. Sometimes, the two may differ by one quarter in their indication of the turning point. In the very few cases of clear conflict between the two series, the turning point was selected by reference to the series of balance-of-payments surpluses and deficits.

It will be immediately observed that one subperiod covers about half of the whole period: from the beginning of 1952 to the end of 1958, balance-of-payments surpluses persisted. The discussion will turn later to a separate examination of these years.

A look, first, at the discount rate (column 2) shows clearly that this instrument has not been used generally for balance-of-payments adjustment. In only two downward imbalances, the one following the outbreak of the Korean War and the one which started in mid-1964,

6-1

## DURING SUBPERIODS OF IMBALANCES

<i>Central Bank Claims on Commercial Banks</i>	<i>Central Bank Net Claims on Government</i>	<i>Central-Bank Total Domestic Claims</i>	<i>Commercial Bank Lending to Public (quarterly rate of increase, per cent)</i>	<i>Money Supply (quarterly rate of increase, per cent)</i>	<i>Budgetary Balance (quarterly average, in billions of marks)</i>
(5)	(6)	(7)	(8)	(9)	(10)
- rise	* stable	- rise	(+) 9.6	(+) 2.0	n.a.
+ rise	* stable	* stable	(-) 6.7	(+) 5.0	- .33
+ fall	+ fall	+ fall	(-) 8.0	(*) 4.2	(+) +.13
* fluctuate	- fall	- fall	(-) 4.4	(-) 2.8	(-) +.12
* stable	- rise	- rise	(*) 3.5	(*) 2.6	(-) -1.73
* fluctuate	- fall	- fall	(*) 4.1	(-) 2.0	(-) -.05
- rise	- rise	- rise	(+) 2.4	(-) 2.8	(-) -.28
rise	fluctuate	fluctuate	4.2	1.7	-.49
* fluctuate	+ rise	+ rise	(-) 3.0	(*) 2.0	(*) -.57
- rise	- rise	- rise	(*) 3.1	(*) 1.9	(+) -.35
* fluctuate	+ rise	* fluctuate	(-) 2.1	(-) .1	(+) -.55

n.a. = not available. a = not applicable.

was the discount rate manipulated in the direction that balance-of-payments adjustment would require. During the other imbalances, the discount rate was either kept stable or moved in both directions within each subperiod of imbalance.

The posted rate for open-market operations (column 3) shows much the same behavior. Again, in one recent imbalance only—the downward movement of mid-1964 to early 1966—this rate changed in the direction required for balance-of-payments adjustment. Thus, open-market operations do not appear to have been intended to serve generally the target of balance-of-payments equilibrium.

The same impression is conveyed by the fluctuations of reserve-ratio requirements, which are shown in column 4. Once more, only during 1950–51 and during one recent period (1966) did reserve-ratio requirements move in the direction necessary for adjustment.

It thus appears that all the three major direct instruments at the

disposal of the German Central Bank—changes of the discount rate, open-market operations, and changes of minimum reserve-ratio requirements—have not been used, as a rule, for balance-of-payments adjustment. There are only two instances which may be exceptions, i.e., the downward disturbances of late 1950 and early 1951 and of mid-1964 to early 1966.

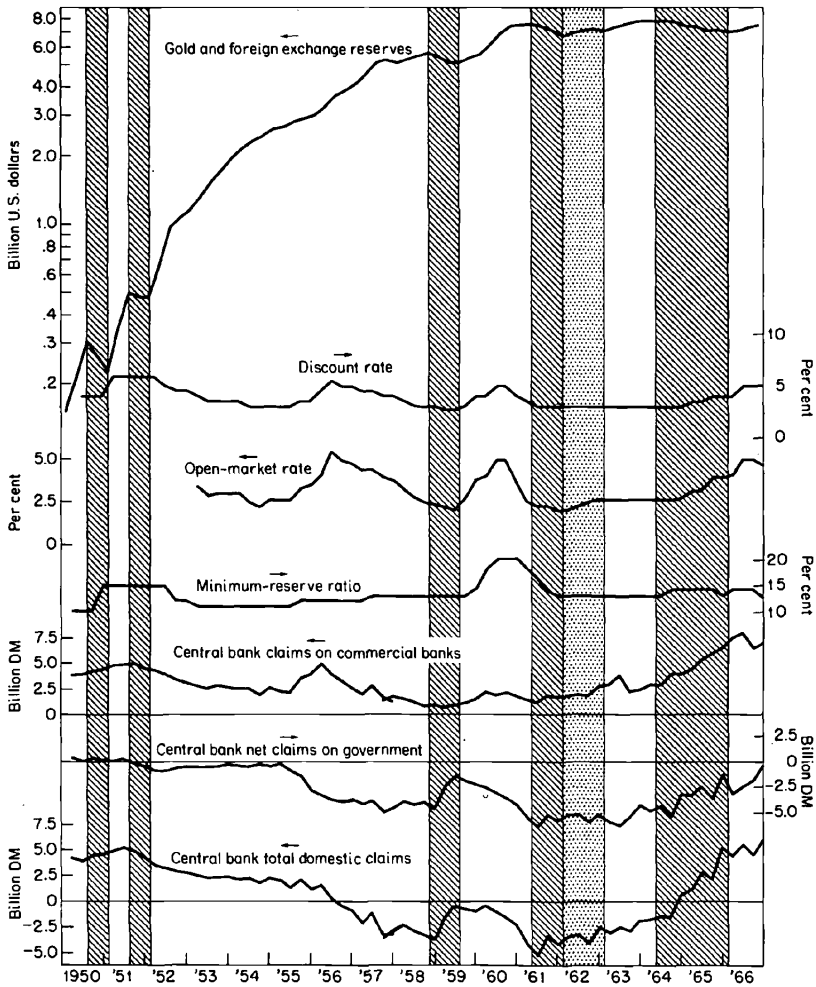
Looking at the policy variables which involve the Central Bank's assets, similar indications appear, perhaps even more strongly. Central Bank lending to the commercial banking system (represented in column 5 of Table 6-1) appears to be unrelated to balance-of-payments fluctuations. Central Bank net lending to the government (in column 6) seems to move less often in the direction required for balance-of-payments adjustment than in the opposite direction. Changes in this category are mainly due, in the case of Germany, not to changes in the Central Bank's gross lending to the government but to changes in the amount of government deposits at the Central Bank. As may be seen by comparing column 6 with column 10 (or the appropriate lines in Chart 6-1) fluctuations in the Central Bank's net lending to the government are to some extent related to the government's budgetary surpluses and deficits. But the correlation is not perfect due to the reflection of two other factors aside from the budgetary balance in the size of the government's net indebtedness to the Bank; namely, open-market operations and the distribution of government deposits between the Bank and other banks.

Since the Bank's lending to commercial banks does not move in conformity with the requirements of balance-of-payments adjustment, while net lending to the government moves most often in the direction opposite to these requirements, the Bank's total domestic assets—the combination of these two—most of the time moves counter to the requirements of balance-of-payments adjustment. This is shown in column 7 of Table 6-1. According to the Nurkse yardstick, Germany is thus seen to follow a pattern of monetary policy, during the sub-periods under observation, opposite to what the classical "rules of the game" would require.

Commercial bank lending (shown in column 8) does not seem to vary in any consistent way with imbalances of payments. In only two instances—the downward imbalances of III 1950–I 1951 and II 1961–I 1962—did the rate of credit expansion change in conformity with the requirements for balance-of-payments adjustment: it was considerably below the rate in the preceding period and, in the latter episode, also

CHART 6-1

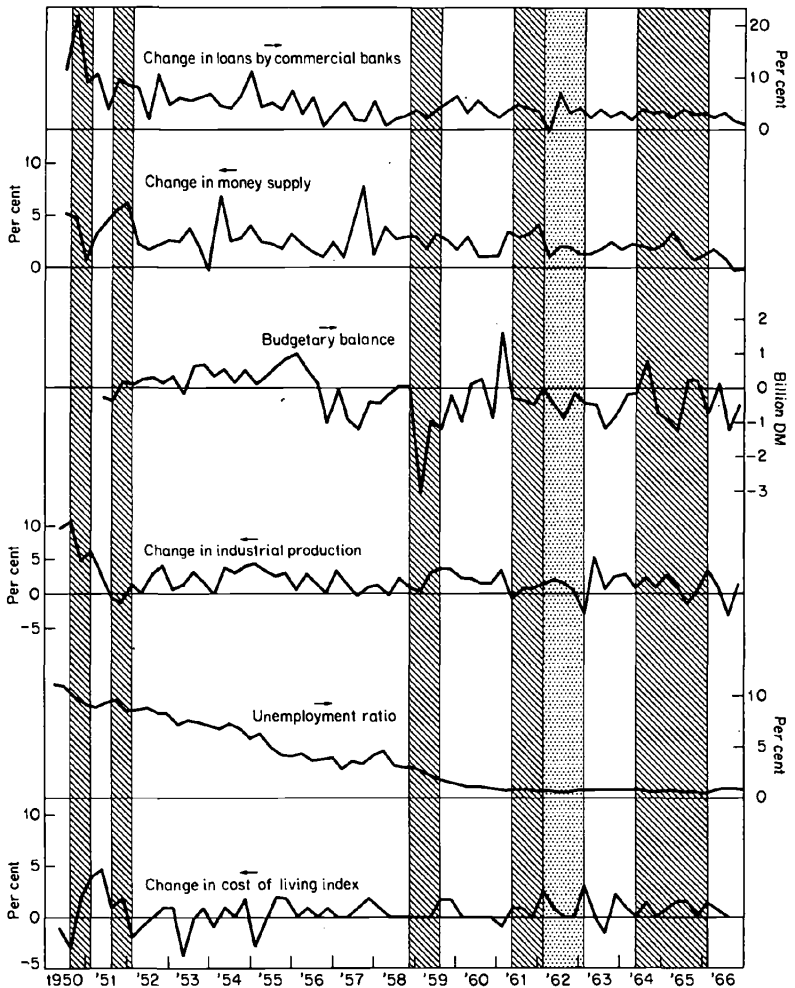
GERMANY: TIME SERIES OF SELECTED VARIABLES



in the succeeding period, in which external reserves increased. In other instances, no such adjusting movements can be observed. Thus it may be deduced that the amount of credit (or, more precisely, its rate of expansion) was not manipulated in accordance with the requirements for balance-of-payments adjustment.

The rate of expansion of money supply (represented in column 9)

CHART 6-1 (Concluded)



NOTE: Diagonal-line areas represent period of downward imbalances; gray areas represent stability; white areas represent upward imbalances.

gives a similar indication. This rate is quite stable most of the time, and the modest changes in it move as often in the adjusting direction as in the opposite. Thus, although it cannot be argued that money supply changed consistently in a disadjusting direction, it seems fairly obvious that this variable did not move, in any general way, in the direction required for balance-of-payments adjustment. By this yardstick too,

monetary policy in Germany did not conform to the classical "rules of the game."

Turning finally to the fiscal area, the conclusions are similar. As may be seen from column 10 of Table 6-1, the budgetary (cash) balance did not fluctuate in any consistent way with imbalances of payments. Moreover, it should be added that the balances (surpluses or deficits) were in general too small, in comparison with components such as the GNP, changes in external reserves, etc., to be expected to have any appreciable effect on the economy. It is thus most probable that budgetary balances were not manipulated at all as a means of achieving either balance-of-payments adjustments or any of the other major economic targets.

We now turn to the period of continually rising external reserves, from early 1952 to the end of 1958. Let us examine a few critical policy variables for this period to see whether their behavior is consistent with the assumption that they were manipulated in accordance with the requirements of balance-of-payments adjustment. These variables are: (1) the direct monetary instruments—the discount rate, the open-market rate, and the minimum-reserve ratios; (2) the rate of expansion of money supply; (3) the budgetary balance.

To assist in balance-of-payments adjustment, the discount rate, the open-market rate, and the minimum-reserve ratio would have to move downward during a period of accumulating reserves. Such a movement did not, in fact, take place—or if it did, was only slight—as may be seen from Chart 6-1. The discount rate went down from 1952 to 1954, up from 1955 to mid-1956, and down again until mid-1959. The open-market posted rate moved in close relationship to the movements of the discount rate. The required reserve ratio was much more stable than the former two rates. It went slightly down in 1952–53; and up in 1955–57; over-all, it can probably be regarded as having been stable during the years under review. By this evidence, therefore, these three monetary variables are found to have played a neutral role, on the average, with regard to balance-of-payments adjustment: they were manipulated neither in the direction required for adjustment nor in the opposite direction.

The rate of expansion in the money supply conveys a similar impression. This rate was, on the average, much lower during 1952–58 than during 1950–51 and only slightly higher than during 1959–65. On the other hand, balance-of-payments adjustment policy would have required this rate to be particularly high during 1952–58. Taking into

account the fact that the GNP's rate of increase has shown a downward trend, a fact which may account for a desire on the part of the monetary authority to slow down the expansion of money supply gradually, it cannot be argued that money supply was manipulated in a way which would conflict with the need for balance-of-payments adjustment. However, the evidence certainly would not support the opposite assumption, i.e., that the supply moved in a way consistent with the requirements for balance-of-payments adjustment during 1952-58.

The budgetary balance, as may again be seen from Chart 6-1, gives a similar indication. From 1952 to mid-1956, the budget had a consistent surplus—in fact, only in a single quarter (II 1953) was this not the case. From mid-1956 to the end of 1958, the budget had mostly deficits. For the period under review as a whole, the budgetary balance was positive, while for the following years—1959-65—the budget had deficits during most of the time and a net deficit for those years as a whole. The substantial budgetary surplus for 1952-55—at least for most of the period—is alleged to have arisen accidentally.<sup>1</sup> It may well be so, but this would still not contradict the conclusion that during a period in which balance-of-payments adjustment would have required a budgetary deficit, the budget showed, in fact, mostly a surplus. It may thus be inferred that budgetary policy during the period 1952-58 was not employed as an instrument of balance-of-payments adjustment.

Thus, during 1952-58 neither monetary policy nor budgetary policy seem to have been manipulated in a way consistent with balance-of-payments requirements. The over-all finding which emerges is that monetary instruments and the budget were, by and large, not employed in Germany for balance-of-payments adjustment during the period covered in the present study.

Were these instruments used, instead, to achieve alternative targets? An attempt to analyze this question will be made with the aid of the

<sup>1</sup> This is the famous "Juliesturm," or the "Julius Tower" war chest. It resulted, allegedly, from the accumulation during the early 1950's of funds intended to finance Germany's participation in the planned European Defense Community—a plan which was eventually scrapped. It is hard to believe that the German authorities indeed based their policy on a rule which says that surpluses should be created during certain years in order to finance deficits in later years, without regard to the effects of the surpluses and deficits at the time in which they are manipulated. It is possible, on the other hand, that in each of these individual years actual military expenditures were lower than had been anticipated and provided for in the budget, thus leading to a surplus.

reference cycle method. Here, the "cycle" is determined by fluctuations of the policy variable; and movements of each target variable are examined separately to see whether any of them could explain the cyclical pattern of the policy variable. This will not be done for the budgetary variable; as was mentioned before, the size of the budgetary balance—surplus or deficit—appears to be rather small most of the time, and it is apparently not meaningful to discuss "cycles" of this variable. The reference cycle analysis will be confined, thus, to the direct monetary instruments: the discount rate, the open-market rate, and the minimum-reserve ratio. These show a clear "cyclical" pattern, and the question analyzed is whether this pattern can be associated with the movement of any target variable. The reference dates will therefore be determined by the turning points of these policy variables. As was mentioned before, and as may be verified again by observing Chart 6-1, these three rates fluctuated in close coordination; very rarely did they move in opposing directions. This makes it possible to define a combined reference cycle for all three instruments. The turning points, or reference dates, will be determined, whenever just one variable moves while the others are stable, by that variable which moved. The trough of such a cycle will be at the point in which the discount rate, the open-market rate, and the minimum-reserve ratio are at their lowest; while the peak will occur when they are at their highest. The results are shown in Chart 6-2, where the behavior of each of the alternative target variables—the balance of payments, the price level, the unemployment rate, and the rate of expansion in industrial production—is shown along the reference cycles. The turning points of these cycles are as follows:

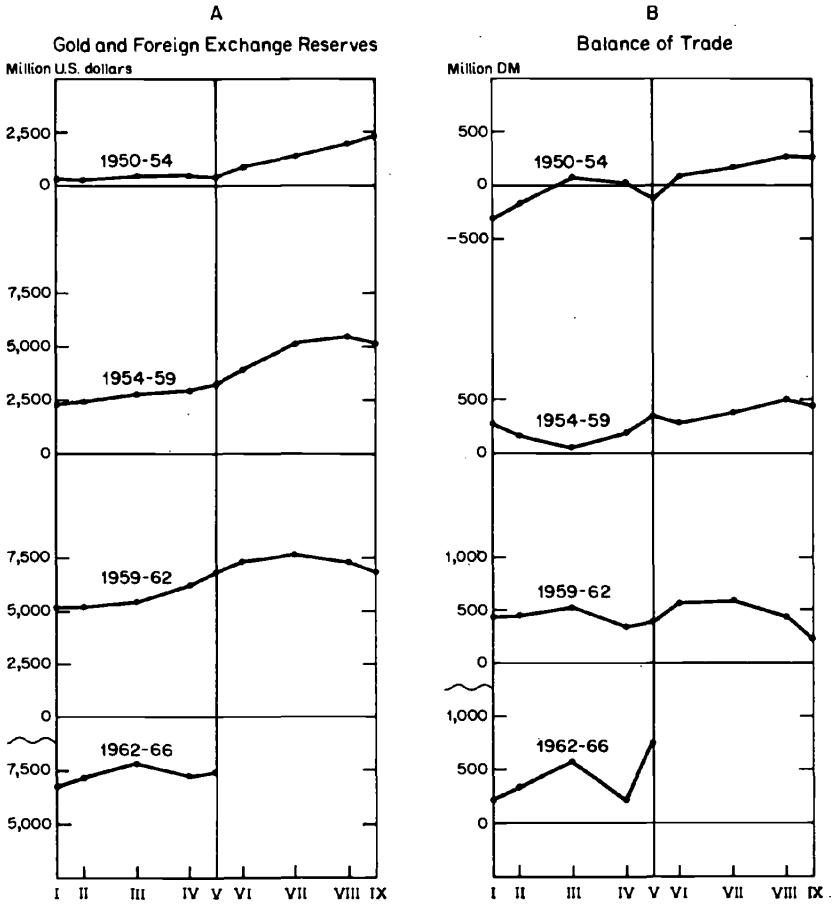
<i>Period</i>	<i>Trough</i>	<i>Peak</i>	<i>Trough</i>
1950-54	IV 1950	I 1952	III 1954
1954-59	III 1954	II 1956	II 1959
1959-62	II 1959	III 1960	I 1962
1962-66	I 1962	III 1966	

Chart 6-2, Part A, shows the movement of external reserves. As could be expected from the previous analysis, no regularity can be seen here. Conformity with balance-of-payments adjustment would require this variable to fall during the trough-to-peak phase—that is, where the discount rate and the other rates are rising—and to rise during the peak-to-trough phase. In fact, nothing resembling such a pattern can be discerned.

It may be worthwhile to examine alternative definitions of the

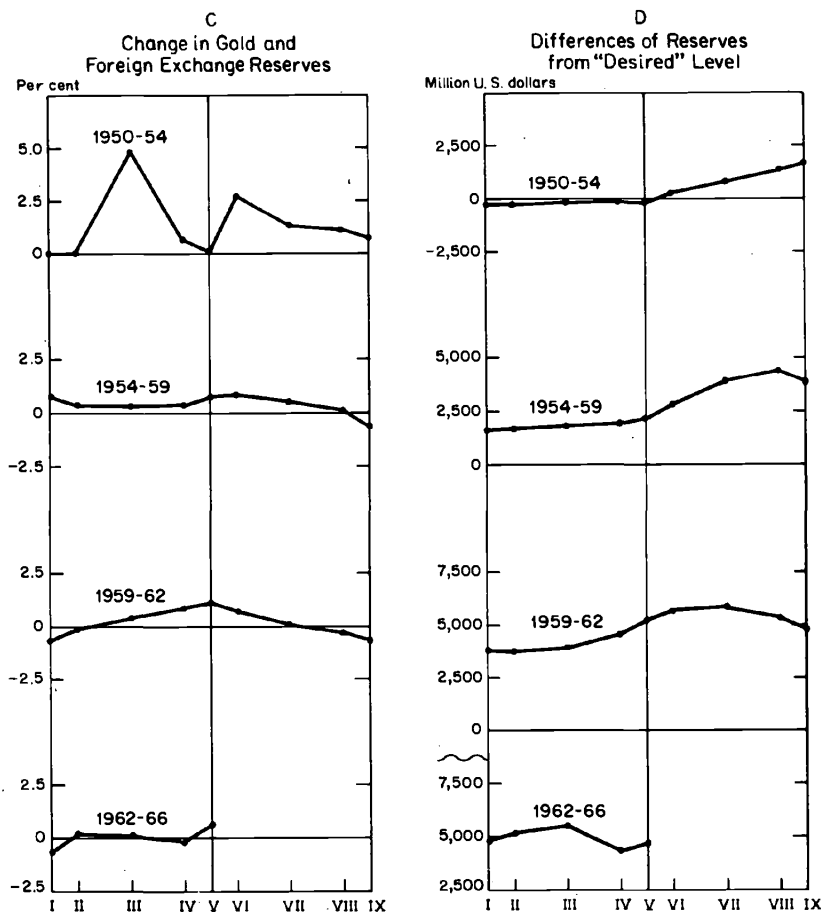
CHART 6-2

GERMANY: PATTERNS OF TARGET VARIABLES DURING MONETARY POLICY CYCLES



balance-of-payments target in order to see whether they can give a better clue to policy measures than the simple change in external reserves (that is, the simple balance-of-payments surplus or deficit as these are usually defined). Thus, it is conceivable that monetary measures were taken in reaction not to changes in the balance of payments as a whole, but to movements in the trade account alone. This is examined in Chart 6-2, Part B, where the balance of trade (in goods) is

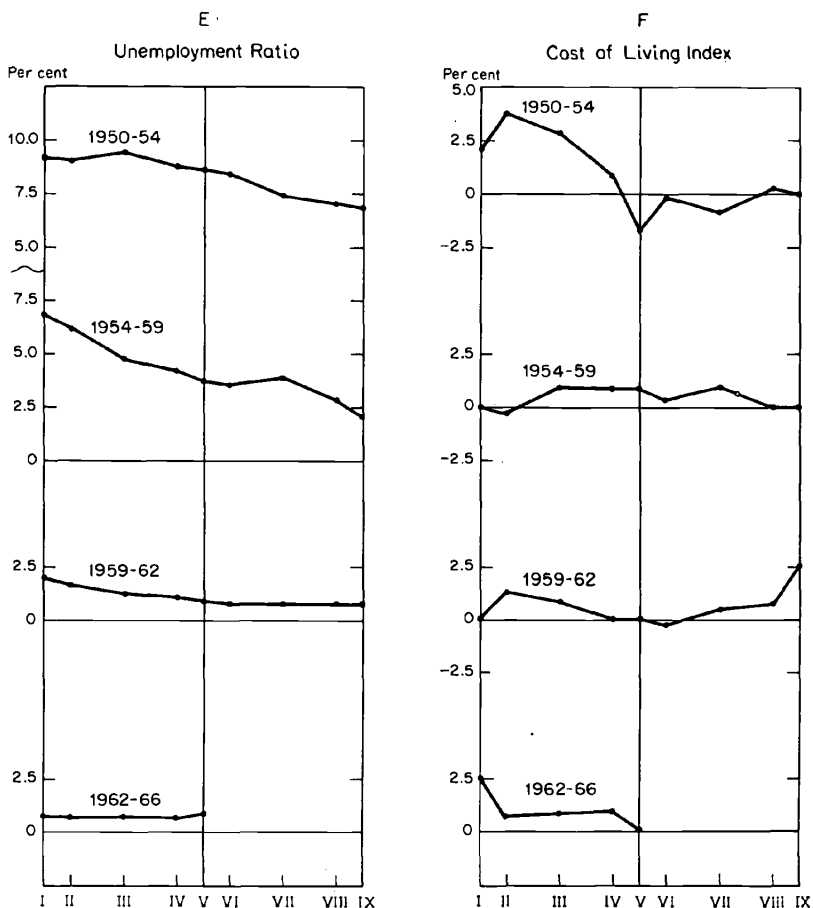
CHART 6-2 (Continued)



represented. Again, no regular pattern appears. This balance was continuously positive after about mid-1952. An assumption that movements of this variable determined the direction of movement of the policy variables would require the balance to have been negative along the trough-to-peak phase, or at least to be lower than during the peak-to-trough phase, when it would be expected to be higher and rising. In fact, no such regular pattern could be observed.

Another possibility is that it was not the direction of change (i.e., rise or fall) of external reserves which guided policy measures, but the

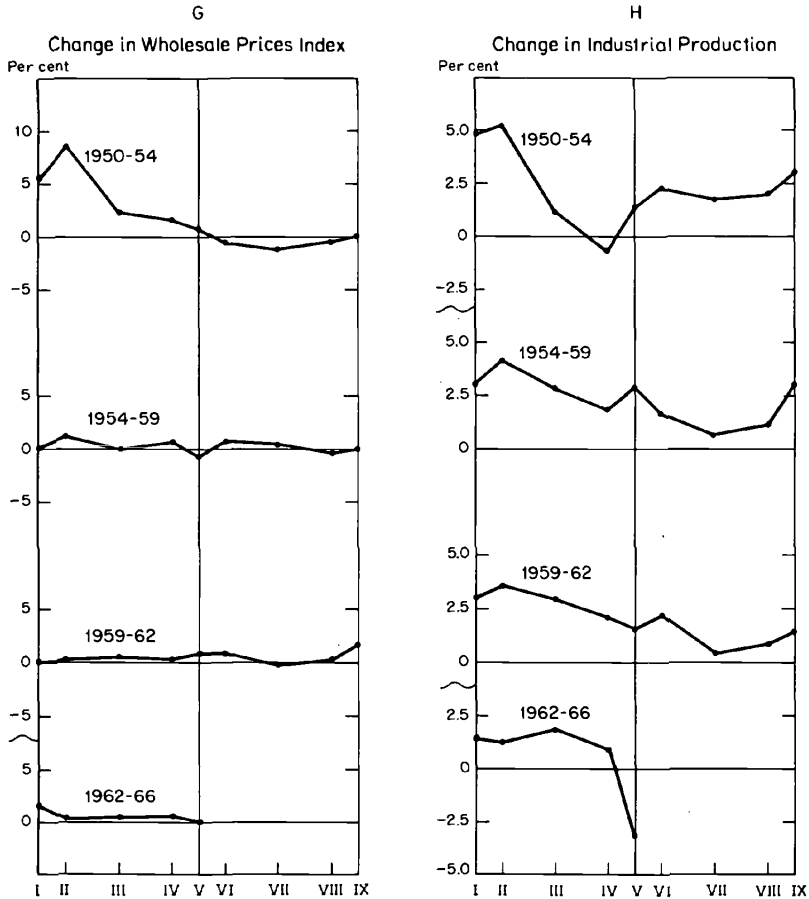
CHART 6-2 (Continued)



rate of their change. That is, it may be assumed that whenever the rate of increase in reserves accelerated, monetary policy became restrictive. This assumption is examined in Chart 6-2, Part C. By the evidence of this chart, it must be rejected. In fact, for part of the period the opposite is true: from the peak of the 1954-59 cycle (that is, from mid-1956) the rate of increase of reserves goes down during the downward phase and up during the rising phase of the 1959-62 cycle. That is, when the rate of increase of external reserves falls, monetary policy becomes more expansive rather than more restrictive.

Still another possibility which may deserve examination is that the

CHART 6-2 (Concluded)



German authorities paid attention not to the actual movement of external reserves but to the divergence in the size of reserves from some desired level. This "desired" level could be determined by a probably infinite amount of assumptions, or models. The two simplest assumptions would be: (1) that the "desired" level is that indicated by the trend (which, in turn, can be identified in a variety of ways—a moving average, a linear or log-linear regression, etc.); or (2) that the "desired" size of reserves is a given proportion of imports (or of current transactions). The assumption of a "desired" level of reserves was tested only by the use of the latter variant. This is done in Chart 6-2,

Part D. "Desired" reserves were assumed to be a constant proportion of annual imports of goods, equal to the average of 1950-51. Discrepancies between the actual level of reserves and the "desired" level are represented in this chart.

It appears, from Chart 6-2, Part D, that in this sense, i.e., compared with "desired" level, reserves were increasing throughout most of the period; that is, the ratio of external reserves to imports increased continuously. This process went on almost without interruption until 1961. It thus cannot be maintained that monetary policy was designed to preserve a stable ratio of external reserves to imports. On the other hand, it may also be seen that until the middle of the trough-to-peak phase of the 1959-62 policy cycle—that is, until 1960—the excess of actual reserves over the "desired" level tended to rise more slowly during the trough-to-peak than in the opposite phases. This would be consistent with an assumption that during the 1950's a given rate of continuous rise in the ratio of external reserves was desired and that monetary policy became restrictive when this rate was not achieved, whereas it became expansionary when it was exceeded.

In Chart 6-2, Part E, the target of high employment is examined. The unemployment rate appears, from this chart (as from even a casual look at Chart 6-1), to be continuously and markedly falling throughout the period. However, no consistent association between this movement and the cycles of monetary measures can be distinguished. It thus does not appear that monetary policy was geared to this target. It may also be mentioned in this connection that the large budgetary surpluses observed during most of the first half of the 1950's were achieved at a time of high unemployment, so that it cannot be assumed that budgetary policy was employed in pursuance of the target of full or high employment.

In Chart 6-2, Parts F and G, the stable price level target is examined. This is done by using the rates of change in the cost of living and wholesale price indexes, respectively. These rates showed considerable fluctuations only at the beginning of the period, during the Korean crisis and shortly afterwards, while for most of the remaining period the price level appears quite stable. The rates of change in the indexes, in particular of wholesale prices, are quite close to zero and do not fluctuate greatly. What is particularly relevant, however, is the apparent lack of any cyclical regularity. Had monetary policy been intended to maintain price stability, we would expect to find a relatively high rate of price increase during the trough-to-peak phase—that is, when mone-

tary policy becomes restrictive—and the opposite during the peak-to-trough phase. In fact, no such regularity appears at all in the two parts of the chart. Oddly, the cyclical patterns of 1954–59 and 1959–62, especially with regard to the cost of living index, even appear almost as mirror opposites of each other.

The target of a high rate of growth, as measured by the rate of increase of industrial production, is examined in Chart 6-2, Part H. Here some pattern appears, which may indicate a responsiveness of monetary policy to this target. Industrial production seems to rise faster during the trough-to-peak than during the peak-to-trough phase; that is, monetary policy would appear to be restrictive during periods of a high rate of increase of industrial production and expansive during periods of a low rate. This relationship would improve further if some time lag in responsiveness is allowed. It thus seems possible, from this evidence, that monetary policy was directed by the requirements of a high, stable rate of growth.<sup>2</sup>

### 3. Summary and Interpretation

From the preceding analysis, it seems quite safe to conclude that monetary policy—as well as budgetary policy—was not as a rule directed in Germany toward balance-of-payments adjustment, although scattered instances of possible responsiveness of monetary policy to imbalances of payments may be found.

In part, this lack of general responsiveness could probably be explained by the assignment of monetary policy to the service of other targets. Thus, the evidence seems to suggest a possible consistency of the movements of monetary policy with the requirements of high, stable rate of growth, when the latter is represented by the rate of expansion of industrial production. It should be noticed, on the other hand, that no general association of the direction of monetary policy with the unemployment position may be discerned.

It is possible, also, that part of the explanation of the mode of be-

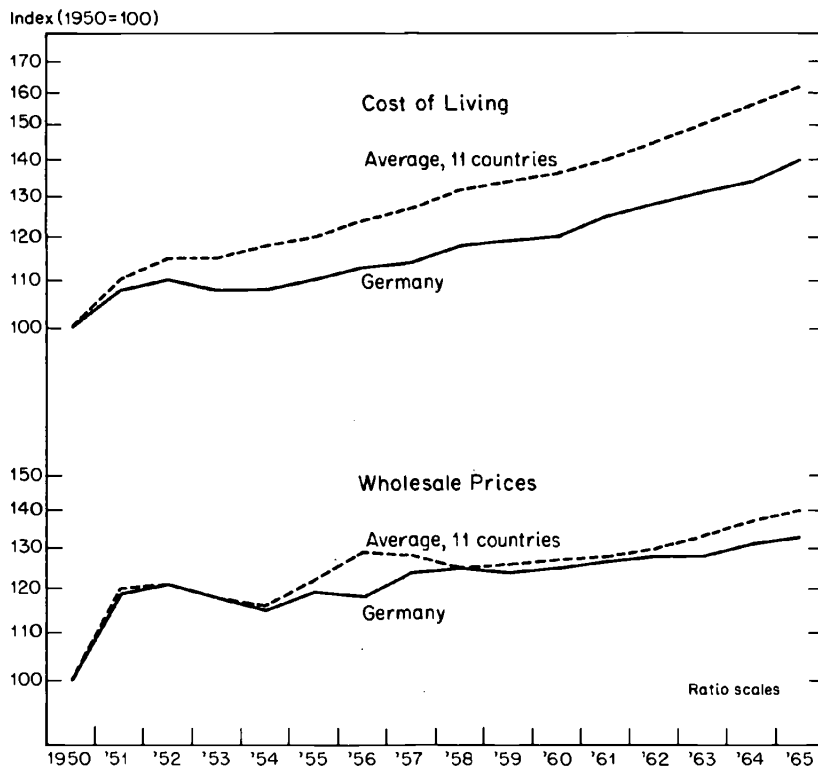
<sup>2</sup> A similar impression is gained from the observation of cycles of industrial production, as they appear in a current NBER study by Ilse Mintz. These cycles were determined by the relationship of the actual level of industrial production to its trend level. Monetary policy during most of the period seems to be associated fairly well with these cycles, in a counter-cyclical direction.

havior of monetary policy could not be revealed by the present method of analysis. A potential deficiency of this method, it will be recalled, is its failure to distinguish between realized and anticipated values. Thus, if avoiding fluctuations of a certain magnitude is the purpose of policy measures, and these fluctuations are correctly anticipated and successfully averted, the data would not show correlations of policy measures with movements in the target. In the case of Germany, something of this sort may have occurred for price stability. According to frequent and emphatic statements of German policy makers, price stability has been by far the most important target of monetary policy in Germany during the period under review. The present investigation does not show this: no consistent reaction of monetary policy to changes in the degree of price stability can be detected. This may conceivably be due to the fact that price increases were anticipated accurately, and counteracting policies were taken quickly and decisively enough to prevent these anticipated increases from materializing. The virtually complete stability of prices from 1952 to 1957 might be explained in this way, for instance. It is, of course, very difficult to test such an assumption rigorously, since the process by which policy makers' anticipations were formed is not likely to be easily uncovered. It should be recalled, however, that price fluctuations were not entirely absent. On a number of occasions, price increases were large enough and persistent enough to suggest that further price rises must have been anticipated at those periods; and yet, no restrictive monetary measures are found to have been taken consistently in such periods. A prime example is the period from early 1961 to mid-1962, when monetary policy was expansive despite a relatively high rate of price increase—particularly in the cost of living.

Longer-term observations, on the other hand, lend more credibility to the opinion that price stability was indeed a prime target. In Chart 6-3, movements of the two price levels (wholesale and cost of living) in Germany are compared with the movements of price levels (arithmetic unweighted averages) in an aggregate of eleven countries—the Group of Ten and Switzerland. It is immediately apparent that prices in Germany tended to rise considerably less than the average—although this holds true more for consumer prices than for wholesale prices, and applies more to the first half of the period studied than to the latter half. In the first half of the period, up until around 1957-58, the rate of unemployment in Germany was particularly high (though

CHART 6-3

## GERMANY: COMPARISONS OF PRICE MOVEMENTS



declining), and the accumulation of external reserves persisted throughout these years. Had either full employment or balance-of-payments equilibrium been the overwhelming target, expansionary monetary and fiscal measures would have been called for; the fact that such measures were not taken suggests that during these years, at least, price stability was a major target in Germany. In other words, it seems probable, by this evidence, that monetary and budgetary policy would have been more expansive throughout the 1950's had not the maintenance of price stability been a prime target for policy makers in Germany. Thus, for instance, the discount rate and other interest rates would have been expected to be generally lower had it not been for this target. At the same time, the evidence examined earlier suggests

that in formulating changes in short-term monetary and budgetary policy the preservation of stable prices was not invariably, or even in the majority of instances, the guiding rule.

This analysis was carried somewhat beyond the immediate question of balance-of-payments adjustment. In the light of its mainly negative and inconclusive results, it is time to ask again what *was* the balance-of-payments policy in Germany. The probable answer seems to be, in summary form, as follows.

In the devaluation cycle of September 1949, Germany—although not devaluing the mark to the same extent as the British pound was devalued—established an exchange rate which proved later to have been higher than the rate required for balance-of-payments equilibrium. Thus, for most of the following decade, Germany's balance of payments showed a persistent surplus, and external reserves accumulated. There was no attempt to counteract this accumulation owing, presumably, to two considerations. First, starting from a low level of reserves and realizing a fast growth in the amount of trade, Germany must have regarded the increase in reserves as desirable. Second, a policy to correct imbalances of payments would have called for price increases, while the maintenance of price stability must have been regarded a prime target in view of Germany's earlier inflationary experience. At the same time, temporary downward movements of reserves in the late 1950's were not a cause for major concern in view of the large size of reserves, and thus did not call necessarily for an adjusting policy. This largely "neutral" policy was changed in the early 1960's. At that time, the relatively high level of interest rates in Germany, combined with expectations for revaluation of the mark which were formed by the persistent German surpluses, attracted large amounts of short-term capital from abroad. Monetary policy reacted first in a restrictive way, that is, in a disadjusting direction. At that stage, however, such a policy was self-defeating, since the increased interest rates acted more to increase liquidity by attracting more foreign capital than they contributed to the reduction of liquidity by reducing domestic borrowing. Also, foreign resistance to the persistent large-scale accumulation of reserves in Germany became much more severe than it had been earlier. In late 1960, as a result, monetary policy was changed in the expansive direction required for balance-of-payments adjustment. In March 1961, this was combined with an upward revaluation of the mark by 5 per cent. In the following years, policy reaction to upward disturbances mainly took the form of special

measures intended to influence capital movements—that is, to discourage the flow of capital to Germany—such as the tax on income from German bonds held by foreigners, which was announced in 1964. Balance-of-payments adjustment does not appear to have been a major target in these years either: an accumulation of reserves still does not seem to be considered a disturbance, while temporary falls in reserves were not of major concern due to their high level. The assumption of policy makers in Germany appears to have been that income and price developments independent of Germany's monetary policy, and in particular developments in Germany's major trading partners, would restore equilibrium to Germany's balance of payments before an unduly large decline of reserves took place. Over-all monetary and fiscal policy thus has not been primarily tied to balance-of-payments requirements.

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